JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

XII. **GRAASKAMP ON REAL ESTATE** AS EDITED BY STEPHEN P. JARCHOW AND PUBLISHED BY THE URBAN LAND INSTITUTE, 1991

B. The complete text, from cover to cover, of **Graaskamp on Real Estate** including Table of Contents and Index

Index

GRAASKAMP ON REAL ESTATE

Stephen P. Jarchow
Editor

ULI–the Urban Land Institute

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For
Jean Davis

About the Editor

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Contents

Acknowledgments ix
Preface x
Introduction xi

Part I. The Life and Times of James A. Graaskamp 1
Autobiography of James Arnold Graaskamp *1946* 4
"Professor James Graaskamp Named Handicapped Person of Year" 10
"Know Your Madisonian: James A. Graaskamp" 12
"He's Teacher, Master of Real Estate's Bottom Line" 14
"UW–Madison's 'Chief' Is a Real Power in the Land" 16
"'Chief' Graaskamp Mourned at UW" 20
"Professor, Mentor, Realty Consultant Graaskamp Dies" 22
"In Memoriam: James A. Graaskamp" 24
"Unique Park Is Tribute to Local Man" 25

Part II. The Wisconsin Tradition and University Real Estate Education 27
"The Wisconsin Real Estate Program—A Grand Tradition" 30
"Wisconsin's Real Estate Program" 32
"Chief Graaskamp at the Center of National Real Estate Network" 36
"Redefining the Role of University Education in Real Estate and Urban Land Economics" 40
The Failure of the Universities to Teach the Real Estate Process as an Interdisciplinary Art Form 51
"Overcoming the Obstacles to Education" 68

Part III. Feasibility Analysis 73
A Guide to Feasibility Analysis, Preface and Chapter 1 76
"A Rational Approach to Feasibility Analysis" 93
A Guide to Feasibility Analysis: Update *Unpublished Revision* 102

Part IV. Appraisal Theory and Practice 125
Section One: Appraisal Technique 129
Feasibility Analysis—The Father of Appraisal *Speech Notes* 130
"Guidelines for Attributing Project Income to Real Estate Components" 134
Computerized Appraisal Analysis for the Appraisal of Large-Acreage Wilderness Tracts 149

Section Two: Appraisal Reform 171
"The Need for Redefinition and Reform of the Appraisal Process" 173
"Institutional Constraints on, and Forces for, Evaluation of Appraisal Precepts and Practices" 178
Impact of Changing Appraisal Regulation on the Developer *Speech Notes* 197
Appraisal Reform and Commercial Real Estate Investment for Pension Funds: Summary and Conclusions 201
Testimony of James A. Graaskamp before a Subcommittee of the U.S. House of Representatives 216

Part V. The Development Process 225
Fundamentals of Real Estate Development 228
A Risk Management Approach to Real Estate Lease Negotiation *Seminar Notes* 266
Office Buildings *Class Notes* 270
Commercial Leases *Class Notes* 275
Commentary on Shopping Center Development *Class Notes* 278
Shopping Center Retail Potential *Class Notes* 284
Retail Site Selection *Seminar Notes* 288
Hotel/Motel Lecture *Class Notes* 296
Recreational Land Development—An Overview *Class Notes* 301

Part VI. Investment Strategy and Decision Making 307
The Role of Investment Real Estate in Portfolio Management 310
Notes on the Organization and Investment Attributes of Limited Partnerships *Class Notes* 364
Notes on Real Estate Investment Trusts *Class Notes* 372
Don't Buy Real Estate—Buy a Set of Financial Assumptions *Class Notes* 376
Strategic Planning Approach to Major Real Estate Decisions 378
"Pension Fund Management: Is Small Beautiful?" 384
"Identification and Delineation of Real Estate Market Research" 389
Analysis of Real Estate Market Conditions *Symposium Notes* 402
Equity Investment *Class Notes* 406
Real Estate Investment Portfolio Management *Class Notes* 412

Part VII. The Financial Markets 415
Capital Markets and Real Estate Mortgages *Class Notes* 418
Making the Residential Loan—A Risk Management Process *Class Notes* 421
Variable Rate–Indexed Mortgage Instruments *Class Notes* 425

Capital Flows to the Mortgage Market *Class Notes* 428
Commercial Banks and Real Estate Credit *Class Notes* 433
Mortgage Banking *Class Notes* 438
Secondary Mortgage Market *Class Notes* 440
Underwriting Income-Property Appraisal *Lecture Notes* 445
"Development and Structure of Mortgage Loan Guaranty Insurance in the United States" 449
Private Mortgage Guaranty Insurance as Distinguished from Banking and the Extension of Credit 472

Part VIII. Land Use Planning 485
Redefinition of Fundamental Real Estate Concepts as a Key to Land Use Control and Investment Strategy 488
Notes on Urban Renewal Land Use Appraising *Class Notes* 495
Comment on Reuse Appraisal *Class Notes* 497
Real Estate Economics—The Next 25 Years *Class Notes* 507
"Impressions on the Marketability of TDRs, or, Toward the Science of Cubernetics in the Space Age" 511

Part IX. Public Policy 521
Forces for Good and Evil Affecting the Soul of Real Estate Finance *Speech Notes* 524
"Globalization of Real Estate" 530
Pension Termination Due to Business Failure, Liquidation, or Migration 535
"Implications of Vested Benefits in Private Pension Plans: Comment" 538
Rent Control and Apartment Management *Class Notes* 545

Index 549

In Memoriam

James A. Graaskamp

(1933–1988)

"Life is brief, but art is long, the emergency swift, the test deceptive, and judgment difficult."

Richard T. Ely
Ground Under Our Feet: An Autobiography

On Friday evening, April 22, 1988, James A. Graaskamp, 54, died in Madison, Wisconsin. Jim was chairman of the Department of Real Estate and Urban Land Economics at the University of Wisconsin and had an international reputation as an expert in real estate analysis and appraisal. He was idolized by his students, who fondly called him "Chief," and he pioneered a graduate program that has been hailed as "the West Point of real estate." His devotion to his students and attention to their needs was intense, consistent, and personal.

Jim was a spellbinding speaker with tremendous intellect and an ability to influence people and events. He was often an outspoken critic of national and local land use policies and engendered controversy in many quarters. Even his most ardent critics, however, could not question his integrity and ability to effectively articulate his views. He consulted nationally to financial institutions, investors, and developers through Landmark Research, Inc., a company he ran with Jean Davis, his partner in all things.

At six feet, six inches, Jim was a giant of a man who was left paralyzed by polio at age 17. He referred to his disability as a "materials-handling problem" and never seemed depressed or upset by the physical obstacles he dealt with daily. Often his students lived with him and helped with his transportation and maintenance. It was considered an honor to work in this capacity.

I have been an admirer of Jim Graaskamp for over 20 years and have considered him a friend and mentor for more than 15. Words cannot express how privileged I feel to have known him and to have spent time with him and how disappointed I am not to have more opportunities to do so. Many times in my career when I would grow discouraged with some reversal or problem, I would think of Jim and realize I had no right to be frustrated. He dealt cheerfully every day with more than most of us will ever have to contemplate. And he did so in a way that positively affected legions of students and colleagues. How many of us can have the same kind of impact?

In many ways Jim symbolized the reason one teaches. His spirit and devotion have made him immortal in the minds of a generation of real estate professionals. He was and remains a heroic figure with incredible physical courage, a relentless spirit, and a sense of intellectual honesty that is seldom found in today's world. Those who knew him mourn his passing and celebrate his accomplishments.

Stephen P. Jarchow

Acknowledgments

I would like to express my appreciation to the University of Wisconsin and particularly to Dean Jim Hickman, Professor Kerry Vandell, and Sandy Wilcox for their support of this project.

Jean Davis, Jim Graaskamp's partner, provided most of the material for this book. I know that going through the files was a difficult and emotional experience for Jean, but a generation of real estate scholars is indebted to her.

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A number of people reviewed and critiqued the manuscript; among them were Jim Curtis, Gene Dilmore, Bob Fraser, Austin Jaffe, Bill Kinard, Rod Matthews, Lee Minnerly, Dowell Myers, Arthur Neudek, Dianne Orbison, Bob Peltzman, Mike Robbins, Jim Smith, James Webb, and Lynn Woodward. In addition, contributors to the Introduction included several of the reviewers; the Wisconsin Real Estate Alumni Association; individuals at the University of Wisconsin; and Jim DeLisle, Terry Grissom, Chuck Heath, Crocker Liu, James Vernor, Rob Webster, and Elaine Worzala.

My associate, Ellen Fox, played a critical role in the process, relentlessly pursuing references and approvals. Without her patience and tenacity, the work would never have been completed.

I am also grateful to Jan and Meredith for their understanding of the importance of this project. Thanks to all.

Stephen P. Jarchow
January 1991

Preface

This compilation of materials about the late Professor James Arnold Graaskamp is intended to provide a comprehensive summary of Jim Graaskamp's teachings on real estate and urban land economics. The collection reflects the perspective and attitudes of one of the giants in this field, providing useful insights and guidance for both the scholar and the practitioner.

The writings are previously published works, unexpurgated class notes, transcripts of tapes from oral presentations, and incomplete unpublished manuscripts. Class notes and notes or outlines for speeches and seminars are readily identifiable by italic type. Certain items are presented in their entirety. Others required editing, particularly when tapes were converted to text. Editing was done gently, to retain the colorful dialogue Jim had with his students and colleagues. While I reviewed hundreds of hours of tape recordings, I found little that was readily usable as transcribed. Jim's classroom approach was a rambling narrative that entertained and fascinated his students, but effectively confounds historians.

Organizing this material into chapters by topic was challenging because of Jim's multidisciplinary approach to real estate. The reader will note overlap in several selections. This is unavoidable and perhaps useful.

As much as possible, we checked and verified citations, quotations, and references. However, we cannot accept responsibility for passages in class notes and texts that Graaskamp did not properly reference.

As I reviewed the materials, listened to the tapes, and organized this book, I came away with an even greater respect for the work and intellect of Jim Graaskamp. We will not see another like him.

S.P.J.

Introduction

At this writing, it has been over three years since the death of James A. Graaskamp, the "Chief." Scholars are left struggling with the task of summarizing his philosophy and capturing the essence of the man and his teachings. Given the dynamic times that characterized the 25 years during which he emerged as the preeminent applied real estate scholar, the difficulty in tracking the evolution of his thoughts is understandable.

But Graaskamp the man was as eclectic and mercurial as the times in which he lived. Always a student, he was continually studying and expanding his knowledge and experience. Graaskamp embraced the intellectual and practical risks involved in teaching and maintaining a philosophy that was outside the mainstream of scholarly thought. He also knew his limitations and drew willingly on appropriate experts to bone up on the latest real estate twist. A quick study, he would sift through expert input to develop his own perspective on issues. These filtered insights were then synthesized into his own approach to solving problems.

Graaskamp's approach to real estate can perhaps best be explained by his observation that the real estate process is a series of crises tied together by a critical path. In such an environment, it is essential to be able to address complex issues but to do so without compromising the strategic objective. Thus, he believed that a creative mind coupled with a disciplined focus is critical to success in the real estate process.

Like many thinkers, Graaskamp believed that true intellectual beauty resides in simple truths. Given the complex nature of real estate, it is easy to focus on minutiae. Graaskamp, however, sought to strip away the elaborate trappings surrounding a deal or the discipline, in an effort to understand the underlying motivations of participants and the political and social issues affecting a project. He simplified problems so they could be described in a straightforward and

understandable manner. In this way, Graaskamp could grasp the whole of a complex, multidimensional problem, whereas others would become mired in details. He relished complicated analyses and formulas, but ultimately dealt in simple truths.

Jim Graaskamp was an original thinker. Although his ideas were often elusive, he was never without a new insight into a subject. Unfortunately for Graaskamp scholars and admirers, he did not spend a good deal of time putting his ideas into writing to preserve them for future generations. Graaskamp's favored medium was oratorical, perhaps because his physical limitations made it difficult to put pen to paper. His speaking ability was an art that is unfortunately no longer available to us.

This book, *Graaskamp on Real Estate*, is an attempt to bring together Graaskamp's philosophy and ideas through already-published works and unpublished materials, primarily class notes. The class notes were chosen for publication essentially *as is* for scholars and students who would like to examine his ideas in the form in which he originally conceived them. Those of us who knew Graaskamp and studied under him observed that many of his ideas grew and took shape when he lectured. Therefore, much of his written work is unfinished. In this book and introduction, we seek to join his major ideas into one book and to dedicate this collection to a man who left a profound impression on many people. What follows is an overview of the major issues that Graaskamp dealt with during his life as a real estate scholar.

Learning the Graaskamp Way

Jim Graaskamp had a powerful physical presence and intellect. Reared as a competitive athlete, Graaskamp substituted intellectual sparring for physical activity when paralysis from polio prevented him from participating in sports. This competitive spirit, and his systematic approach to problems, made him a formidable presence in the real estate world as an academic and as a consultant. Graaskamp was especially effective in this realm because he could begin with the client's problem and perception and restate it so that it addressed the underlying issues and identified the relevant research questions. He was also adept at finding a common thread between seemingly unrelated cases and, after making appropriate adjustments, arriving at new approaches to problem solving. His interest in, and ability to delve into, other disciplines was of tremendous help in such pursuits.

Although many academicians and practitioners focus on a narrow area of expertise, Graaskamp contended that a real estate professional must be a generalist. This broad-based philosophy imposed tremendous demands on his students. Not only did they have to master the central areas of real estate—law, development, appraisal, analysis, and finance—but they also were expected to have an appreciation for the ancillary areas that affect the business. While this multidisciplinary approach to real estate dictated that no one person could master everything involved in the real estate process, the real goal of the generalist was to be sufficiently versed in the related disciplines to be a good client and ask the right questions. To Graaskamp, real estate was a team-oriented

enterprise and involved problem solving by relating the immediate problem to a similar situation in another field or discipline.

One illustration of that team orientation was a story the Chief often told about a group of people in Florida who were having a hard time making paint stick to the median strip of the highway because of the extreme heat and humidity in the area. A group of "experts" gathered for a brainstorming session to solve this problem. The question was posed: What substances tend to stick to a surface? One woman claimed she had a houseplant that grew on a coat hanger and needed no water. She said it seemed to cling to the surface and resembled the ivy on the walls at Harvard. The session resulted in a solution to add a type of fungus to the paint which was then used on the highway surface with great success—a perfect example of how a multidisciplinary approach was useful in solving a real estate-related problem.

Graaskamp's ability to come up with seemingly simple explanations and approaches also served him well in his many assignments as an expert witness. A defender of the truth as he uncovered it, he could also structure his responses in such an intuitive manner that decision makers and lay people could understand and appreciate his logical solutions to extremely complex issues.

Graaskamp understood that individuals do not command respect automatically, but must earn it continuously. Thus, he never took his skills for granted, but maintained his dominant presence by keeping abreast of his discipline and the world around him.

This, coupled with his intense commitment to his work and his friends, made him a presence to be reckoned with. He respected commitment in other people and demanded it of his students and those around him. He did not respect people who possessed physical, intellectual, or economic resources and did not use them wisely. Indeed, he had little tolerance for those who abused such gifts. While he did not demand that those around him share his level of intensity, his disdain was probably greatest for those who practiced intellectual elitism or had closed minds. He did not suffer fools gladly.

Although Graaskamp was known as a pragmatist, in reality his positions were built on a solid theoretical foundation, many based on urban land economics theory. During the 1960s and 1970s, his students were exposed to urban land economics theories in several courses. By the 1980s, the complexity of the real estate process had grown to the point that he believed the urban land economics courses could no longer be the focus of the curriculum. However, rather than downplay the importance of urban land economics theory, he synthesized the relevant areas into his own real estate teachings.

Graaskamp's many lectures over the years contained his quintessential observations. One of these was his elegant definition of real estate: *artificially delineated space over time with a fixed reference point to the earth.*

Graaskamp was also known as a vocal critic of traditional appraisal practice. During the 1960s, he pioneered the application of discounted cash flow (DCF) techniques to real estate appraisal. In addition to computer-based DCF models, however, he also retained a commitment to the most difficult part of the analysis: quantifying the inputs. Building on the foundation laid by Richard U. Ratcliff, Graaskamp argued that appraisal is a behavioral science. Therefore, to predict market value, one must understand the decision makers, their actions that set

prices, and the ultimate value of an appraisal assignment. Since future behavior cannot be predicted with certainty, the appraisal conclusions should be stated as a range of values to reflect behavioral uncertainty.

Graaskamp also sought to discover the underlying motivations of the parties involved in real estate transactions. He recognized the risks attendant upon a temporal imbalance. The success of a deal depends on ability to match participants' temporal frames of reference and to balance the needs and desires of these various participants. These issues will be dealt with in the following pages.

Real Estate Analysis and Development Process

Graaskamp defined the real estate process as an *entrepreneurially driven enterprise operating in an inefficient market.* This view of real estate led Graaskamp to develop (with the help of others) the concept of most probable use (instead of the traditional concept of highest and best use), derived from complete analysis of the specific attributes of a particular piece of real estate. From this analysis the most probable user and use are identified, and the pricing calculus is formulated on the most probable buyer.

Graaskamp's approach to real estate analysis emphasizes that the analysis of the project must come first and the financial deal should be secondary. The Graaskamp approach mandated that *solvency* must be the first criterion to consider. Solutions to real estate problems must first focus on understanding the conditions in which the real estate asset is economically viable to all parties involved, including the developer, public sector, and user. Only after solvency in a project is assured, should consideration be given to an appropriate analysis of the minimum yield threshold and potential for profit maximization.

Most real estate analysts focus on the deal and analyze the financing, leases, and legal structure, often with little consideration of the long-term effects of the real estate decision on the area's infrastructure, the user, or the neighborhood.

Graaskamp took a more ethical position. He believed the profit to the deal maker should be secondary to the viable economics of the project. If a real estate project is insolvent, the negative consequences may not stop with the entrepreneur. In fact, a real estate project is not really solvent if the entrepreneur is shortchanging society to make the deal personally rewarding. Graaskamp had little tolerance for the so-called entrepreneur who takes advantage of the inefficient market in real estate without regard to the long-term consequences of today's real estate decision. Graaskamp's students have been trained to look behind the deal to be certain a potentially profitable project makes economic sense; he always held a morally based position, focusing on the societal impact.

Solvency is the key tenet of Graaskamp's teachings. Real estate analysis should always determine "Who benefits?" and "Who pays?" For a simplified example, consider the following:

The zoning for a specific site requires one parking space per unit for apartments. However, the developer is targeting a market segment that is known to own and drive two cars per household. To maximize density and therefore profit, the developer still builds only one stall per unit on site and figures that the

second cars will be parked on side streets. In effect, the surrounding neighbors will be subsidizing the apartment residents by losing their on-street parking. In time, the lack of on-site parking will erode the marketability of the property and the negative consequences of economic obsolescence will prevail. Over the long term, the developer would have been more successful and have maintained a higher yield had he or she been responsive to consumer preferences and provided adequate parking when the project was built.

Graaskamp would not consider a project feasible if it was achieved only by externalizing solvency—a short-sighted way of doing real estate development. There are at least three critical points in Graaskamp's approach to the analysis of real estate:

Project Solvency

(Logical, sequential movement through solvency; minimum yield; and profit maximization, in that order)

- Look at the real estate and its interplay with society, not just the deal
- Look at the attributes of the project with respect to all participants

Market Dynamics and Segmentation

- Value is use-driven, not architectural or financial
- Value is not inherent in the real estate or the deal

Variance Analysis

- Risk management is a critical part of the investment process
- Make implicit assumptions into explicit statements to test the outcomes under varying conditions

Graaskamp operated under the premise that real estate is a soft commodity, perhaps the softest commodity in the world. When *you* buy real estate, *you* buy the softest commodity in the world: a set of assumptions about the future. Therefore, *you* should take a cautionary perspective on those assumptions rather than the typical optimistic view of the world held by most developers. *You* refers to all of the parties who are affected by a real estate decision, including (but not limited to) lenders, equity investors, local planning commissions, zoning administrators, and tenants (customers).

The assumptions *you* buy are the economic forces at work—both market-wide and project-specific—that underlie the value estimate now and in the future. This value is not measured in money alone. The *buyer* may accept certain implicit assumptions about the real estate, such as its current worth in dollars. The analyst's task is to translate implicit assumptions into explicit statements and then devise methods of testing them, to engage in risk management. The analysis is prospective rather than retrospective. A historical understanding of markets and submarkets is necessary, but appropriate emphasis is needed to evaluate the impact that the assumptions have for the future. A discounted cash flow of hypothetical or hoped-for future revenue is one matter, but decisions really deal with uncertainty about the future.

Risk Management

Identifying assumptions and researching them is essentially the process of risk management. Graaskamp viewed risk management as fundamental to intel-

ligent financial analysis. Educated in insurance and risk management, he believed in preparing for the worst and anticipating potential problems as the only possible means of achieving cash solvency—the primary objective.

Ultimately, all the references to assumptions relate to one's personal assessment and view about the future for a specific real estate investment. In dealing with the future, one must use both methodical analytical tools and instinct to reach the threshold objectives of cash solvency, minimum yield, profit maximization, and inflation accounting. Figure 1 summarizes the Graaskamp elements of real estate analysis, in which the real estate professional is both technician and artist.

FIGURE 1
GRAASKAMP'S ELEMENTS OF REAL ESTATE ANALYSIS

Solvency *First Threshold* Cash solvency of each enterprise in the total process (not maximization of value) is pivotal.	**Minimum Yield** *Second Threshold* Determination of minimum average annual cash flow return expected on the equity investment.	**Profit Maximization** *Third Threshold* Determination of options of investment available that enhance equity.	**Inflation Adjustment** *Fourth Threshold* Adjust value estimate by accounting explicitly for devaluing of dollar flows from project.
Debt Amount Debt load determined by project economics and acceptable level of risk.	**Normal Operation** Beginning with first year of normal operations to end of holding period.	**Financing** Creative financing types Refinancing options Land contracts Chattel mortgages	**Real Growth** Determine economic growth of project, relative to regional setting. Market vs. project growth.
No Working Capital Loan Startup cost funded by construction loan or extra equity, never by cash flow.	**Cash Throw-Off** Net income less debt. Cash available to equity position before any tax payment or previous loss.	**Ownership** Limited Partnership Corporation Individual Joint	**Cost of Debt** To what extent will cost of debt be shifting, relative to inflationary growth? *Effect on cap rate.*
Default Ratio Risk adjusted to take into account unique factors of project.	**Average to End of Holding Period** Before-tax yield measured from first normal year to end of holding period; estimate the average.	**Income Enhancements** Overage rent Participants Service contracts Utility sales	**Equity Yield Shift** Impact of inflation on equity yield rate, and corresponding shift in overall cap rates.
		Expense Reductions Shift future change to tenants Use technology to extend economic life	

According to Graaskamp, risk is the variance between expected and realized outcomes. Risk management is the attempt to allocate risks among those who benefit and those who pay to control the variance. Therefore, real estate finance and risk management center around control devices for the parties who bear the consequences of a change in assumptions about the use, sale, or rental of real estate. Graaskamp, a firm believer in the importance of well-designed and -executed real estate research as a device to minimize risk, liked to illustrate his point with the following quip: There is a higher probability of financial loss from a marketing risk than from a casualty loss. Still, most developers are willing to pay 1 percent of their costs for insurance, but are unwillingly to invest any money in market research to find out if the project will rent up. And yet, if the project does not rent up, the developer can only hope that it will burn down.

Static risk is related to physical cause and effect and always results in a loss. It is random and beyond the control of the business enterprise, i.e., acts of God, government action. Dynamic risk, on the other hand, is inherent in the skill and motivation of management. It is controllable and can determine profit or loss. Real estate finance and investment really focus on dynamic risk management to control the variance for the lender, the buyers, all parties with a vested interest in the transaction, and society as a whole. Intuitively, the participants are trying to minimize risk to acceptable limits of tolerance, i.e., shrink the confidence interval. This is achieved through various control devices: avoidance of an activity, improved information, a change in procedure or technique, the control of severity of loss, shifting of risk by insurance contract, shifting unpredictable costs to another party, sharing risks through multiple participation, and hedging.

One of Graaskamp's major objectives was the efficient allocation of natural resources—money is only one of these resources (which include the natural, human, and social environments). The real estate development process can work to enhance or to destroy each of these environments. For example, if it were possible to reallocate the $300 billion-plus bailout money for the savings and loan industry to rebuild the human and social environment of Los Angeles, there would be the potential of enhancement; as it stands today, the greed of a few and the inattention of many have caused destruction, and resources have been squandered. Graaskamp spent the 1980s warning of this oncoming debacle.

Pleasure, Pain, and Bailout

Graaskamp's "Pleasure, Pain, and Bailout" (PPB) principle is a classic example of applied risk management. The mortgage arrangement was often cited as an example of the PPB principle. The two parties to the mortgage transaction have distinct differences in style, values, and motivations. To manage the relationship, the deal must be structured with the right "put and call" (pleasure and pain) features to be effective. However, the nature of real estate is such that virtually all borrowers are judgment-proof and that the ultimate collateral is the real estate. To salvage this value, Graaskamp argued that one must also control the factors essential to generating the real estate value (e.g., an assignable liquor license for a restaurant). The current savings and loan debacle illustrates the need to price the bailout side of a real estate investment process.

In addition to the relationship between the most probable buyer and the most probable sales price, understanding the pleasure, pain, and bailout options of each participant in the real estate deal will help to reduce or manage the level of risk. Pleasure, pain, and bailout essentially refers to the incentives a participant has with respect to the deal. For example, if the syndicator earns all his or her compensation from fees and takes no equity risk in the project, then the general partner has no stake in the project and has an incentive to bail out of it rather than stick with it if trouble occurs. In this instance the syndicator is more like a broker, with little or no concern with the long-term investment performance.

Feasibility Analysis and Appraisal

Graaskamp devoted a good deal of his career to the two primary analytical tools used to describe and delineate the set of assumptions—feasibility analysis and appraisal. He developed the first systematic and rational approach to feasibility analysis. Under his approach, a real estate project is deemed feasible when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources. As such, a feasibility study is not in any sense an appraisal. Rather, it is primarily focused on a question: Will the project succeed in solving a space problem while interacting successfully with the land and the community? The main issue of feasibility—whether a specific project will serve the objectives of a particular client—is vastly different from the generic viewpoint of the economic being typically addressed in an appraisal.

A traditional appraisal is a narrow form of feasibility study because market value under traditional techniques requires a fictional client and limiting conditions that exist only in the deductive logic of appraisal theory. Graaskamp urged repeatedly that appraisal methodology be revised to reflect current competition and to be in accord with the behavior of the economic enterprise or actor. He questioned the usefulness of a number of concepts, including highest and best use. To him, appraisal needs to be compatible with the reality of feasibility analysis. A most probable use given the most probable buyer for the subject property incorporated the uncertainty involved with real estate. All too often, feasibility has been hypothetical and appraisal has been artifice.

The appraisal function is pivotal to decisions involving social equity and efficient allocation of capital on a vast scale. Graaskamp felt that the failure of professional appraisal organizations to advance standards, or even issue position papers on innovative techniques or issues raised by contemporary appraisal assignments, was (and continues to be) a crisis in business ethics and a frustration that drains the best talent away from the appraisal profession. The conditioning of the appraisal market to emphasize form rather than content has made the appraisal process a disinformation tool. Graaskamp recognized this and feared for the consequences.

The fit between the client's objectives and the course of action ultimately chosen requires a correct statement or definition of the problem. The alternative courses of action that emerge to address the problem must fit the constraints.

These constraints are the quantitative and qualitative criteria that act as a set of filters to eliminate certain nonconforming projects. Among the normative filters that should be used are the investor's/developer's ethical responsibilities to the land. Finally, the selection of the most probable course of action, which Graaskamp calls *reasonable likelihood*, refers to treating the risk for the specific property explicitly.

The bargaining process is an important part of assessing real estate project feasibility. Remember, the real estate process involves at least three cash enterprises—the user of space, the producer of space, and the government infrastructure—each trying to achieve solvency in the short run and profitability in the long run, with land being the nexus of tension. A deal works only when each enterprise remains solvent.

Understanding Profit Centers

Achieving and maintaining a good bottom line is difficult in a real estate investment. Indeed, even identifying the relevant bottom line can prove challenging. For example, the current investor in a project may be a taxable entity, while the most probable next buyer may be tax exempt. In many cases, the current use may not be the most fitting use, a situation that dictates an analysis of alternative use scenarios and thereby different cash flows. In other cases, the land use might be an interim one, with current cash flows designed only to supplement some future redevelopment or use when market conditions change.

In the real estate process, unlike many businesses, a variety of profit centers may be part of the bottom line. Graaskamp excelled at understanding the various profit centers that could be tapped. On the basis of this perspective, he could untangle a participant's involvement and understand more fully the economic incentives of an investment. This understanding is critical to managing the gratification of the parties to ensure that a temporal commitment to a project matches that of the client. This profit center orientation is also necessary in arriving at an accurate estimate of value for a given real estate investment.

Profits for an investor in the deal are not necessarily found on the bottom line. An investor has the option of turning certain cost centers, i.e., operating expenses, into profit centers. For example, doing one's own management and maintenance and charging tenants for these services can turn costs into profits.

An investor's real estate investment strategy should be to create a monopoly, if only for a moment in time, through differentiating the product. In establishing this monopoly, the investor does not have to own the land. The key is to control the land. Graaskamp defines effective equity ownership as the degree to which one controls or directs the cash flows from a real estate project to compensate for the contribution of land, materials, money, or expertise.

Control of land through ownership, option, or alliance can indicate who will be hired, what materials will be purchased, and where all cash flows generated by development and management can be directed. That is the reason architects, mortgage bankers, public authorities, and even cities become developers—to capture some portion of the cash flow benefits to their own enterprise.

Public Policy

Graaskamp never underestimated the importance of public policy and legal constraints in the real estate process. Although not litigious by nature, Graaskamp appreciated the importance of solid legal representation. However, he never deferred to an attorney who would not be familiar with the economic impacts of alternatives. Rather, he argued that it is incumbent upon real estate practitioners to understand the legal dimensions of real estate. Given the complexity of the law and the dynamic nature of taxes, this commitment imposes tremendous pressure on real estate experts to remain current.

To Graaskamp, the legal dimension of real estate transcended mere contracts and transactions to include such topics as growth management and land use controls (environmental analysis was integrated into several courses in the late 1970s). Zoning laws, with the ability to create value by designating usage rights, were of paramount concern. Graaskamp also appreciated the public policy implications of property tax policies, equities, and procedures.

The Wisconsin real estate program grew out of the agrarian/socialist movement in the state. Through Graaskamp's tenure, real estate was looked at by Wisconsin real estate alumni as an important resource to be managed with an eye to both current and future users. This social perspective elevated the standards against which real estate professionals should be judged. Rather than maximizing current gratification, Graaskamp believed real estate decisions need to reflect thoughtful resource management. With few exceptions, the value of land is not just the land itself, but the ability to use it. Since the rules of land use are continuously changing, real estate analysis is a stochastic and dynamic process. One should not accept the current state of nature as a given, but should explore the probability of obtaining approvals for alternative uses.

The Ethics of Real Estate

The Wisconsin tradition, under the leadership of Richard T. Ely, Richard U. Ratcliff, Richard B. Andrews, and James A. Graaskamp, has long emphasized the ethics involved in real estate research and practice. To a degree, this is related to the underlying holistic approach to the conception of real estate problems, the integration of public and private roles, and the mutual dependence of buyer and seller. Responsible views of real estate are often ignored only at peril to the industry. Renewed calls are presently being made for improved land use ethics.

Graaskamp continually emphasized that "feasibility is ethics, i.e., it is concerned with the needs and limitations of the physical, social, and community environment. The industry, on the other hand, builds anything it can finance. The basic concern is financial viability (of the entrepreneur) rather than system feasibility. Surely financial solvency is critical, but it is only the minimum threshold. Capital efficiency, social equity, and environmental impact sensitivity should be the real objectives."

The Wisconsin approach stressed that the needs of all parties associated with a development must be satisfied if the development is to be viable. This includes the interests of the builder, the buyer, the tenants (current and future),

and government. The concern for mutual, sustained solvency reflects the view that real estate development is an ongoing business in which participants establish long-term equitable relationships, rather than a one-shot, take-all-you-can-get activity. Graaskamp underscored the wisdom of ethical relations by introducing his students to industry leaders whose career success was based on a reputation for making fair deals.

This ethical dimension to real estate is a practical one. Not only does it enhance one's business image in the private sector, but it also provides a useful basis for developing viable, working relationships between private and public interests. The developer should represent the well-being of the community in real estate development decisions, not encourage raids on an unguarded cookie jar.

Given the present market problems of the real estate industry, it is likely that most viable real estate projects in the future will involve partnerships between a municipality and a developer or institution. Therefore, sensitivity to the collective consumer operating politically will be as important as the liquidity needs and locational preferences of the individual consumer. Capital limitations and cash solvency will limit the real estate designer, while public administrators will be looking for benefits to the fiscal well-being or social enjoyment of the community.

This thoughtful and ethical approach to the business of real estate may be Jim Graaskamp's greatest legacy.

Stephen P. Jarchow

James Arnold Graaskamp—A Chronology

1933 James Arnold Graaskamp born June 17 in Milwaukee, Wisconsin.

1950 Graaskamp stricken by polio and paralyzed. He was quadriplegic and traveled by wheelchair thereafter.

1955 Graduated from Rollins College, Winter Park, Florida, with a BA in English (creative writing).

1957 Received MBA (finance) from Marquette University and taught there briefly.

1964 Graaskamp completed his PhD in risk management and real estate at the University of Wisconsin–Madison; became an assistant professor at the School of Business there.

1966 Recipient of the William H. Kiekhofer Teaching Award.

1968 Graaskamp became acting chairman of the real estate department upon the departure of Richard U. Ratcliff; founded Landmark Research, Inc.

1970 Published *A Guide to Feasibility Analysis;* became associate professor within School of Business and permanent chairman of real estate department. Named Wisconsin's Handicapped Person of the Year.

1975–1979 Served as member of Wisconsin Housing Finance Authority.

1976 Became full professor within the School of Business.

1979 Graaskamp named ULI Fellow.

1980 Began serving on board of directors of First Asset Realty Advisors, Inc., a subsidiary of First Bank of Minneapolis.

1981 Began serving on the ULI education committee.

1982 Graaskamp named ULI Trustee.

1985 Named Fellow of Homer Hoyt Institute; received Lawrence J. Larson Teaching Award from University of Wisconsin–Madison.

1986 Received the Society of Real Estate Appraisers' Alfred E. Reinman Award for contributions to the appraisal profession; named to the Salomon Brothers Inc. academic real estate advisory board.

1988 Graaskamp died in Madison on April 22.

PART I

THE LIFE AND TIMES OF JAMES A. GRAASKAMP

Introduction to Part I

"His spirit and devotion have made him immortal in the minds of a generation of real estate professionals. He was and remains a heroic figure with incredible physical courage, a relentless spirit, and a sense of intellectual honesty that is seldom found in today's world."

In Memoriam: James A. Graaskamp
Real Estate Review
Summer 1988

"I never went through any depression or period of searching. My self-image was not tied up in physical prowess. It was either give up and do nothing or forget it, make the best of it and go around once."

James A. Graaskamp
Palm Beach Post-Times
January 9, 1977

James A. Graaskamp's academic achievements cannot be appreciated fully without a sense of his life and times—from the onset of his illness to his academic career.

Even after he was stricken with polio at age 17 and restricted to a wheelchair, Jim led an active life. He was a teacher, a researcher, a businessman, a writer, a sportsman, and a connoisseur of the good things in life. He was an incisive critic and a good and devoted friend. He was extremely public-spirited and active in Madison, Wisconsin, a community he loved.

Those of us who had the good fortune to have Jim as a professor relish the memory of him at the head of a class regaling students with examples and anecdotes. His quick wit and infectious laugh were legendary, as was his ability to handle four or five conversations at once. Such vitality and spirit are exceptional in anyone, but particularly in someone who overcame great adversity. This struggle gave him great respect for the underdog and those who prevail against difficulties by sheer determination.

Part I is a selection of materials that provides a personal perspective on his outspoken and brilliant approach to real estate and life. His unique character pours out of the pages and gives the reader the context for his adroit observations on real estate that made him both friend and foe. The part begins with his autobiography, written at age 13, and contains a collection of articles written about him from 1969 to 1989.

Autobiography of James Arnold Graaskamp

(Written in 1946 at age 13)

Chapter 1. Ancestors

I dare not shake the family tree too hard for fear that some bad apples might fall off. My ancestors were of German and Dutch origin. My great-grandfather and -grandmother [on my father's side] immigrated from Holland shortly after the Civil War. My great-grandfather and -grandmother on my mother's side came at about the same time. Both came over for the same reason. They felt that America was the land of opportunity for them and their children. Both came to areas in Wisconsin where some of their friends had come before.

My paternal great-grandfather settled in Sheboygan County and became a farmer. He started work as a farmhand and gradually saved enough to buy a homestead. He raised a family of six children, and my grandfather was the third child. The family was brought up under the strict atmosphere of the Dutch Presbyterian Church.

My grandfather got his education in country schools. He was considered too small to do farm work so his father loaned him $100 so that he might get a high school education. He graduated at 17. He was then considered eligible to teach grade school. He spent the next two years teaching. Some of his students were bigger than he was. It is interesting to note that passing grade was between 50 and 60.

My maternal great-grandfather settled originally around Milwaukee. He worked in Michigan while the Michigan Central Railroad was being built. He later moved to the Fox River Valley [Wisconsin],where he established a home.

My grandfather was the only boy of three children. He received his education in the public schools at Neenah [Wisconsin]. He learned the trade of

harness-making through the apprenticeship system. He was an excellent workman and soon established himself in his own business.

My mother was born in Neenah, the youngest of seven children. Her home was located on the river. She grew up in an atmosphere of hunters and fishermen. Possibly I inherit my love for the outdoors and fishing from her. She received her education in the public school of Neenah. After graduating from high school, she entered Carroll College at Waukesha [Wisconsin, near Milwaukee]. She majored in social sciences. For several years she assisted in the establishment of psychiatric clinics in several parts of the country. With this training she seems to know every move before I make it.

My father was born in Milwaukee in 1900 (so he can't hide his age from me). He was educated in the public schools. He began to carry papers when he was seven years old. He went to Washington High School. He was too small for active participation in athletics but took an interest in the management of athletics and the glee club. From him I inherit my fondness for singing. My father's and mother's paths first crossed at Carroll College. Dad first entered college during the First World War, where he was a member of the S.A.T.C. [Student Army Training Corps]. After the war was over, he majored in commerce. After graduating, he worked in a bank and then in the factory of the A. George Schulz Box Company, doing manual labor. After learning the manufacturing of boxes, he became a salesman and later became vice president of the company.

Chapter 2. Baby Days

The reports in the weather bureau show that the month of June 1933 was the hottest month on record. Saturday, June 17th, was the hottest day of the month. This was the day that fate decided I should be born. It seems that I have continued living in the "hot spot" ever since that day. I don't remember anything about my stay at the hospital and I can't seem even to remember whether anyone mentioned that I was a cute baby. My classmates in the nursery are all forgotten. My trip to my new home was uneventful. I am told that I did not particularly like my new surroundings and promptly proceeded to create a disturbance. My mother, my father, my nurse, and our maid tried to quiet me, but I continued my howling and finally they all joined in howling with me. When I found that they could howl as loud as I could, I decided I had better go to sleep.

The next six months of my life were spent in a constant repetition of eating, sleeping, bathing, and changing. About this time I noticed my parents were talking about someone called Santa Claus, but I didn't care—I didn't even know the man, and he didn't change me when I needed it, either. But on December 25th I was carried into the living room and saw a big "ghichen"—no, not a chicken; Daddy kept saying "duck," so that's what it must have been—and it rocked so nicely I promptly sat down and proceeded to rock to my heart's content.

My constant companion during my first two years was Elnora, whom I called "WaWa" for short. WaWa would let me watch her prepare the family meals from my "observation tower," otherwise known as a high chair. My early favorite dish was "pea hoop," more commonly known as pea soup. I believe my early contact

with the kitchen helped develop my oversize appetite, which remains with me to this day.

I began to enjoy camping out at an early age. In good weather I was placed in my carriage out in the back yard, and when the weather was threatening I was moved into the garage.

At the age of 15 months I decided it was time to stand on my own feet, and I began to toddle around in the house. This meant that all the fancy knickknacks had to be placed out of range. It seems that about this same time I discovered that all the pots and pans in the kitchen were far better playthings than the fancy toys which my folks and friends brought for me. Nora didn't quite agree with me.

I am told my parents were a little worried about my limited vocabulary, but now find me talking constantly and often out of turn.

My second Christmas was more interesting. I graduated from the rocking duck to a fire engine complete with ladders, a fire bell, and a siren. The siren and the bell made such a clamor and scared me so that I made more noise than they did.

During the summer months I used my knowledge of cooking to good advantage. My cousin Jeanie and I baked a wide assortment of mud pies out of the nice black dirt in Mother's flower garden.

At the age of two I grew restless and eloped with Nora. We packed our bags hurriedly and left for Grandpa's house. The next morning I found it was not elopement after all. Mother had come down with scarlet fever. After six weeks at Grandpa's house, the family thought I was growing up rapidly and some thought should be given to my education.

At about this time in my career our family made a great decision. It seems that Dad had always wanted to live in Waukesha, and Mother wanted to live on the banks of Lake Michigan, so they arrived at a compromise and we moved to a house on the banks of Lake Michigan in Fox Point [north of Milwaukee]. The fresh air from the lake sharpened my appetite and I decided to sample the taste of a two-inch safety pin. Luckily the pin was closed, and a trip to Columbia Hospital showed that the pin was moving in the right direction. The pin was recovered and I'm saving it as exhibit No. 1 to show to my children.

Chapter 3. Beginning School Days

At the tender age of two and one-half, I was forced to register in the nursery school at M.U.S. [Milwaukee University School]. I preferred Country Day but they were not willing to accept a young genius below the age of three. Ted Gerhardy was one of my best pals and we had great times moving everything from the playhouse so that the teachers had to put it away.

After a year at M.U.S. I was hardened for the stiff courses at Country Day. Here I first met Charlie Krause and Tony Gallun, and with Ted Gerhardy we soon had a monopoly on the big building blocks and the sand pile.

First form followed kindergarten, and Miss Lynch patiently taught us how to read and count, with a little adding on the side. Mrs. Edwards picked up where Miss Lynch left off. In second form we began organized games with Cal. We got

music, art, and manual training. The last two were my special favorites because Mr. Reidveldt and Cal always kept my interest.

My previous summers had been spent at Grandpa's cottage on the shores of Lake Michigan. The summer I was six years old I went up into the north woods. It was here I first saw wild deer and bear in the woods. When I came down from the north I returned to my grandfather's cottage, where I fell and cut my lip on the playhouse (an old milk wagon). It was necessary to make a trip into town to see the doctor, who put two stitches in my upper lip. He didn't pull the stitches tight enough, and that's why I have too much "lip" today.

In the third grade I got my first football togs. I was proud as Punch of my green jersey with "Country Day" on the front and number "5" on the back. From that time on I have been crazy about football. I played as a tackle. Mr. Kruse taught us six-man football. Sometimes I carried the ball, but it was always through the center of the line.

We built a big model of Centerville, a town we read about in a book by the same name. In developing the project, we not only put our manual training to work but studied life in a small town. I almost left part of my thumb in the main store when I almost cut it on the jigsaw. We were introduced to multiplication and division under the expert hand (or feather) of Mr. Kruse.

Chapter 4.

Fourth grade brought us in contact with the Greek gods and goddesses, and most of them are still Greek to me. Mr. Buettner taught us history and music appreciation. That winter I came down with the mumps and strep infection. I was sick eight weeks, but only missed six weeks of school. I got back on the day of exams. Thanks to the good coaching of my mother, I managed to pass all of my exams with an average above 85. While I was in bed, I had lots of time to think of all the good times I had during the summer when Kent Kelly and I built a shack in the woods up north near our cottage. We prepared food over a campfire when I went on my first all-day fishing trip. What fun I had catching my first pike. It was the best fish I have ever eaten.

My eight-week siege of strep wore down the whole family, and we decided we all needed some Arizona sunshine. I had my first introduction to a berth on a train. It was interesting to study geography at first hand. The cowboys taught me how to ride and to throw a rope in the general direction of a pole in the ground. While I was riding in the desert I saw my first prairie-dog town, a rattlesnake, and a poisonous lizard. One day we went on a 30-mile horseback ride to a lost mine, and on our way back we explored an old Indian trail where we found bits of old pottery. At night I watched the guests and the cowboys dance the old-fashioned square dance. This was at the beginning of World War II, and the air was full of planes.

The family recovered under the Arizona sunshine, and I returned to my studies at Country Day. Although I missed quite a bit of school, I still received my green ribbon, as I had done the year before.

We spent the summer as we had always done, up north. The snow had wrecked the hut so badly we did not repair it. I spent quite a bit of time horseback riding in the woods. The lessons I had learned in Arizona were a great help.

In the fifth grade I had Mr. Kruse for a teacher again. Mr. Reidveldt joined the Navy, so a Mr. Schellin took his place. I became quarterback in football and was quite pleased with myself. For the first time, I got my green and gold ribbons. We took up fractions in our studies. Competition began between the fifth and sixth forms. They licked us in football but we, an untrained team, thoroughly trounced them in basketball. In the spring I paid a little more attention to baseball.

With the newspapers and radio full of war news, my friend Herbie Huebsch and I were bitten by the war bug. With our toy tanks and miniature soldiers, we had large battles in the book room.

In the summer I decided to try camp. I learned woods lore and nature study, dishwashing, and how to take a shower without hot water. When I returned from camp, I went to the Fox Point Club to continue swimming lessons.

September found me ready to enter sixth form, but the polio epidemic kept me in my back yard for another month. Luckily, we were just beginning to enlarge our back yard so I kept healthy by working with the crew of men who were busy chopping down trees and bringing in large quantities of dirt. At last the month rolled away and I returned to school.

We began decimals under the unerring hand and "marksmanship" of Mr. Bosel. I played my first football game against Fox Point School. We won. Our class got much larger. I finished my major manual training project, the "Graaskamp Grasscatcher," after three years of hard labor. One of the things we did that year was give Dickens's *Christmas Carol* at Christmas. I will always remember Jimmy Cron as Scrooge. I was one of the market boys for Scrooge.

Summer came as always, so I again packed my bags and left for camp—this time in northern Minnesota. The highlights of camp were rifle practice, an overnight houseboat trip, and responsibility awards. In September we spent a week up north fishing and playing golf. We crowded everything into one week. The weather was perfect.

Fall came and with it came school and another football season. This time I played the whole game against Fox Point. We were the victors. Mr. Clayton is our teacher, and our class now numbers 21. This year we hope to leave the junior school. I sure liked the different reading units.

Chapter 5. Looking Back and Ahead

Looking back, I think I have been pretty lucky. I have been lucky enough to go to Country Day all of my life.

Once I wanted to be a truck driver and own a fleet of trucks, so my uncle gave me a complete office set with all the trimmings for Christmas. After a while this idea faded out and now I want to work in a box factory office like my dad. I don't think fate has this in store for me, so I'm just waiting to see what happens.

My two good friends most of my life have been Robert and Herbert Huebsch, who live about a block away.

I love to read, and read any kind of book. In one year I believe I read 100 to 130 books of different types. I have an avid appetite for reading, so I sometimes read when I should be doing other things. Sometimes I hurry important work so I can read. I hope to continue reading as before, in later years. The reading units Mr. Clayton has organized are fun and educational, but I think a person should know about animal life, dogs, biographies, and history. All can be found in well-selected books.

I am indebted to my parents for taking me with them on their trips to Arizona, New York, and going up north every summer.

Most of my 13 short years of life have been centered around home and the junior school of Country Day. I hope that my years at the senior school will be as happy. I look forward hopefully.

James A. Graaskamp
1946

Professor James Graaskamp Named Handicapped Person of Year

Professor James A. Graaskamp, University of Wisconsin professor of business, has been named Wisconsin's Handicapped Person of the Year by the Governor's Committee on Employment of the Handicapped.

Stricken by polio in 1950 at the age of 17, Professor Graaskamp has been confined to a wheelchair since.

He's part owner of Landmark Homes, Inc., and Regency Hill, Inc., businesses concerned with home and land development. He also is part owner of Landmark Research, Inc., a consulting firm.

He is a commissioner for the Industrial Land Utility Corporation, charged with developing industrial land on a nonprofit basis. Besides being an adviser on city insurance problems, he counsels small firms in Wisconsin through the Northern Development Project, which is a university service to industries in northern Wisconsin.

Professor Graaskamp also serves as an adviser to physically handicapped students and has worked with campus engineers to provide wheelchair ramps and bring about alterations in living quarters for handicapped students.

He graduated from Rollins College, Winter Park, Florida, in 1955 with a bachelor's degree in English. While at Rollins, his work as president of the Student Chapel staff and his academic record qualified him for election to Omicron Delta Kappa, a national honorary society.

He received a master's degree from Marquette University in finance in 1957. Professor Graaskamp remained at Marquette teaching courses in insurance until 1960, when he came to the University of Wisconsin to work for his PhD.

Reprinted with permission from the *Wisconsin State Journal*, December 20, 1969.

He earned his doctor's degree in real estate and insurance in 1964 and was elected to Beta Gamma Sigma honorary society for business students.

He then joined the UW faculty as an assistant professor in the field of insurance and real estate and received the William Henry Kiekhofer Teaching Award.

Know Your Madisonian: James A. Graaskamp

James A. Graaskamp suspects there's something askew about his viewpoint of life at the University of Wisconsin.

"I live in a student milieu, rather than a professional one," he admits. "I suspect I'm more at home with students than I am with faculty."

Three students live in Graaskamp's home at 202A Breese Terrace, two more work for him as secretaries, others as drivers.

Perhaps that's why Graaskamp, an associate professor of real estate, thinks the UW's outlook is askew at times. "The university is primarily geared to the student," he says. "What is needed and what is relevant for the student should be the prime criterion for university policy."

Instead, he says, policy is often determined by archaic methods, characterized by "an inability to determine what is the province of education and what is the province of enterprising management."

What's needed, he says in his forthright style, is more professional management expertise to deliver "more class hours at less cost." It can be done, he says. But he says too many faculty members now are unwilling to give up administrative decision making. "The result is an incredible administrative morass," Graaskamp says.

Graaskamp, 38, came to the UW in 1958 on a teaching fellowship and joined the faculty in 1960 as "a utility infielder," he says, who could teach in several areas of business.

Reprinted with permission from the *Wisconsin State Journal*, April 8, 1973.

A Milwaukee native, he holds a bachelor's degree in creative writing from Rollins College in Winter Park, Florida; a master's in security analysis and finance from Marquette; and a doctorate from the UW in risk management and urban land economics.

Graaskamp has a long list of academic and professional honors, but he's proudest of the William H. Kiekhofer Teaching Award he won in 1966 for being a good instructor in and out of the classroom.

Graaskamp is responsible for the UW's construction administration program, a four-year course which combines home architecture, business administration, and civil engineering. That, he says, is what he likes about real estate: it's a "universal subject that allows me to dabble in all fields."

He has been a partner in Landmark Homes, Inc., a local contracting firm; Regency Hill, a land development firm; and West Pond Farms, a farm investment corporation. His only current business interest is Landmark Research, a real estate counseling company.

He is a director of Wisconsin Student Housing Development Corporation, a nonprofit group hoping to ease the shortage of desirable housing near campus. President Nixon's cutoff of housing money has discouraged, but not killed, that venture.

Graaskamp gave his students a taste of the business world last semester when they bought, remodeled, and resold two houses. The project lost money, which still rankles Graaskamp. But at $1,000 per home "tuition," he says, "it's some of the cheapest urban renewal in Madison."

Graaskamp, a quadriplegic confined to a wheelchair since being stricken by polio at age 17, was Wisconsin's Handicapped Person of the Year for 1970. He has been a leader in the ongoing UW program to eliminate barriers that make attending class more difficult for the handicapped.

He lists travel and fishing as his two major vices.

The travel he's been able to relate to real estate in conducting seminars throughout the U.S.

His renewed interest in fishing was stirred some time back when some of his students designed a reel operated by an electric motor. "That free reel has cost me a fortune," Graaskamp says. And it was compounded when he received a motorized deep-sea reel a few years ago.

He's fished from Lake Mendota to Hawaii and has more trips already planned. "It's not so much for the fish. It's a chance to get out, get away, be with the kind of people I like the most," Graaskamp says.

He has written a book on feasibility analysis, and some pieces on computer application in tax assessment. "I'd say I'm overdue for a textbook," he admits, noting there is lots of room for one in his field.

"But textbooks," he observes, "take up an awful lot of fishing time."

He's Teacher, Master of Real Estate's Bottom Line

Charley Blaine

A few years ago, Donald Hovde, then a Madison, Wisconsin, land developer, took a real estate investing course at the University of Wisconsin Business School from James A. Graaskamp.

Says Hovde on the rigor Graaskamp demanded: "He worked my butt off."

Hovde, now awaiting confirmation as a member of the Federal Home Loan Bank Board after two years as deputy secretary of Housing and Urban Development, calls Graaskamp "one of the most brilliant academics I've ever been exposed to."

He also adds, because it's impossible not to, "It is truly miraculous how he has overcome all his disabilities."

From his wheelchair, Graaskamp, a quadriplegic who turns 50 June 17, has run the university's real estate program since 1964. He has built it into one of the best—possibly the best—in the USA, says Lewis Bolan, vice president of Real Estate Research Corporation.

Graaskamp also has been a pioneer in developing computer programs for real estate professionals and has run home building, farm investment, and real estate consulting firms.

He has been tireless in exhorting the 650 students that have gone through his program since 1964 to look at an investment critically, using all the tools of risk analysis possible.

At times, Graaskamp's conversation will soar off into the theoretical, but the bottom line is never far away.

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He and a group of students once appraised a property in Washington state's Cascade Mountains for a company fighting a $12 million offer from the government to buy the land for the national wilderness system.

No one had ever worked out a way to put a price tag on the value of scenic vistas, he says.

The project took two years and generated one doctoral dissertation and four master's theses—and a $28 million settlement for the client after the appraisal came in at $36 million.

Former Graaskamp students abound in many of the USA's largest real estate companies. They form a huge network in constant communication with each other and with Graaskamp, whom they affectionately call "Chief."

Graaskamp, seven of his students, and no fewer than 30 Wisconsin graduates attended a recent conference of the Urban Land Institute in Seattle.

Graaskamp has been confined to a wheelchair since he was stricken by polio at age 17. But he never let that stop him.

He majored in creative writing, specializing in humor pieces, at Florida's Rollins College, where one professor was sure Graaskamp was headed for literary stardom, "because I was getting such elaborate rejection letters from *The New Yorker* magazine."

But Graaskamp returned to his native Wisconsin to earn master's and doctorate degrees and go into private business.

Graaskamp doesn't regard himself as handicapped, though he has worked hard at the university and other institutions for access to buildings for the handicapped.

When the governor named him Wisconsin's Handicapped Person of the Year in 1970, Graaskamp laughed when a former student wrote him, "I understand you've been named handicapped person of the year. When did you become handicapped?"

UW–Madison's 'Chief' Is a Real Power In the Land

Steve Kerch

MADISON—A newspaper article once asked, "Why is Professor Graaskamp so irascible?"

"And that was a friendly reporter," quipped James Graaskamp, the often outspoken yet remarkably revered leader of one of the few programs in higher education that is dedicated to teaching real estate development.

"If you're the mayor of Madison, you might call him a rabble-rouser. He's not afraid to speak out on issues like a new civic center or reuse of an abandoned rail corridor," said Norman Flynn, president of Flynn Baker Inc. Real Estate in Madison and a national director of the National Association of Realtors.

"There are a lot of other things you might call him—a friend, an ally—but he is best known as 'Chief,' as he is fondly called by his 900-plus graduates," Flynn said. "He has developed one of the really renowned programs in real estate and as a consequence is having a significant impact on the real estate industry in this country."

Graaskamp, 54, is chairman of the department of real estate and urban land economics in the University of Wisconsin's School of Business here. His program is regarded as the first in the country to specialize in development analysis.

Some in the real estate industry question whether development—which has traditionally drawn its recruits from pursuits as various as architecture, law, banking, and brokerage—can be taught in a classroom. But to hear Graaskamp's graduates tell it, the professor's program has been invaluable.

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At a recent reunion here, more than 350 alumni of the real estate program gathered to exchange stories and establish contacts. From the roster of attendees, it was clear the Chief's Indians have infiltrated almost every aspect of the real estate industry.

"There were only eight to 10 of us back in the Dark Ages when the program started," said Michael Feiner, chief executive officer of MDC Holdings Inc. in Denver, one of the nation's largest home builders.

"I can remember that Professor Graaskamp had this really radical idea back in 1966—an after-tax cash flow analysis. But he has always been on the cutting edge and it's why we've been fortunate to have been a part of the program. The success of all of us in this room speaks to that," he told the gathering.

For those developers who didn't master Graaskamp's after-tax cash flow analysis, the Tax Reform Act of 1986—which took away many of the tax advantages to real estate investing—was a tough blow. For Graaskamp's graduates, the change in the tax code merely gave them one more reason to praise his program.

"There is no greater factor in my life than Professor Graaskamp," Feiner said. "Without him, I would not have been able to get into the unusual areas [like securitization and collateralized mortgage obligations] I have. Heck, I was here at the university for nine years. I must have liked something other than the Corvettes and the girls."

It wasn't always easy being a business student in the 1960s on the Madison campus, a time when the town was a flashpoint for protest against the Vietnam War and only finance majors wore sport coats.

Graaskamp recalled a "panic-stricken" woman from the west side of the city who complained about some "sinister folks" stalking through the back yards of her neighborhood. It turned out to be only a bearded Feiner and another real estate student, who were taking their advanced appraisal course rather seriously.

Today the real estate program is the fourth largest in the School of Business, with 103 master's students and 68 undergraduates enrolled this academic year. Seven doctoral students are in the program, although the department could only fund four positions—"the rest came anyway," Graaskamp said.

Classes offered range from real estate law to market research to equity investment. There is a heavy emphasis on the practical side of the development business that attempts to bring the real world into the classroom.

To that end, the program also provides a variety of guest speakers throughout the year who are flown in from around the country to lecture on topics of concern in the real estate industry. Those programs are funded by alumni.

The graduates may be young, but they are influential. Sixty-eight of the 350 alumni at the reunion work in Chicago. Their names pop up at dozens of area real estate, financial, development, accounting, and appraisal firms.

Five graduates, who made up a panel on property acquisitions, together have a hand in real estate investment portfolios that total more than $25 billion. The firms they work for—JMB Realty in Atlanta, Heitman Financial in Los Angeles, Equitable Life in San Francisco, Aldrich, Eastman & Waltch in Boston, and Bennett & Kahnweiler in Chicago—show how much of a cross-section of the country Graaskamp's graduates span.

Graduates have even spread across the globe to Norway and The Netherlands.

Graaskamp was asked to moderate a recent Urban Land Institute seminar in Milwaukee that focused on several of the city's downtown development projects. Organizers did not know how appropriate the selection of the professor was—every one of the projects discussed that day involved one of his graduates in a leading role.

"One thing I did learn from Professor Graaskamp's program was if you don't have the answer, just keep asking the question, because sooner or later you will get the answer," said Thomas Klein, a developer with Madison-based Oakbrook Corporation.

Klein helped put the financing together for Yankee Hill, a $33 million apartment development in Milwaukee. His description of the package—which included tax increment bonds, writedowns on the urban renewal land, and first and second mortgages from a city general bond issue—confounded a panel of experts at the seminar. But it left Graaskamp grinning.

The unconventional delights the Chief. He is not enamored of the university system, in which the faculty and administration control the purse strings and the ideology. The real estate tradition, he said, is "ignoring the university's rules." And Graaskamp's alumni have rallied to his call.

They have set up their own foundation, connected to the university, which provides endowments to fund teaching assistant positions, among other things. This year the alumni have started a second fund, not connected to the university, which they hope will be able to boost the salaries of worthy professors. The faculty prevent any such enhancements through university foundations.

"We hope to dip into the endowment fund to make up the difference between what the UW pays and what the rest of the world pays. The university pay scale assumes living in Madison is worth $20,000 a year," Graaskamp said. "We've already lost two professors to the business world. It appears those who can are going, and that is a terrible precedent for teachers."

Graaskamp pulls no punches outside academia, either. At a recent National Association of Realtors roundtable at the Ritz-Carlton in Chicago, he took issue with the NAR's position that no federal law is needed to establish standards in the appraisal industry.

"Virtually all the culprits in appraisal scandals have been able to resign or are still sanctioned to perform appraisals," he said. "I just don't see an industry willing to fund the tremendous cost of a standards board without a federal law."

He chided the Realtors for their insistence on maintaining their own appraisal arm, the American Institute of Real Estate Appraisers.

"I'm a lone voice, but I just don't see how—if appraisers are to be independent—they can stay under the umbrella of a group that is essentially a marketing organization," he said.

Commenting on the lunch laid out at the Ritz, he reminded participants that "the price would have subsidized two more Section 8 [low-income housing] units."

Graaskamp's outside work comes through Landmark Research, Inc., a consulting firm of which he is president that specializes in courtroom appraisals, feasibility studies, and institutional investment.

He is also a former member of the board of directors of the Wisconsin Housing Finance Authority, an Urban Land Institute trustee and research fellow, and a member of Salomon Brothers' real estate research advisory committee.

Graaskamp contracted polio when he was a 17-year-old high school senior in Milwaukee. His disability ended his athletic career, but has never curbed his academic interests.

"Real estate cuts across every major issue of our time," he once told *The Milwaukee Journal*. "Man is the only animal that builds his terrarium around him as he goes, and there are tremendous ethical conflicts inherent in that. Real estate is business and social ethics, public policy through private research and action."

'Chief' Graaskamp Mourned at UW

State Journal staff

James Graaskamp, a UW–Madison business professor who died Friday night, was called "a towering figure in his field" by UW–Madison chancellor Donna Shalala Saturday.

The articulate, outspoken professor was adored locally by his students, who fondly called him "Chief," and acclaimed nationally in the field of land development.

He is credited with developing UW–Madison's real estate and urban land economics program, which he chaired. The program, the first in the nation to specialize in development analysis, emphasizes a practical approach to real estate education.

"Jim Graaskamp was one of the most dedicated and gifted teachers in the history of the university," Shalala said in a statement. "A towering figure in his field, he leaves his mark on a generation of students who were rigorously trained and filled with his enthusiasm for improving the quality of our physical environment.

"The entire university mourns his loss and I will personally miss his wise counsel."

Graaskamp was an ardent critic of several local land use policies, including the Madison Area Technical College move to Truax Field, the proposed UW–Madison convocation center, and plans for a hotel-convention center on the south side of Capitol Square.

Reprinted with permission from the *Wisconsin State Journal*, April 24, 1988.

Paralyzed by polio at 17, Graaskamp was also instrumental in establishing the UW–Madison McBurney Resource Center for Persons with Disabilities. Graaskamp shrugged off his own disability as a "materials-handling problem."

Born in Milwaukee, Graaskamp earned a bachelor's degree in creative writing from Rollins College in Florida, a master's degree in security analysis from Marquette University in Milwaukee, and a doctorate in urban land economics and risk management from UW–Madison in 1964.

He also operated a consulting company, Landmark Research, Inc., and was adviser to bankers, land developers, and insurance companies across the country. He is survived by his wife, Jean, and his mother, Lillian.

Professor, Mentor, Realty Consultant Graaskamp Dies

Paula Stephens

The "Chief" died April 22, and hundreds of friends and graduates of Dr. James Graaskamp's real estate program in the School of Business at the University of Wisconsin gathered in cities around the world a week later to toast the memory of the remarkable man who had dedicated his life to the pursuit of excellence in real estate.

Graaskamp, 54, was chairman of the Department of Real Estate and Urban Land Economics at the university. His program was generally regarded as the first in the country to specialize in real estate development.

"He was a formidable force in this business," said Claude Ballard of Goldman, Sachs & Co., who had invited Graaskamp to speak to personnel at Prudential Insurance Company of America where Ballard headed up Pru's real estate investment department and who had spoken to Graaskamp's classes at the university. "He was a very effective speaker, and, more than that, he was the most admired man in the industry. Everybody admired him greatly," Ballard said.

Graaskamp was "an inspiration to others because of his tremendous courage," said economist Anthony Downs of the Brookings Institution and *National Real Estate Investor* "Money and Real Estate" columnist.

Graaskamp, a professor at the university for 30 years after earning his doctorate there, had been a quadriplegic since a bout with polio at age 17. Graaskamp traveled to national real estate conferences, most notably the Urban Land Institute's semiannual meetings, where he was a frequent speaker, remem-

Reprinted with permission from the *National Real Estate Investor*, June 1988. ©Communication Channels, Inc., Atlanta, Georgia.

bered as much for his wit and booming voice as for his opinions on land use economics.

"I think he was a genius," said Marshall Bennett of Marshall Bennett Enterprises of Chicago. "He would keep everybody laughing and you would forget about his disabilities," Bennett recalled. "Your eyes would be on his very intelligent face."

The educator's passion was to foster higher standards in the art and science of real estate practice. "His great contribution lay in the use and techniques of appraisal," said Downs. "He was a beacon of integrity in demanding high standards of appraisal in the real estate industry."

For example, he did not agree with the National Association of Realtors' position that no federal law is needed to establish standards in the appraisal industry. Outspoken opinions were his hallmark and earned him respect, if not admiration, among those with whom he battled.

"He was a hard-driving idealist, with incredibly high ethical standards," said Robert A. Peltzman, principal of Real Property Advisors, San Carlos, California, and a graduate of the real estate program.

Graaskamp also pursued outside business and professional interests. According to Tony Downs, he was an adviser to Salomon Brothers' real estate department when it was established, and a trustee of ULI. He had also formed his own consulting firm, Landmark Research, Inc., which specializes in courtroom appraisals, feasibility studies, and institutional investment.

But his main area of concern for 30 years was the classroom—and the people who passed through it. He formed an alumni association, now some 900 strong, for the University of Wisconsin real estate program and stayed in touch with the members.

The alumni association is "his biggest legacy," said Peltzman. Graaskamp's graduates have been notably successful in the real estate community—"a proportionately high percentage of them have done very well," Peltzman said.

That success was due at least in part to what Graaskamp expected of his students. "He was outstanding, so demanding of his students," recalled another product of the real estate school, Sally F. Stephenson, national sales coordinator for NREI.

He will also be remembered, Peltzman feels, because "he played a major part in making real estate a separate, legitimate, and respected discipline."

Specifically, Peltzman said, Graaskamp was a leader in developing analytical models dealing with cash flow, portfolio theory, risk management techniques, and real estate feasibility analysis.

"Dr. Graaskamp had a profound influence on many individuals, as well as the collective academic and professional worlds of real estate and urban land economics," Peltzman said.

In a 1985 local interview, Graaskamp summed up his feelings about teaching real estate. He said it is "fun and significant and tremendously satisfying. You're at the cutting edge of the issues of our time, whether economic, financial, or political."

In Memoriam: James A. Graaskamp

ULI Member for 12 years (1976–1988)
ULI Trustee for six years (1982–1988)
ULI Fellow for nine years (1979–1988)
ULI Council Member for nine years (1979–1988)
- Development Policies and Regulations Council (January 1979–June 1982)
- Development Systems and Services Council (July 1982–June 1986)
- Industrial and Office Park Development Council (July 1986–April 1988)

ULI Education Committee Member for seven years (1981–1988)

WHEREAS, James A. Graaskamp was a highly respected member of the land use and development profession; and WHEREAS, he was a renowned educator in the land use and development field; and WHEREAS, as a long-time Member of ULI–the Urban Land Institute, he served as a Trustee, as an active and dedicated member of many of its Councils, as a faculty member of the ULI education programs that educated many professionals in the field; and WHEREAS, he was responsible for many ideas in the education program that have been integral to its success; therefore, be it RESOLVED, that the Board of Trustees of ULI–the Urban Land Institute hereby expresses its recognition of his distinguished accomplishments, its appreciation for his dedication to the development profession as a whole, and most especially to ULI as an organization that represents the development community, and extends its sincere condolences to his family.

Greenlaw "Fritz" Grupe
President
Urban Land Institute
May 5, 1988

This ULI resolution was published in the June 1988 issue of *Inside ULI*.

Unique Park Is Tribute to Local Man

Joe Lusson

When James A. Graaskamp Park opens this October in the Emerson neighborhood on Madison's East Side, it will be the only park in the state designed for shared use by people with and without physical disabilities.

The quarter-acre park is part of the Avenue, 1954 East Washington Avenue, a 40-unit, low- and moderate-income housing development designed to integrate different ability, income, and age groups. The project is financed by the Madison Mutual Housing Association (MMHA) and WPL Holdings Corporation.

Renovation of a building formerly occupied by part of the UW–Madison Medical School should be completed by the end of the year. Playground construction will begin in September and be completed by October 15. The entrance to the park is in the 1900 block of East Mifflin Street.

The park is dedicated to the late James Graaskamp, a nationally respected UW–Madison business professor. Graaskamp, who died last year at age 54, developed and was chairman of UW–Madison's real estate and urban land economics program. Paralyzed by polio at 17, he also helped found the UW–Madison McBurney Resource Center for Persons with Disabilities.

The park design was influenced by Graaskamp's belief that people with different needs shouldn't be segregated, said Susan Hobart, MMHA executive director.

Lou Host-Jablonski, an architect with Design Coalition, said the nearest park with equipment accessible to all is in Oak Park, Illinois, and Graaskamp Park, with a water and sand play area, may be the first of its kind.

"The ideas have been around for years," he said. "This [park] pulls it all together."

Reprinted with permission from the *Capital Times*, August 9, 1989.

Design Coalition, a nonprofit firm, also designed the Avenue housing. In designing the park, the firm worked with a committee that included members of the Emerson Neighborhood Association, children, and several children and adults in wheelchairs.

The park will be on MMHA land, yet it will be a community park.

Graaskamp Park will remove traditional hurdles for people with physical disabilities, such as bark chips under swings, stairs to slides, and ground-level sandboxes.

A double slide, built into the side of a hill, allows access without climbing stairs. The two different slopes allow people to slide at their own rate. A platform at the top allows a person to slide out of a wheelchair onto the slide.

Rubber tires next to the slide can be climbed, building upper arm coordination. This challenge gives children a chance to develop courage and confidence.

A macrame swing, big enough for two children, is designed for people who are paralyzed or lack muscle coordination.

Two large sandboxes with multiple levels allow wheelchairs to roll under. A hand-operated faucet sends water down a trough to the sandbox, creating castle-making conditions. The water runs out of the box into an adjacent wading area.

"We're hoping it will become a model playground for Dane County," Hobart said.

The park retains several 40- to 50-year-old trees and a sledding hill that has been used by neighborhood children for years.

A sculpture dedicated to Graaskamp, by Madison artist Michael Burns, is next to the playground. Titled "Content — James A. Graaskamp," the five-piece sculpture creates a quiet area to sit or play in.

PART II

THE WISCONSIN TRADITION AND UNIVERSITY REAL ESTATE EDUCATION

Introduction to Part II

"Land economics as a specific university discipline began on the University of Wisconsin campus under the leadership of Professor Richard Ely at the turn of the century. The Wisconsin program in land economics and real estate has remained at the cutting edge of education in land ethics, analytical technique, and improved definition of concepts, business opportunities, and social rules for the real estate industry."

Memorandum from James A. Graaskamp
March 28, 1988

"Real estate should be taught as a process of dynamic interactions rather than functional and historical facts. The result should be a real estate entrepreneur with the creativity of Leonardo da Vinci, the sensitivity for the natural world of John Muir, and the political humanity with cash management for profit of James Rouse. Of course, the graduate student should be something more!"

James A. Graaskamp Memorial Fund Brochure
May 1989

Graaskamp gratefully acknowledged his debt owed to the Wisconsin tradition for his foundation in urban land economics and real estate. Professors Richard T. Ely, Richard U. Ratcliff, and Richard B. Andrews provided the background for Graaskamp's intellectual and practical inquiries, but he took real estate analysis in new directions and with these efforts created a loyal following among his students and colleagues.

The study of real estate has enjoyed a long and progressive tradition at the University of Wisconsin. The introduction of discounted cash flow models in the 1970s and geographic information systems in the 1980s helped advance appraisal and market research. Faculty sought to develop a program that had solid theoretical underpinnings combined with a practical multidisciplinary approach to real estate development education.

Once Graaskamp began teaching, he devoted a good deal of his writing and speech making to the subject of real estate education. He was intrigued by the difficulty of designing a workable and responsible curriculum. He tinkered constantly with his approaches and was delighted to come upon a different angle or direction. He was perhaps the leading modern commentator on this subject, and his ideas are influencing a generation of real estate educators and students.

This part is a collection of articles by and about Graaskamp that outline his basic philosophy on teaching real estate and his efforts at the University of Wisconsin.

The Wisconsin Real Estate Program—A Grand Tradition

"Under all, the land" were the guiding words of Professor Richard T. Ely's philosophy. He was convinced that systematic, equitable planning for land use was the most fundamental—and most difficult—of all the economic problems with which society could deal.

A feisty pioneer in the field of urban land economics, Ely was often attacked by conservatives too shortsighted for his expanded vision. But along with those who followed him as head of the UW–Madison Real Estate Program, Ely was stoutly defended by the very progressive UW Board of Regents.

Because the real estate program to this day maintains a close working relationship with the disciplines of many other departments, its stature is national and even international in scope and recognition. Students of the UW tradition have learned through the study of regional planning, law, engineering, ecology, agriculture, architecture, and dozens of other disciplines that—under all, the land.

Richard T. Ely established the urban land economics discipline at the University of Wisconsin in 1920. An outspoken critic of those who abused the economic system, he initiated the first four-year college real estate course in 1932—setting the Wisconsin tradition with vigor, wisdom, and progressive ideals which characterize the program to this day.

Richard U. Ratcliff expanded the Business School tradition from 1946 to 1964, building a curriculum around the proposition that macro–urban land

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Reprinted from a James A. Graaskamp Memorial Fund brochure, 1989.

economics was built from an infinite number of private real estate investment decisions. In addition to authoring three texts that have become the foundation of academic real estate education programs at the university level, he received the National Association of Realtors endorsement for the first model university program with a real estate major in 1950.

Richard B. Andrews, professor of land economics at the University of Wisconsin–Madison from 1948 to 1981, began his study here under Professor Ely. He was a pioneer in economic base analysis, forecasting, and public policy formulation to channel the real estate investment process toward the most effective use of its resources. Professor Andrews was also chairman of the editorial board of the prestigious *Journal of Land Economics* from 1969 to 1975.

Wisconsin's Real Estate Program

James A. Graaskamp

At the turn of the century, Professors John R. Commons and Richard T. Ely originated the idea that the University of Wisconsin should recognize real estate and urban land economics as a distinct university discipline. These men saw land use as a synthesis of institutional forces and physical constraints. The concept of land-related enterprise as a multidisciplinary system has continued to prevail in the various programs available at the university; a degree in land economics has existed since 1922.

In 1944 when the School of Business Administration separated from the Department of Economics in the College of Letters and Science, it carried with it the urban land economics discipline as well. Professor Richard U. Ratcliff, who had returned to the Madison campus from a stint with the FHA and the National Housing Agency in 1944, established ties between the School of Business and the schools of civil engineering, agriculture, the natural sciences, and eventually with urban and regional planning and the law school. Today there are a variety of degree programs related to land development and land use. They are listed and dated below to show the diversity and inauguration of a continuous multidisciplinary viewpoint:

- (1922) BA in economics with an emphasis on land economics
- (1944) BS in construction administration—a hybrid of civil engineering, business administration, and architectural design
- (1945) BBA in business administration with a major in real estate
- (1947) MBA in business administration with a major in real estate

Reprinted with permission from *Urban Land*, October 1978.

- (1963) MS in real estate appraisal and investment analysis
- (1974) MS in land resources—a multidisciplinary degree with an emphasis on the natural sciences such as soils and forestry as well as real estate and the economics of public policy
- (1947) PhD in real estate and urban land economics
- (1974) PhD in land resources—a multidisciplinary-committee program, custom-tailored to convert a specialist in soils, surveying, remote sensing, or other subjects to a generalist in his own specialty

University Objectives for Real Estate Programs

Each of the curricula has aims that are compatible with the objective of university-sponsored programs:

- To train real estate enterprise managers who can synthesize multiple disciplines;
- To instill an ethic in tomorrow's managers in terms of land as a finite resource;
- To recruit and motivate young talent for careers in land use–related enterprise; and
- To provide students with the techniques that will make them productive employees in the public and private sectors immediately upon graduation.

It is particularly appropriate that a school of business at the university is the catalyst for a synthesis of all the technical specialties preparing those who will manage land use decisions in the future.

To be effective, business education must always be one step ahead of changes in the world of business, and the real estate industry of the future will be dominated by financial constraints. Our courses in real estate and urban land economics expand on a central theme of cash-cycle enterprise and economic equity among consumers, public infrastructure, and private development.

An Integrated Real Estate Concept

All students at Wisconsin who wish to take a real estate course, graduate or undergraduate, must take our basic course, called "The Real Estate Process," which defines and illustrates the basic components of the Wisconsin approach. The course deals with the dynamic interaction of space users, space producers, and supporting public infrastructure. Space users include both individual consumers and the collective community as it is affected by a real estate decision; space producers include both private and public experts that develop individual parcels and hardware; and infrastructure relates to the off-site delivery of public services.

Each of these three decision groups represents at least one enterprise, an organized undertaking. All are cash-cycle enterprises constrained by a need for cash solvency, both short and long term. A desirable real estate solution occurs when the process permits maximum satisfaction to the consumer at an affordable price within the environmental limits of land. It must permit the producer and the government cash cycle to achieve solvency, that is, a minimum cash break-even after a full payment for services has been rendered. Solvency of the total process, not value, is the critical issue.

Since real estate as a manufactured product is a cash-cycle enterprise that involves a process of fitting space-time needs to the money-time dimensions of a cash economy, the real estate business is any that provides expertise necessary to operate the fundamental truism that space-time equals money-time. The true profit centers in real estate are in the delivery of services, and cash capital or net income is an energy transfer system. Because ownership is the degree to which one enterprise can divert cash flow to its benefit, ownership is not limited to historical semantics. Not only are general partners, property managers, and mortgage lenders in equity positions, but the public, too, has a direct ownership in every parcel to the degree that it produces real estate taxes and other public revenues and benefits. It is the discounted value of these future benefits to the public coffers that creates the social capital that can be eroded by such concepts as rent control, excessive growth management, or careless placement of public facilities.

The simple traditional concept of highest and best use or wealth maximization for the parcel owner has therefore been replaced with the more viable and expressive concepts of most fitting use for normative economics and most probable use for business decisions. The most appropriate use represents the planning concept of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties. Reconciliation involves the financial cash flow impact analysis on who pays and who benefits. The most probable use is the pragmatic business concept of use depending on the constraints imposed by current political factors, by the state of real estate technology, and by the bargaining position (solvency and liquidity requirements) of consumer, producer, or public agency.

A school of business, with its orientation to cash management and enterprise organization, is in a unique position to integrate the various technical aspects of solving operational problems despite limited resources, social values in conflict, the risk of capital budgeting assumption, and the discipline of cash-cycle solvency. Because the objectives of the administrative policies are generally established by value judgments and major events beyond the control of business, business education must provide the content necessary for sensitizing the student to the elements of power in the environment to which any enterprise must adapt.

Converting Axioms to a Program

There are a number of techniques that can be exploited in a university program to circumvent the university's tendency to specialize and polarize various disciplines into unnecessary confrontation. To find a rational and balanced approach to land use enterprise, the University of Wisconsin has used the following techniques:

1. The faculty represents multiple disciplines within the real estate department. It includes a traditional public policy economist, a land resource econometrician, a graduate architect and city planner, a Harvard University land use attorney, and an ex-developer with a PhD.

2. A basic course, "The Real Estate Process," is cross-listed in many nonbusiness departments. Despite its emphasis on cash flow and a feasibility study term project on selected Madison sites, the course draws 200 students each semester, fewer than half of whom are in the School of Business.
3. Course requirements outside business disciplines are required of real estate majors. These rules force them to explore courses in disciplines such as soils, geography, political science, architectural history, civil engineering, and planning. Not only do business students become sensitized to other disciplines, but they establish a presence in classes of other disciplines where real estate enterprise might not have received fair treatment in the past.
4. A real estate faculty cooperates with faculty in other disciplines on various research projects and consulting assignments in order to establish a rapport based on the sharing of common experience. Natural science, design, and engineering faculty have learned that presentation of their disciplines in the context of financial implications to land-related enterprise helps gain credibility and acceptance of their ideas with those who make the decisions about land. They are therefore willing to cooperate with the Business School.

The Graduate Program

The graduate program in real estate appraisal and investment analysis has 45 to 50 students each year. About 20 percent of these students are returning from industry to do graduate work; another 20 percent are engineers, architects, or construction administration majors who are looking toward careers as developers or asset managers of financial institutions; about 50 percent have undergraduate majors in business; and the balance represent a variety of fields ranging from agriculture to zoology.

If an entering graduate student has a previous degree in business, an MS degree can be completed in two semesters and one summer; students without a core of accounting, computers, marketing, business law, organizational theory, and finance require two full years.

Chief Graaskamp At the Center of National Real Estate Network

Alvin L. Curtis

MADISON—James A. Graaskamp is a maverick in a wheelchair.

"I'm a guerrilla out here, but then some would argue I'm a 'guerrilla' in more than one way," quipped the man whose real title is Chairman of the Department of Real Estate and Urban Land Economics in the School of Business at the University of Wisconsin–Madison.

To his students, he is simply "the Chief," the man who oversees a program called one of the best in the nation.

"I don't know if I do a good job of teaching, but we excite them," the 52-year-old Graaskamp said in an interview. "We've had good luck. We didn't do any damage to them while they were here."

Graduates of the program go on to become familiar names in the commercial real estate industry, names such as Jon Hammes, managing partner of the Milwaukee office of the Trammell Crow Company.

In the Minneapolis/St. Paul area, some 60 of Graaskamp's former students are working in the business, prompting the *Minnesota Real Estate Journal* to dub the group "the Wisconsin Mafia."

While they work in the Twin Cities, their links to Graaskamp and each other remain strong.

"Graaskamp is the mentor, the driving force," said Dianne Orbison, president of the Wisconsin Real Estate Alumni Association and an investment

Reprinted with permission from *The Milwaukee Sentinel*, November 12, 1985.

officer of the Mutual Service Life Insurance Company in St. Paul. "He's the lieutenant, we're the soldiers."

That military analogy might just as easily have come from Graaskamp.

"This has been called the West Point of real estate," he commented. "[To the alumni], the program is preeminent in their field. The alumni recognize that it contributes to, and enhances, their reputations."

"You know they have gone through some hard challenges," Orbison added.

Those who know Graaskamp and the reputation of the school acknowledge its quality.

"He runs a good program," said Shelby R. Lozoff, president of the Lozoff Companies in Milwaukee and a graduate of the Wharton School of Finance and Commerce at the University of Pennsylvania in Philadelphia.

"But we don't always agree on everything, like some of his appraisal theories," Lozoff said.

"I've always been a gadfly to the appraising process," Graaskamp admits. "I've always been an outsider to real estate."

In fact, Graaskamp's undergraduate degree is in creative writing, earned from Rollins College, Winter Park, Florida. After obtaining an MBA in security analysis from Marquette University, he earned his doctorate from UW–Madison in urban land economics and risk management.

Graaskamp also has a Madison-based real estate consulting firm, Landmark Research, Inc., of which he is founder and president. The company has contracts throughout the country.

Unlike his students, Graaskamp's route to the study of real estate was indirect. He came to UW–Madison as a teaching fellow in 1958 after teaching insurance at Marquette.

"When I started teaching, I was looking for something I could do vicariously," said Graaskamp, a victim of polio who has been confined to a wheelchair since he was 18.

"Teaching was something I did myself. I was able to communicate and respond," he said. "I had a grass-roots feeling for business."

Graaskamp, who was Wisconsin's Handicapped Person of the Year in 1970, turned his inability to physically care for himself into a tool for reaching his students.

"Being in a wheelchair, you learn to have to break down barriers," he said. "You learn what puts others at ease. When you put students at ease, they're so appreciative."

Graaskamp recalled how a visiting dignitary at a Rollins College formal dinner purposely forgot his bow tie. "He always did it to let people be able to respond—to let people do something for you."

In turn he has used the technique on his students. "So I let a kid get me a glass of water—I hate water."

In his real estate classes, Graaskamp said he worked to make students smart consumers of real estate services.

"Our orientation is broad," Graaskamp said. "Everybody is a user of real estate services; therefore you want to be sensitive to broader issues.

"I come at real estate from a very holistic view," he said.

"I try to teach the students that there are no answers in real estate," he said. "All I can teach them is how to ask questions in a systematic way. It helps them frame issues and answers. We try to give a principle and a war story, as many concepts and illustrations as we can."

The real estate school began with a multidisciplinary outlook, he said. "In the tradition of a multidisciplinary nature, we couldn't have a better location than Madison, Wisconsin."

However, Graaskamp does not view everything as rosy at UW–Madison.

He argues that because UW–Madison is seen as a liberal arts university, the Board of Regents has shortchanged the Business School.

"The result is in the last four to five years we've frozen enrollments," Graaskamp said, because of declining teaching budgets.

"Twenty percent of the freshmen want prebusiness," he said. "Only 7 percent can get in."

"As a tax-supported institution, our first function is teaching students," Graaskamp argued. "The students reflect the reality that a job is an important reason for going to school."

In Graaskamp's opinion, "The university is taking a monastic view. You have to reflect the values of the taxpayers."

He charges there is an attitude at the university that is antientrepreneurial: "It sees business education as administration, not as important to society."

From Graaskamp's point of view, the business community hasn't been much help. "I find myself very frustrated," he said. "I don't think the business community is giving us a constituency to change that."

Business people need to lobby directly with the regents, according to Graaskamp. "They're being undercut by university administrative decisions. They don't understand that they're the ones that can get to the regents."

To help solve the real estate school's budget problem, the alumni association has taken the entrepreneurial approach. At their biennial reunion in October, they announced plans for a $1,350,000 fund drive to create an endowment fund at the university.

"We are not going to wait for the university to change its priorities or wait for the legislature to act," Graaskamp said. "We'll solve our own problem. We'll do it despite the university system."

The first place the association turned was to its network of alumni.

While the alumni and students are spread across the country, they do stay in touch. Nearly 300 of the 700 members who have gone through the program returned to Madison in October for a reunion. Few alumni associations can regularly attract 40 percent of their members to such a gathering.

But then Graaskamp's alumni take networking to heart.

In addition to gathering together every two years for their reunion, the association produces computer-updated lists of members' names, addresses, and telephone numbers. The members don't hesitate to call alumni in other cities when they need information.

Graaskamp related how, on a trip to New York City, the real estate school alumni gathered for dinner. All but two showed up, and they were traveling.

"The same thing happened in Boston and Phoenix," he said. "They go out of their way to see me."

"We're deeply tied to the program," Orbison said. "We have our own networking system. We carry it to the limit."

To Graaskamp, teaching real estate is "fun and significant and tremendously satisfying.

"You're at the cutting edge of the issues of our time, whether economic, financial, or political."

Redefining the Role of University Education in Real Estate and Urban Land Economics

James A. Graaskamp

A contemporary curriculum for real estate in a school of business administration at a major university should be relevant to current needs of the student, to future needs of the real estate industry, and to the larger responsibilities of a university institution. A summary of the remarks which follow might be that a major byproduct of the process of converting a freshman to a Renaissance man inclined to real estate should be to reeducate university faculties to their responsibility to remain multidisciplinary and advocates of inquiry rather than of conclusions.

It will also be necessary to distinguish the university functions from the mission priorities ascribed to undergraduate and graduate business administration programs, with real estate and the business of real estate then defined as a subset of both the liberal arts and applied arts of enterprise management. In order to devote the majority of time to an operational real estate program, the effort to define the context of university responsibilities and business school missions will be overbrief and irritating to the deeper educational philosopher, but hopefully the sins of omission will be judged on balance relative to the total essay.

The University Function and Land-Related Topics

In my view, a primary function of a major university should be to reduce the social conflicts which drain the system because of the misunderstandings and

This article, reprinted with permission from the March/April 1976 issue of *The Real Estate Appraiser*, is based on a speech Dr. Graaskamp delivered before the American Real Estate and Urban Economics Association in San Francisco in December 1974.

narrowness of viewpoint of individual vested interests. The basic technique of conflict resolution is by the cross-pollination of the natural and social disciplines presumed possible in a family of scholars.

This function notwithstanding, the fundamental problem today involving real estate education at the university level is the conditioning of every student within each specialty to prepare for and magnify the adversary nature of public land use policies vis-à-vis private decisions by a space producer or space consumer. The natural science schools teach that the enemy is industrial society; the planning schools teach that the developers are Philistines, while business schools have tended to follow the lead of the real estate industry to the effect that public land use planners are naive, fascist, and without techniques to plan with equity for all affected by social transition.

In most cases, the university specialties deliver judgment upon one another rather than seeking a synthesis of enterprise objectives relative to the land. This effort at land use through adversary maneuvering and scorn for other viewpoints rapidly enters the real world as government and industry staff their opposing forces with young people preconditioned to the biases of their employers. The planning students are taught by former government people to be antibusiness, while the business students are taught by former real estate people to beware of the planners, with a paranoid feedback effect which now appears with increasing frequency in courtrooms or in legislative maneuvering intended to thwart opponents rather than resolve problems.

School of Business Administration Position

At a university when so many departments in liberal arts and the environmental sciences are oriented to identifying problems and crying alarm, the School of Business offers the student approaches and methods of problem solving and administrative execution to achieve individual and broad social objectives. Enterprise management is concerned with the use of limited resources to satisfy profit, risk, and social purposes in conflict with one another within a cash-cycle economy and under a broad set of social constraints. Since the objectives of the administration process are frequently established by major events and value judgments beyond the control of business, it is necessary to sensitize the student to the correct interpretation of the broad social constraints of the business enterprise as well as the best administrative techniques of objective or problem-solving administration. As John Beckett explains it, the form and behavior of any given enterprise represent a "negotiated consensus" between two general forces of creative power:

> . . . the power of the environment to dictate the form and the behavior of the organization, on the one hand, and the power of the organization to decide for itself what its conformation and behavior will be, on the other. To be mindful of the inevitable presence of both forces is to be able to penetrate the meaning of organization purpose—in every system, every organization . . . .[1]

Business schools around the country have a unique opportunity to offer students the satisfaction of beginning with small administrative successes which are attainable from within all forms of cash-cycle enterprise, public or private, now that students have good reason to suspect the effectiveness of grand crusades, no matter how intensive, and of macroeconomics, no matter how well documented in theory.

Today's business school must continually relate the business organization to the external factors of natural and social ecology to understand and control the actions of the business. With knowledge of these constraints, it is the mission of the school of administration to expose students to career opportunities at the undergraduate level, to provide the basic tools to participate in these areas of enterprise opportunity, and to sensitize them to the personal satisfactions available to the entrepreneurial ego in either public or private service. Hopefully the student will have sufficient tools in his special interest to be of some immediate productive value to his employer and perhaps carry with him sufficient knowledge of advanced techniques that he will provide some educational input for the staff of his new employer.

It is the function of the graduate degree at the master's level to provide more intense preparation in the techniques and tools of business and some area of enterprise specialization so that the student can step into positions with some immediate responsibility for important business judgmental decisions. This mission presumes that the intensity of vicarious experience at the graduate level will mature the student at a rate faster than a year of experience at on-the-job training. Some graduate schools of business may favor the view that they are preparing the corporate leaders of tomorrow, but there is great skepticism in this quarter that the wit, wisdom, and toughness of spirit required of executive leadership are acquired elements of character instilled in graduate school and correlated to educational elitism.

Basic Applications to Real Estate

Many of the factors and objectives which affect the form and behavior of real estate enterprise lie beyond the province of typical business school concern. Real estate business is so closely tied to land as a natural resource, engineered improvements, and people as a social cluster, [that] it is important to begin with some definitions which suggest why a multidisciplined approach is best centered in a school of business rather than engineering, political science, or the environmental sciences of land and water. Some of the fundamental axioms which condition our definition of the role for real estate education are these:

A. Real estate is defined as artificially delineated space with a fourth dimension of time referenced to a fixed point on the face of the earth. Such a definition covers everything from fields defined by pylons along the Nile to condominium plats or stationary space capsules. To this space-time abstraction one can add any type of attribute required to house some form of cultural activity. Walls and floors, air conditioning, and aesthetic forms simply create spatial elements which are the productive component of real estate. The voids and services, not the solids, are the economic product—a concept from the architectural disciplines.

B. The real process is the dynamic interface of people (cultural preference expressed through the body politic or individual market transactions) upon land, a finite natural resource, and public stewardship, as modified by artifacts and services in a money system, to produce units of space-time with a required set of attributes. These abstract forces can be reduced to specific decision makers, a space user (consumer), a space producer, and public representatives of political control agencies and service infrastructures. These trade-off decisions will be determined in the sociopolitical fields in response to input from the natural sciences.

C. However, each of these three decision actors represents an enterprise, i.e., an organized undertaking. Most of these enterprises are cash-cycle enterprises constrained by a need for solvency, both short and long term.

D. Real estate enterprise (public or private) is the process of converting space-time needs defined by political action or consumer preference into corresponding money-time flows for the producer, consumer, and supporting public infrastructure, all of whom must match receipts and outlays day by day to remain solvent. The common denominator is the time line of real estate events and the interaction occurs since an outlay by the consumer (say, for real estate taxes) is revenue for the community, which becomes an outlay for services (such as street maintenance), which relieves the producer of ongoing expense responsibilities for the infrastructure supporting the single-family home, etc.

E. A socially desirable equilibrium occurs when the real estate process serves the needs of individual consumers and the body politic within the constraint of land as a resource in a manner which permits the consumer, producer, and governmental cash cycle to achieve solvency, including the cash costs of money.

Implicit in all of the above is that solvency of the total process is the critical decision constraint, not value as is currently taught in land economics and many real estate texts. Land is defined first as a natural resource and a major constraint on enterprise behavior and only secondarily as a commodity. Moreover, because the real estate problem solution must be so carefully fit to both site and community constraints, the reasoning must be inductive rather than deductive.

Since value as a decision-making mechanism is at least subjective to individual marginal cost of capital and deductive in theory, it therefore does not provide a common denominator for synthesizing the necessary trade-offs among consumer, producer, and the public stewardship of land resources. On the other hand, cash flows related to a common time line for any real estate event serve as a proxy and common denominator for the preferential ranking of alternatives by producer, consumer, and government. Cash has the added advantage of perhaps being the only ultimate measure of private property, since the public has first claim on productivity via the real estate tax, first claim on the prerogatives of decision making through the police powers, and the privilege of strict indemnity in cash (never in kind) where eminent domain occurs to whatever residual private expectation the courts may identify.

This logical sweep then leads to the Graaskamp constitutional corollary that equity among enterprises is freedom from bankruptcy or, to turn a Paineful

phrase, "the power to bankrupt is the power to destroy." Therefore, cash interests must be elaborately safeguarded by due process.

Since that process involves intense application of cash-cycle administration for both the consumer and the producer as well as government agencies, the school of business is a logical center for a multidisciplinary synthesis, and a real estate department should be the catalyst. Real estate should be taught as a process of dynamic interactions rather than functional and historical facts. The result should be a real estate entrepreneur with the creativity of Leonardo da Vinci, the sensitivity for the natural world of John Muir, and the political humanity with cash management for profit of James Rouse.

Of course, the graduate student should be something more.

Converting Axioms and Premises

To discuss curriculum, it is necessary to wander back and forth between the traditional course approaches in real estate and urban land economics and the direction in which we should be heading to implement the ideal of mass-produced real estate gurus.

Many years ago, the School of Business at the University of Wisconsin erupted from the Department of Economics and carried with it the urban land economics faculty. Ever since, we have offered both real estate and urban land economics courses within the School of Business almost as separate tracks, with business students taking real estate-type courses and nonbusiness students from economics, planning, and political science gravitating to pure land economics courses. Only the PhD students have found it necessary to give both subject areas equal time, since their comprehensive exams were split equally between the two areas of interest.

We presently offer a BBA degree with a real estate major; a BS degree in construction administration, which is a hybrid of civil engineering and business; an MBA in urban land economics; or an MS in real estate appraisal and investment analysis. Many of our courses are also required and cross-listed for degrees in land resources from our College of Agriculture and Life Sciences, or BA or MA degrees in economics, or MS and PhD degrees in urban and regional planning. Admission to the School of Business, and therefore course eligibility, requires at least junior standing. During freshman and sophomore years, the student must accumulate a total of no fewer than 58 credits, including six credits of accounting, six credits of economics, calculus, and statistics as well as a variety of selected electives in science, social science, and the arts. Upon entrance to the School of Business, the BBA student takes a required core of marketing, corporate finance, business organization, business law, and risk management as a prelude to selection of a major. A real estate course is not required of all business students but perhaps should be.

To reach the student who may be interested in a real estate major but who is a freshman/sophomore beyond our gentle grasp, we are making increasing use of the undergraduate catalog and bulletin to encourage these students to use their electives in a way which will provide a basis for interfacing real estate enterprise with land and society. Thus it is suggested that

A. Science course electives include general geology, Wisconsin geological history, geology for engineers, soils, geography, or meteorology;
B. Social study electives include courses such as social disorganization, urban sociology, the psychology of space, or architectural history, to name a few; and
C. Students choose among engineering courses for nonengineers in architectural drafting, science of materials, environmental pollution control techniques, surveying for nonengineers, and soils for land use planning.

The cornerstone of our real estate program is a course called "The Real Estate Process." It is required of all real estate majors, undergraduate or graduate, no matter what credits they may have transferred from elsewhere. It is now cross-listed and a requirement for students in landscape architecture, urban and regional planning, agricultural economics, and economics. Of the 175 students enrolled this past semester, fewer than half were Business School students, and 20 percent dropped it by the end of six-weeks exams. The format calls for two hours of lecture and one hour of quiz section or lab each week. The latter are handled by our PhD graduate students, who presently represent undergraduate backgrounds in environment, agricultural economics, and mechanical engineering for wood fabrication, as well as an undergraduate business major.

At registration we force the distribution of various student backgrounds among all quiz sections so far as possible, so planners must work with business students and business students must listen to landscape architects, everyone must listen to the civil engineers, and so on. The background of our TAs gives the nonbusiness student some initial, if misplaced, comfort of having friends in high places in the foreign environment of the Business School.

Before the rapport vanishes, we teach after-tax cash flow for the first six weeks, with the lectures stressing first the general format of a rental property in an urban setting and then the content of each major receipt or outlay to be forecast, such as rents, expenses, real estate taxes, mortgage payments, and basic income tax. Given some cash flows, present-value concepts are provided along with certain basic financial tests of risk and yield. In the quiz sections the students do problems, moving from simple present value to a full cash flow, and each student must do a 10-year after-tax cash flow problem on a special accounting paper to be graded. Then we show the students, at risk of some manifestation of discontent, how to do it in 30 seconds by computer.

Once the student understands a basic synthesis of cash flow projections, it is then possible to begin the course in terms of examining various issues which are significant to urban land economics and the real estate process. The alternative strategies of the space user, the space producer, and intervening government agencies are examined from the point of view as to how they intentionally or unintentionally manipulate cash flows and the risk of variance in projections to produce certain results. Among the issues examined in this framework are low-priced housing, urban energy, pollution, and transit conditions affecting operating expenses; urban cash flows relative to sprawl; political fragmentation; tax policies; federal programs under HUD; the recycling of old buildings; city redevelopment and land use succession; and finally Columbia, Maryland, as an attempt to synthesize private enterprise, public infrastructure, and land limitations. The strategic thrust of this course is to reach the other disciplines and to

provide a balanced statement of the issues, demonstrating the input of each university discipline and the consequences to cash flow equilibrium of any extremist position to the delicate fabric of urban enterprise equilibrium and social heterogeneity. While the details are important, the emphasis is on the relationship of problem solving to the attributes of each element involved.

The practical thrust of the course is achieved by selecting three or four sites each semester in the campus area and by having student teams of no more than two select one and conduct an initial feasibility study. All the departments in Madison City Hall cooperate with us by having available a file of data on selected sites in their respective specialties for students visiting City Hall. Students must do a title search for 10 to 15 years back from the present, map land use patterns in the area immediate to their selected site, and propose a land use compatible with zoning and some market need identified by the student. They must process a pro forma budget and operating statement on the computer cash flow model and explain the significance of the results and alternatives which might produce a better result. They are not graded on profit or loss but rather on how well they have identified and responded to all of the constraints which would impinge on an economic decision for site improvement. Course instruction is graded each semester by computer analysis of student grade sheets, and the primary grievance is that the course represents five credits of work for three credits for the undergraduate and two credits for the graduate student. Nevertheless, enrollments continue to grow, particularly among nonbusiness students.

Wisconsin Program in Transition

Our approach to real estate as a series of interacting subsystems suggests that the ideal curriculum should parallel architectural design courses with a series of workshops designed to unravel with increasing sophistication the interplay between the physical, financial, and social dimensions of real estate. The undergraduate program might offer majors a senior-level course of five credits each semester in which a teaching team of design, finance, public finance, and social economist types unraveled no more than three types of projects: perhaps a residential PUD, a shopping center, and an office building for a user-owner. Intense readings and lecture would prepare students for case studies where their feasibility solutions would be judged by a jury of critics, since the software of real estate is really a prearchitectural programming step, a design problem nevertheless.

Unfortunately, we still follow the functional divisions which typify real estate education. Our undergraduate course requirements do the same for the graduate student. Our course in real estate finance is taken almost entirely by real estate majors. It begins with the premise that a real estate transaction is the purchase of a set of assumptions about the future by two parties with vastly different objectives; it moves from the simplest mortgage transaction through the hierarchy of portfolio, institution, and capital markets to explore arrangements and contractual networks which maintain a delicate balance between creative money management and risk management of the variance implicit in all assumptions. It is a strange mixture of financial mechanics and one-on-one

negotiation. All students are required to solve a shopping center finance problem with an advanced cash flow model.

Ironically once we move beyond this course, required of all majors, to residential and commercial development, we have more flexibility, move closer to our ideal, and attract far more students from related nonbusiness disciplines. We begin with merchandising research, space psychology, environmental impact analysis, and measurement of social and architectural success before playing the trade-off game between the physical plan and the cash plan. The courses are now being taught by a young professor with degrees in architecture, city planning, and soon a PhD which is strong in finance. Next fall we will combine registration in residential development with registration in landscape architecture, a senior design course, and for six to eight credits the student will create a design solution for 40 acres on the edge of Madison. The interaction of design and business students may permit better realization of our idealized process approach.

We have a new real estate law course which brushes aside the brokers' manual in five weeks and then dwells on difficult issues of equity in residential landlord-tenant statutes and litigation, evolving land use control law, and the unique legal ties among developer/architect/contractor. The instructor is a Madison attorney serving as a visiting lecturer, a Harvard Law School graduate with a degree in economics who can defend public priorities very well. As a result, he is drawing students from landscape architecture and urban and regional planning, as well as construction engineering.

At the same time, we are pushing students into tool courses outside the School of Business in areas such as soils, surveying, air photo interpretation, remote sensing of the environment, survey research, principles of public finance, urban transport systems, the mechanics of pollution control, principles of urban planning, and so on. Even freshman courses in architectural graphics, landscape architecture, and urban politics are utilized by juniors and seniors lacking particular skills. By now perhaps you have detected that we are using the real estate process to quietly proselyte for the sanity and equity of cash solvency synthesis on the way to social objectives, either in our own courses or by exporting our real estate majors to the other disciplines.

The toughest education problem of all, in our opinion, is making students see the relevance of classic urban land economics to real estate. First there is the problem of moving from the theoretical modeling to operational decision making for the real estate entrepreneur, and second there is the problem of forecasting the impact of a private real estate decision on public economics and priorities. The first glimmer of departmental change in these areas was accomplished when a number of graduate students built a fairly elaborate financial impact model which generates municipal cash flows and developer cash flows simultaneously from the same set of assumptions about product mix, price, absorption rates, and consumer profiles. While we have always been strong in the institutional economics of land, this year we began to build an undergraduate core of urban land economics courses from an econometrics point of view. We found a PhD in resource economics with an undergraduate major in forestry and an MBA in capital budgeting, the latter done on computer for an aerospace firm for several years.

In the basic course in urban land economics, students are introduced to the literature and spend much time on problems involving census tapes for Dane

County, [Wisconsin] a simple Dane County growth model, and basic time-series analysis in order to make specific subregional forecasts of retail, housing, and land absorption requirements. The public sector course has been rebuilt for the spring semester to explore how the mechanics of various public land use allocation mechanisms such as special real estate abatements and rollbacks, zoning bonuses and penalties, zoning and compatibility rules, transferable development rights, grants-in-aid and nonmarket loans, to name a few, all have positive or negative impacts on cash flows of the producer, consumer, and the public coffers.

We are not sure at this time how successful we may be in learning how to bridge the operational gap between regional economics and specific enterprise payoffs. Academic land economists are often more interested in problem description than in techniques of modeling the process to answer real business and public questions in a hurry and on a budget. We are not sure that one can teach such skill and be acceptable to the academics.

Finally, we teach an undergraduate course in real estate appraisal, following carefully the first two basic courses of the professional appraisal societies (through income appraisal) and encouraging the students to write the Society of Real Estate Appraisers' first two professional exams. The students do a basic form for residential appraisal and a full narrative income property appraisal. It is a required prerequisite of the graduate program, but advanced appraisal theory is reserved for lack of time to the graduate program.

The MS degree program has done better at integrating real estate instruction rather than following the customary functional approach and continues our strategy of outreach into the other disciplines.

The undergraduate with a nonbusiness major faces a two-year program with a year of core courses in business, including "The Real Estate Process" and our undergraduate appraisal course before reaching the MS-level courses. The student with an undergraduate business major can, with a superb effort, finish the MS degree in two semesters and a summer. At the core of the MS program is an intermediate course in statistics and an advanced course in marketing research methods and applications taught by our marketing department. There is a course in real estate equity investment theory and cases and a course in contemporary appraisal practice which has the students studying and applying Richard U. Ratcliff, Paul F. Wendt, Gene Dilmore, and Robert H. Gustafson, to name a few. In the spring semester, there is a seminar in which the student will do a professional appraisal or feasibility study in his field on live projects, working in small teams, generally for a small fee. The students are also required to take a course involving real estate law in the Law School, where they "mix it up" with senior law students in land use control or real estate transactions or pollution control law. Our students more than hold their own with the narrow-minded but crusading lawyers and succeed very well in peppering those courses with ideas that would never have penetrated the walls of the Law School otherwise.

Each MS student is also required to take the first course in urban land macroeconomics. After this core program, the student has 15 credits remaining as electives, three of which must be in business outside his major (a graduate business studies committee rule); with these, the student is encouraged to go into some depth in an area which will advance his career ambitions. Developers look at civil engineering and land planning courses, marketing people look at

design and survey research courses, while the finance types often choose from accounting and investment management courses within the School of Business.

The adviser to these students "gently" prods them into areas outside the School of Business which will be strange to them, such as remote sensing of the environment, computer mapping in geography, or architectural history. The ideal objective is a Renaissance man with a real estate major who thinks in terms of process in order to accommodate in the future the accelerating changes in technology and law of real estate. The overall objective is to project a lifelong realization that real estate is not a number-crunching exercise to be taught by retreads from the finance department but is a series of problem-solving opportunities which interface practical tools of applied social science with every major issue of our time in terms of the conservation of both our people and our natural resources. Another objective is to teach the student to enjoy the creativity of mundane things involved in making brick and mortar work as a machine, as a social structure, and as a small business contained on each and every parcel. I feel very strongly that the majority of responsibility for our urban mistakes can be attributed to the planning generalist who does not understand each micro-enterprise he would control and to the narrow financial specialists who have no understanding of the physical and social consequences of leverage. The real estate student must be taught what to see when he looks at a crowd, a structure, a piece of ground, or a financial statement, and that involves a great many details not found in general business training.

Future Real Estate Curriculum

Real estate as a special application of a cash-cycle enterprise is returning to legitimacy as a field of interest appropriate to the School of Business. However, real estate enterprise manufactures the physical terrarium of our society over time, and such enterprise, public or private, is the ultimate client for all physical and environmental designers. Perhaps a contemporary real estate program could have its home base in either a school of physical design or a school of business administration, so long as it was permitted to be inductive, multidisciplinary, and problem solving. Design school faculty criteria, classroom formats, and text materials all have much to offer to real estate education.

The fundamental problem in real estate education as described above is the lack of faculty who would feel comfortable in an open-ended, nonspecific discipline whose only political clout might be to create FTE counts for the budgets of other departments. Persons who can teach and direct such programs can make more money in the industry than any business school is likely to provide as a salary; academics without the discipline of achieving solutions within real constraints ignore problem solving in favor of institutional description and normative abstractions. Design schools may be more willing to bring successful practitioners onto their staffs than those schools which value a PhD more than a record of successful problem solving. One could predict a gradual transfer of real estate curriculum to the schools of physical design, if only so they can better observe and condition their future clients.

The design school format of intermingling the workstations of various student levels in a large home drafting room encourages the self-educating interaction of all students which occurs only among small cliques in business schools. The visual communication of design school show-and-tell areas is appropriate to real estate education, as is the provision of outside juries to critique student team projects. Ultimately mutual respect would be established between the design disciplines and the management disciplines. At the very least, I predict that real estate textbooks will soon take advantage of design techniques to provide graphic process identification through flowcharting, scoring, and impressionistic and playful doodles. Certainly the language of systems engineering will condition the economic and physical flows which interact in real estate, and perhaps someday we will have the mylar overlays for site analysis which presently are found in the biological and medical textbooks. The real danger for schools of design is the fact that their students may learn too early that the master builder in the 20th century is the enterprise-developer and not the classic architect, an awareness which runs counter to the current dreams of the American Institute of Architects, which is presently publishing some of the better real estate primers.

Once real estate educators have demonstrated the relevance of their subject matter to students and to the industry looking for young talent with sophistication as well as enthusiasm, enrollment increases and the FTE budget will permit real estate educators to bargain for adequate budgets and academic legitimacy in either business or the design arts. Ironically, such pragmatism will bring about a return to university ideals of multidisciplinary exchange and communication.

Note

1. John A. Beckett, *Management Dynamics: The New Synthesis* (New York: McGraw-Hill, 1971), p. 180.

The Failure of the Universities to Teach the Real Estate Process as an Interdisciplinary Art Form

James A. Graaskamp

Faculty, students, and friends of the real estate industry, I am very much honored to have been invited as the first lecturer in this series. Despite my appreciation for this opportunity at the University of Connecticut, however, I may say some rather ungracious things about real estate education at universities in general.

Real Estate Images at the University

One thing I have learned in my efforts to convert freshman Philistines to Renaissance men with a penchant for real estate is that the need to reeducate the university faculties in their responsibility is perhaps the most critical problem we have in real estate education. Somehow university faculties, at least relative to the subject of real estate, have forgotten that we are a family of scholars, that we are multidisciplinary, and that we are supposed to be advocates of inquiry rather than of conclusions. In my view, a university's primary function is to reduce the social conflicts that drain the system because of either genuine misunderstandings or the narrowness of viewpoint of vested interests. The basic technique of conflict resolution is presumably by cross-pollination of the various natural and social disciplines, which is assumed possible in the family of scholars. Unfortunately, the university is probably the main cause of conditioning

This speech was delivered as the first of the Distinguished Lecture Series at the School of Business Administration, University of Connecticut–Storrs, on October 17, 1977.

almost every student with an interest related to land to a viewpoint which is almost always in conflict with or adversary to some other viewpoint.

The natural science schools teach that the enemy is industrial society. The planning schools teach that developers are the money-grubbers who are destroying the natural environment. Business schools tend to follow the lead of the real estate industry to the effect that public land use planners are naive fascists who lack the ability to plan with equity or, for that matter, with a rate of return to equity. In most cases, the university specialties deliver judgments upon one another rather than seeking some kind of synthesis of their various disciplines in arriving at judgments, policies, and operating criteria relative to the land. This is an effort at land use through adversary maneuvering and confrontation, and reflects a scorn for the other viewpoints. The bias of each university discipline immediately enters the real world because we have been preconditioning our students for their life roles. The planners move directly into government already antibusiness; the business people move into business already antiplanning; the engineers, of course, do not speak to either of them; and the natural scientists have developed their own elitism to render judgment on all. So as a result, all we have done really is prepare people to accept the bias of their future employers. At the least, we have narrowed their future employment to whatever the bias of the department was where they received their education.

We have a further conditioning of viewpoint, if you will, because real estate is related to everyone's experience. Real estate is the hysteria of buying a first home, the frustration of dealing with the surly janitor, and the shock of the bulldozer that has just ripped open last year's best pheasant hunting field. These experiences are the faculty's basic image of interaction with real estate.

Another reason for misleading images of real estate is the physical nature of real estate tends to obscure the fact that real estate is essentially a very dynamic, abstract process. We see the brick and mortar when we look, rather than perceiving these static elements as a manifestation of a very dynamic process underlying the tangible property. It is a little bit like the old debate in physics as to whether matter was the reinforcement of energy wavelengths in ether or, conversely, was the cancellation of energy fields in space. Someone said that the problem with science today was that it really did not know its mass from a hole in space. I suspect that the same could be said for many of those who prejudge real estate subject matter.

The Essence of Real Estate

The productive elements of real estate depend on the voids, not the solids; the economic unit is the space-time enclosed to house some specific activity. The environment in which that particular space operates, and really almost all of technical innovation in real estate, has reduced the physical bulk of real estate. Somebody rolled a rock in front of a cave and created real estate by distinguishing that natural void from the void around it. That somebody made it more defensible, he made it more exclusive, he made it warmer, and so forth. Almost all of our innovations in structures and improvements have been to reduce the bulk of our enclosures so that we have eliminated the mountain. We have moved down to

Buckminster Fuller domes and a variety of structural systems that are consistently more secure in what they can do in terms of environmental control and that are at the same time less bulky, less weighty, and perhaps in many cases more flexible and mobile.

Today, we start out with real estate in terms of an abstraction as a three-dimensional space with a fourth dimension—time. We always talk about real estate as a space-time unit; we talk about an apartment by the month, a motel room by the night, and square foot by the year. Now we are even merchandising tennis clubs with tennis court hours. We are merchandising a fee interest in two months or two weeks or one week at Lake Tahoe on the fourth floor of a building, so that we can buy a vacation, defined in real estate condominium terms.

Now, with the space-time unit, we can then begin to hang onto that abstraction a variety of attributes intended to house some kind of activity. These attributes improve adaptation of an activity to its environment or reduce stress on the participants. The activity and perceived stress are entirely behavioral phenomena which are going to be unique to the culture or the technology and the purpose for which the space is required. In essence, then, we are talking about a very elaborate abstraction which is a response to enclose a behavior. Although it is a manufactured artifact, physical real estate operates entirely within a context which is psychological, social, and political. Business only provides a device for synthesizing a great variety of disciplines to deliver a final product.

The Economic-Legal Interface

Consider real estate for a moment as a product. The product itself is simply that space-time unit, however we wish to equip it with attributes. Our structures, our infrastructure, our land surveys provide the definition of the cubage and the desired amenity attributes. Our legal environment provides the definition of the time—the time and the right of possession during that time. The economic commodity is the right to possess and benefit from a space-time unit for a time.

Private rights to use are always those which remain after the public has already defined its interests. One of the tremendous ironies that we have in real estate today is our fetish to protect private property as we have known it for only a very brief period of time. The first private property in the North American continent that scholars can find was with the Indians along the St. Lawrence estuary who had no sense of land as a private interest until French fur traders arrived. Almost instantly they discovered that, in order to maintain some stability in the harvest of fur-bearing animals, the various Indian families had to be assigned territories in which they could hunt such animals. They employed blazes on trees and other surveying techniques which established territories.

Private property grew up not as a result of the private individual's self-interest, but as the cheapest social device for husbanding the resource, preventing overkill and extinction of fur-bearing animals. If you look back to the Mesopotamians and the early civilizations where there was any form of structural real estate, the private interest was always a device used to create accountability and a bonus for using the resource wisely. Private property is a conservation device, not an anticonservation device. The public interest is first; when it is cheaper for

the public to assign rights to private individuals because they will husband and develop the resource, society does so.

The U.S. Constitution establishes the first claim on productivity to be the public's, via the real estate tax. The first rights of decision making are the public's, through police power. If any vested private interest is, in fact, encroached upon by the government, the private owners are compensated in cash through eminent domain, never in kind. Private property is net worth in cash but not in land. The private sector is an abstraction which remains after the public interest has been defined. As we expand our perception of public claims and decision rights, private property diminishes.

We are presently in a transition period where we are going back to reasserting the public interest. We are redefining various areas of real estate to achieve that balance between the efficiencies of conservation which are inherent in private responsibility and the efficiencies of scale in conservation which are inherent in the public domain. We are reestablishing that balance in nationwide debates on land use matters as we learn more about the network of real estate environments.

Real Estate Equity Defined

If real estate can be defined as a space-time unit, then what is a real estate business and what is a real estate equity? They have to be distinguished.

A real estate business is simply any enterprise which provides expertise for the conversion of space-time to money-time. Real estate is a space-time abstraction, the business of creating an artifact is a money-time abstraction, and the process is made to go by energy of expertise. All of the legitimate profit centers in real estate are in the delivery of expertise. Almost all of the profits in land have been the result of the ability to externalize costs. By improperly costing the development of the land, there is a profit residual in the development of the land. That, of course, may be heresy, but I think as you begin to examine it, all of the true profit centers in real estate are in the delivery of services or the delivery of cash capital. Money is simply the energy transfer system for expertise.

In that case, then the only definition of ownership that we have been able to find that works in an operational dynamic sense is that equity is the degree to which an enterprise can divert cash from a real estate enterprise to itself. Equity is the degree to which you divert cash flow to your benefit, presumably in payment for your expertise. It is a very useful concept because that means that in Madison, where the city presently receives $.20 of every rental dollar in real estate taxes, or in Milwaukee, where the city currently acquires $.30 of every rental dollar in real estate taxes, the public owns 20 percent (or 30 percent) of every private property.

The public's social capital is the vested interest that it is taking in skimming, if you will, 20 to 30 percent of every rental dollar in the form of real estate taxes to support a variety of other enterprises. Actually, some is to support the infrastructure that supports real estate, but that is the minimal part of it. Taxes also support the education, the welfare, and the other public service delivery systems. Therefore, it would follow that public policy would try to maximize as

best it can, or at least not inadvertently destroy, the social capital base on which it is operating. If ownership diverts cash flow to its benefit, it also follows that the public should avoid diverting its own cash flow to others. The difference between income and expense is only who can hold on to the dollar; thus we have seen increasing emphasis on life-cycle costing (i.e., minimizing present value of the outlays for public real estate decisions).

But by the same token, such a definition of equity means that we can abandon most of the classic semantics of real estate. A property manager who is taking 6 percent off the top is probably more of an owner than the individual investor at the bottom who has a cash flow of only 2 percent of rents. The limited partner may be an owner in name, but he has absolutely nothing to say about the project. The general partner is still the owner of equity even though the limited partner provides 95 percent of the equity capital base of the project. A limited partner in this definition simply becomes the holder of a subordinated revenue bond, which is also entitled to the tax shelter. He supplies capital, but he has to sit down and shut up because if he does participate in management to divert cash flow, he is no longer a limited partner by law.

Now, if a real estate project is a cash-cycle enterprise and is the process of converting space-time to money-time, then we have established a rather interesting mechanism for modeling the interaction of decision makers who affect land use.

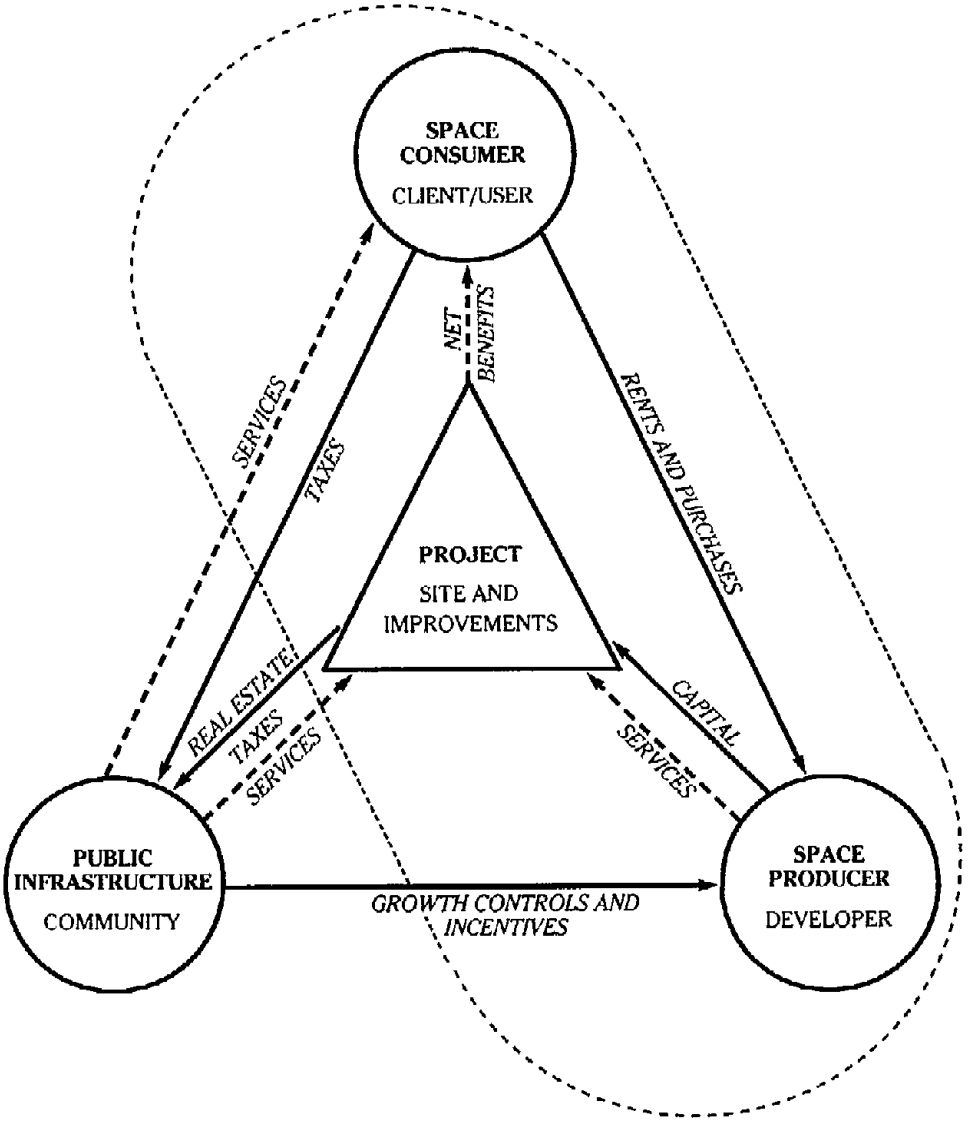
The Real Estate Process

Our first course in real estate at Wisconsin is called "The Real Estate Process," and the real estate process is the dynamic interaction of three groups, three cash-cycle enterprises, in determining land use and development decisions (see Figure 1).

First of all, the process is driven by a consumer group, a user group if you will. Individual consumers operate through market transactions, while collective consumers operate through political mechanisms. Then there are the two groups on the supply side—the collective infrastructure, which is supplying the streets, utilities, services, and so forth in which individual parcels can operate, and the individual producing organizations, which include the traditional specialties in the real estate area as well as publicly owned development agencies. Each of these decision groups operates as a cash-cycle enterprise. An enterprise, in systems parlance, is an organized undertaking of any kind. Not all organized undertakings are apt to be cash-cycle enterprises, but for the moment, in the money economy, when we are talking about the manufacture and maintenance of an artifact such as real estate, we are talking about a cash-cycle enterprise. Only a few such enterprises intend to be profit making, although many try to generate a surplus.

As a result, they all have one thing in common—they are all constrained by the need to be solvent, in the short term as well as the long term. This means, then, that equilibrium can be found—and real estate solutions can be critiqued—to the degree they allow each of the three parties to remain solvent. If, in fact, one party is allowed to push one of the others into insolvency, eventually the result is self-destruction for all three.

FIGURE 1
DATA INPUT CONCENTRATION FOR A FRONT-DOOR/ BACK-DOOR FEASIBILITY ANALYSIS



New York City is a classic example of a breakdown in cash-cycle enterprise. If you can build an International Trade Center with subsidized interest rates, which does not pay real estate tax but some minimal fee in lieu thereof, and if it can then compete on a cash basis at rents which are lower than the market rents to pull tenants out of buildings which were paying real estate taxes, you reduce the municipal income at the same time that you have put the burden on the

municipality to service the new trade center. If you make enough mistakes like that, revenues are inadequate to the services expected of the city. As a result, more and more of their best tax-paying tenants say, "Enough of this, we are not getting the bang for the buck we expected." Then they pull out and they move their corporate headquarters to Denver, Arizona, Connecticut, or any one of many different possibilities.

The result is, eventually, that the balance is further in favor of insolvency of the community, the quality of service goes down, and the next round of relocation takes place. Thus, once that spiral goes in reverse as a result of one party or another gaining a temporary edge, it is a self-destruct spiral. You have to find real estate solutions which allow all three parties to operate on a solvency basis. In our program at Wisconsin, solvency is the central issue—not value. Value is a highly subjective concept depending on what kind of capitalization rate you want to use or what kinds of investment objectives any particular party has. You can explain and predict why people do what they do on a solvency basis when you cannot explain what they do on a classic economic value basis. The great legal debates on "the taking issue" eventually bear on the capacity of private property or public coffers to bear the cash cost of social decisions about land. Therefore, solvency of consumer, producer, and infrastructure is the critical issue for conflict resolution in real estate in a business school, planning department, political science center, law school, or engineering design program.

Risk Management and Cash Flow

Cash flow for expertise pushes a developer to build an office building which nobody needs if he can carefully protect himself with nonrecourse loans from the disaster which will occur when it will not be marketable. There are profit centers in selling the land to the partnership, constructing the building, serving as a mortgage banker, and having an insurance agency, a property management firm, an architectural firm, an engineering firm, and a material supply operation. The developer can build a very profitable building which will be vacant when finished. He is permitted to do that by the nature of our finance system, which allows him to treat a mortgage as simply a classic straddle in a commodities market. A mortgage is a put to the lender if the project does not work (i.e., achieve solvency) and it is a call on the appreciation (i.e., cash in excess of capital cost) if it does work. It is possible because regulation of lenders is confused with the sophistry of value rather than focused on cash break-even points, cash escrows, and debt justified by cash flows.

Real estate enterprise has created a whole series of devices to lay off the variance between assumptions in a cash pro forma budget and realizations in the cash journal. The initial estimate of what revenues and expenses are going to be determines capital budget. To the degree that the estimate proves wrong, it is desirable to lay that variance off on somebody else. One can identify every step in the real estate process and look at it as a cash-variance control problem. This applies from the very simplistic escalator clause (which says, "Nobody knows what the real estate taxes are going to be in the future, but I cannot afford that kind of surprise on my cash budget so I will lay it off on the tenant, who

presumably can pass it through to his customers") to the elaborate mortgage closing process.

The entire mortgage process can be explained in terms of cash flow and cash flow variance institutions. If a mortgagor is going to pledge a property that he has title to, what happens if he does not have title? The title insurance company steps in. What if the property is not located on the property that he has title to? The surveyor's bonding company steps in. What if the property is not worth what the borrower or the appraiser said it was worth? The mortgage guaranty company steps in. What if the interest rate changes and the lender faces the money risk? Perhaps there will be a variable-rate mortgage. What if investment value falls as interest rates rise? Perhaps the investor can put the loan to FNMA or GNMA or hedge in the GNMA futures market. What if the relationship of the mortgage payment to the borrower's income is such that it increases the probability of default? There is a graduated-payment mortgage so that the payments will be lower until his income can catch up with them. And so on.

Almost all of the various mechanisms in real estate can be explained by working on a cash flow basis and looking at devices or institutions to control and to allocate the variance between our assumptions in the projection of those cash flows and our realizations.

Land in the Real Estate Process

Notice we have not said much about land in terms of the discipline of real estate. First of all, land simply is the locational point where the demand and supply forces for space-time units find cash solvency. The physical, legal, linkage, perceptual, and ecological attributes of a site will affect cash flows and modify locational preferences because these attributes modify cash flows of the parties in an iterative process. If the homeowner feels that he cannot afford to be in the urban environment with its infrastructure and its tax burden and so on, he moves out into the as-yet-untouched open areas. For the short run, it is cheaper for him to have a septic tank, a well, and very low real estate taxes in a minimum package of services than to support the services from the urban public infrastructure. In effect, the homeowner is substituting on the private side for a variety of infrastructure that might otherwise be received in the city from the public side.

Developers tend to locate on that land which they can develop at the lowest cost and which can be developed most quickly because of the least amount of regulation and so forth. That obviously is just the cash flow controlling the enterprise. By the same token, the public planners tend to discourage septic tanks or low-cost land use if they externalize costs on the public tax base. Planners encourage those kinds of land uses which produce more tax revenue than they require in service costs and so forth. One can note land use decision systems of each of these parties being distorted by the short-term necessity of being solvent.

Now, land is a passive factor. It is the impact point, but land is also the final constraint on both enterprise and social solvency and modifies the trade-offs that are made between the various parties. Land can be analyzed in terms of five basic sets of attributes:

1. *Static attributes*, which are within the property lines—slope, soil, shape, and the other physical attributes of the site.
2. *Legal-political attributes*, which have to be treated together because not only do you have the law, but you have the administration of the law. There is more to the law of administrative arrogance than there is to the black-letter law of real estate.
3. *Linkage attributes*, which are the relationship of site to services, establishments, and generators beyond its borders that cause a flow of people and services to and from the site.
4. *Dynamic attributes* of the site, which affect behavior and how people perceive the land—whether with prestige, with anxiety, with visual identification, or whatever.
5. *Environmental attributes* of the site, which are understood in terms of how it fits into the ecosystem beyond its borders and within the region of which it is a part.

To pick the land and improvement analysis apart with these sets of attributes requires a variety of disciplines. Geology, hydrology, psychology, and biology are all inherent in the static attributes. The whole social and political framework may be found in the legal-political attributes. The linkage attributes have to do with both the engineering systems and the cultural interactions which relate each site to various establishments and to other people. Dynamic attributes reflect entirely how people perceive things; the beauty or the fear is entirely in the mind of the beholder and is the subject area of the behavioral sciences. The environmental-ecology constraint brings in additional subsystems of academic inquiry.

How can real estate be treated as anything but a multidisciplinary subject? Real estate expertise is expected to be, if you will, a generalist in a series of specialties. That is the function of real estate decision making. A real estate developer or public planner is the producer of a grand drama which will bring into the play, at the proper point, the various talents necessary to produce an operational enterprise scenario. Land is the stage upon which protagonist and antagonist negotiate.

Restructuring Real Estate Education

Real estate education needs to recognize its systematic ties to other disciplines in its basic language. One of my favorite authors (he explains things simply, so that I can understand them) is John Beckett, from the University of Vermont, who has done a basic little book on systems. He says:

> . . . [an enterprise] represents a negotiated consensus [at any one time] between two general sources of power—the power of the environment to dictate the form and the behavior of the organization, on the one hand, and the power of the organization to decide for itself what its conformation and behavior will be, on the other. To be mindful of the inevitable presence of both forces is to be able to penetrate the meaning of organization purpose—in every system, every organization.[1]

How do we bring that concept of process and system, which are in some ways synonymous, to bear on real estate? Well, a good place to start is to junk

the term "highest and best use," a concept which is moribund, at the very least, and which is arrogant at the worst. Highest and best use came out of one era which was a very brief period of social time. Study of civilizations developed prior to the Industrial Revolution suggests that land use was determined by social consensus as to what land was to be put to which use, and who was to benefit. Obviously it was, in may cases, a feudal society that was making those decisions, so it was not exactly a democratic process. Nevertheless, it was a communal set of values which determined what the land use pattern was to be and who was to share in the productivity. It required, for that communal consensus on land, a relatively static population, a relatively static technology and, in fact, a relatively static cultural value pattern which persisted over long periods of time.

All of that was lost in the move to the New World. People were trying to break away from that static cultural system and were in the midst of the beginning of the Industrial Revolution, so technology was no longer static. The New World no longer had that cultural continuity and momentum to control it, and very quickly, in the United States, we agreed to one basic rule—"Them what pays the mostest gets to use it." This was essentially the concept of highest and best use: wealth maximization of the individuals who owned the parcel. Very soon we found out that principle did not work very well, and we have been trying ever since to reimpose some system for defining and imposing a consensus in place of a historical tradition of laissez-faire. As a result, we must question highest and best use: "highest" from whose standpoint? "best" from what standpoint? And the only thing most textbooks can say is that it is that use which produces the highest maximum value for the owner—which means the more he can externalize, the more value for him in the short run.

Now, we at the University of Wisconsin talk about the "most fitting use." It is that use which is the optimal reconciliation of the effective consumer demand, the cost of production, and the physical and environmental impact on third parties (those who are not involved in the transaction). Reconciliation ultimately involves financial impact analysis of alternative priorities: who benefits and who pays, and how do all parties remain solvent? Certainly, this is the idealistic approach—the normative in economic circles. Alternately, we operate from the more pragmatic "most probable use." This use may be something less than the most fitting use, depending on current and topical constraints that reflect political factors, the state of real estate technology, and short-term solvency pressures on the parties in negotiation (both on the public side and on the private side).

Most probable use is the basic building block on which we then develop our real estate program. Onto the notion of most probable use we have tried to graft, if you will, systems engineering. Systems engineering says, in essence, that any enterprise goes about reaching a decision in the following way: it starts with values and objectives, which it then generates into criteria. To make money is good—that is a value judgment—not very operational, but rather moralistic; you can either agree with it in general or not. The objective is to make 10 percent on investment money. That, too, is nonoperational until we can define what is "investment money." It may be the money the investor committed, but perhaps it is the money he stood to lose. It may be the money he has yet to recover; it may be the money he could sell his interest for. These definitions become the

criteria for screening choices. Sets of criteria must be established for all parties involved in regard to objectives, economic markets, legal-political constraints, engineering constraints, compatibility with third parties (individually and collectively), and ultimately with measures of solvency and of tolerance for risk.

Real Estate Decision Strategies

Once you have some kind of systematic criteria in real estate, you would call that a strategy. It is probably a strategy with some initial tactic, such as searching for opportunities that are consistent with criteria. There always will be at least two opportunities, one of which will be doing nothing—a legitimate decision at any one particular point in time. Market trend analysis provides a review of aggregate data to locate where there may be imbalances between supply and demand, a gap defining an opportunity consistent with objectives. Opportunity in a free enterprise system is where you can find a monopoly.

Free enterprise is the art of creating a monopoly, if only for a moment. My daddy taught me, "Never compete on price because as soon as you start to compete on price, someone will do it for less. By the time your competitor finds out his costs, you are both broke."

The beautiful part about real estate is the ability to create a monopoly. Of course, "monopoly" is not a very happy word. A couple of years ago, one of my graduate students invented the term "channeled demand," which is much more elegant than monopoly. To channel demand, you analyze the profile of the consumer, know who he is and what turns him on and turns him off; then you have him.

As an example—a group of Wisconsin real estate students recently visited a project in Chicago. The developers had analyzed the housing market into nine different groups. They realized that what was going on in Chicago reached only four out of the nine groups. So they built a project essentially of attached single-family, detached homes—you have to think about that for a while—and they merchandized them to the divorced person, the single person, the empty-nester, and the never-nester, as they call them. Each model was decorated in imagery codes that would ring the bell of one of these household groups. They could not stop selling, so they raised the price overnight by $15,000 and their absorption rate never changed.

The developer closed out 213 units in six months, when he had planned a two-year absorption period. This is the first time he had used market research and merchandising research to profile a consumer group and rifle the design, decorating, site plan, advertising, et cetera, to appeal directly to specialized micromarket groups.

This is a classic demonstration that there is no reason why the "three approaches to value" has to work. There is no reason that the price at which you can sell a project has to be equal to the cost of production. It just isn't so. Price depends on the market position of buyer and seller, and that fact structures our approach in the graduate appraisal class.

Following the Kinnard-Ratcliff concept of alternative uses suggesting most probable use, appraisal develops a concept of most probable buyer. Profile of the

most probable buyer then suggests criteria for selection of comparable sales or decision simulation to predict most probable price at which property will sell.

Once you have found an opportunity with a merchandising target with monopoly characteristics, then you need a program to capture that opportunity. In real estate, that means that you need something that is compatible with the legal and political constraint, with the community (i.e., with ethical and aesthetic constraints), with the physical and technical constraints of the site and structure and, of course, consistent with financial constraints of effective demand priorities. Once all that has been tested for fit, then, in systems parlance, we construct a program. In real estate, that step is called property development. At the point we have the program constructed, the systems engineer says that the operational phase of the program begins. Real estate calls it property management.

Finally, the systems people have a monitoring and feedback process to refine values, objectives, and selection criteria. And, of course, we call that real estate research. But notice five out of the eight constraints are the issues around which feasibility and appraisal are concerned. What are the strategy and tactics of the decision maker? What is the market trend? Who is the merchandising target? What are the constraints imposed on the site? What kind of feedback do we have from previous experience, previous inference from the marketplace in terms of research to determine what is going to happen next? Now, whether we are talking about appraisal, whether we are talking about development, or whether we are talking about feasibility, the process is the same. And it is useful to go back into industrial engineering to pick up a systematic way of going about it.

Real Estate—Applied Social Science

The most sophisticated real estate firm in the country, I believe, is a firm called Gruen Gruen + Associates, in San Francisco. They state that essentially their business is the business of applied social science. That is their business—applied social science. The two senior partners are Claude and Nina Gruen; Claude is a PhD in economics, and Nina is a PhD in sociology. Their problems range from estimating markets for sludge from the San Francisco sewer plant to doing merchandising research for Irvine, California; much of their work is policy and land use issues for the governments in California. Notice that their discipline, while nominally real estate, is applied social science.

Now at a university where there are many departments in liberal arts and environmental sciences, there are a series of areas in which the interest is on problem identification, but which are without much help in problem solution at the applied level. Real estate probably could be at home as a subject area in a variety of applied sciences at the university. However, business schools and engineering schools—and to some degree architectural schools—are much more interested in teaching problem solution rather than identification. Identification is only the first step in the approach to the problem. The School of Business offers the student a unique opportunity to integrate a variety of disciplines to find operational solutions. That requires that our curriculum should be multidisciplinary. The rigor—the final discipline—on the necessary integration is cash solvency of the parties that are involved. To find solutions which destroy one party

or the other because they cannot bear the costs is not to find the solution at all, but simply to shift the problem outside the scope of the party at interest.

The objectives of the administrative process—the constraints under which business is operating—really represent values that are determined well beyond the control of business. Although there is now a school of psychology which indicates that business itself begins to impact on the value judgments of the community in which it is operating, it is necessary to sensitize the student, I think, to the elements of power in the environment within which the enterprise is expected to operate. Therefore, I think that it is almost imperative that the business school program open up some flexibility in allowing its students to integrate natural science, psychology or behavioral science, philosophy, and political science with management decision making.

One approach is to offer introductory courses within the school of business which knock down traditional departmentalization lines and PhD degree specialties. The other approach is to push business students at the senior level into contemporary issues courses outside the school of business. At Wisconsin's School of Business we have been partially successful in both approaches to social science and business. The real estate program has managed to fight its way clear, and our students are ranging far and wide in terms of interdisciplinary studies. At the same time, we have had to handle behavioral organization, consumer behavior, and architecture within the School of Business because the liberal arts and sciences departments did not want to offer courses with some integration of business applications. This, I think, is unfortunate because it breaks down the possibility of a family of scholars. Business students talk only to business students and psychology students talk only to psychology students; you have reinforcement of misunderstanding about each other's discipline.

Real estate education should be eclectic, but traditional real estate departments do not subscribe to integrated education. In real estate the subjects have been traditionally divided among functional specialties: real estate finance, real estate appraisal, real estate marketing, and the like. You only have to take three out of six, or something like that, to have a degree in real estate. I do not know how you are going to be a real estate professional with only three out of six of the various specialties. For that matter, I do not know how you are going to be a real estate professional unless you have been able to synthesize and integrate all of the other disciplines into what you are doing. In fact, I think the fun of real estate is that one can be so eclectic. You can be going into one discipline or another almost constantly: the chemistry of floor cleaning—which is a fairly elaborate chemistry—at one moment and behavioral analysis of a survey research study the next. Moments later you may be smashing some architectural scheme flat because the energy conservation systems are inadequate or the style incompatible with community architectural history.

In essence, the producer of that artistic enterprise called the real estate project has to be conversant in all related specialties if he is going to have the attention and the respect of a multitude of technicians and specialists. He must be able to recognize when he is being hornswoggled because of the professional enthusiasm of one of his specialists.

At the very least, our undergraduate program should mass-produce real estate gurus. Our graduate program, of course, expects to produce a master who

has the creativity of Leonardo da Vinci, the sensitivity of John Muir, certainly the political savvy of David Brower, and the social humanity with cash management of James Rouse. The object, of course, is to do well by doing good. Finally, the PhD student and the real estate professor should be something a little bit more than the graduate student. In fact, sometimes I wonder what God would have done with a PhD in land use planning and the ability to handle capital budgeting.

Overcoming Business School Compartmentalization

Compartmentalization in the traditional educational field of real estate is just totally incompatible with the product that we wish to graduate. One way to realize the goal is to find the real estate student more subject matter outside the normal School of Business subject matter. In some cases, we bring those disciplines into the department. Our faculty at Wisconsin now consists of five individuals, one of whom is a graduate architect and graduate city planner who is completing his PhD in finance. One is a political scientist and lawyer from Harvard with a specialty in land use control law. One is an environmental resource economist who does macroeconomic modeling systems of regions and river basins as well as retail trade areas, and so forth. One is really a public economist in the classic urban land tradition. Then there is me—a developer and appraiser who is doing penance as a professor, and as part of my penance I am expected to be department chairman.

The cost of operating a business school in traditional ways is to discriminate against the architect, who is not welcome as an architect. By the same token I am not allowed to have a lawyer. I am not allowed, for example, to hire a political scientist in the School of Business. I have to get someone who is an accountant, or someone who is a finance major, or someone who is operating in the other traditional fields of business. Those of us who have degrees from our brethren in the School of Business or School of Economics are accepted. But those who have much to say in other disciplines of inquiry, which are very much needed in business, are not. Most university schools of business could not hire nonbusiness professionals except for various subterfuges and for nontenure positions. The insular character of a school of business, I think, tends to produce mechanics rather than true managers—people who are sympathetic with the enterprise system and environment.

The second method of synthesis by means of integration of disciplines is to attract students from the nonbusiness disciplines into our courses, if only to keep our own students honest. We can do that by avoiding prerequisites, by accepting increased teaching loads as a result, and by providing explicit recognition to the role of the sciences and arts in the various courses. At Wisconsin our introductory course, "The Real Estate Process," is now required in environmental science; it is required in political science, economics, civil engineering, and others. We give explicit recognition to the role of soils, politics, design arts, engineering, and the sociology of social disorganization as they impact real estate. Most of these nonbusiness students go on to take additional courses in real estate.

Universities resist this kind of synthesis of disciplines because it is incompatible with their accounting systems, with resource allocation. If you go to any college in Boston, you can register in any one of the other colleges. The fact is that if one school gives a good course and a lot of students from the other colleges show up, they either discontinue the course, reschedule it at a rather obscure time of day, or find some other reason to impede enrollments. While the students come in, the tuition stays behind where they are registered, and, as a result, there is no resource following the burden of teaching a student. The cash-solvency-oriented dean cancels the program. Cash solvency, not value, means equilibrium for any enterprise, even schools.

At the University of Wisconsin, we have very much the same problem. The students register for our urban land course in whatever school they are; we are cross-listed in about six different schools. But the School of Business does not get the funds. Because the money I am allocated is based on the number of business students in my courses, I have two alternatives as a department chairman. I can make only business students welcome so that, in fact, the only students I am teaching are business students. The other alternative, which my faculty have agreed to support, is to accept teaching loads which are double the norm in order to encourage synthesis of student disciplines within the course.

A third approach to multidisciplinary education is to march real estate majors out of the School of Business into the other disciplines and require that they take civil engineering with the civil engineers and so on. We find that this has two valuable impacts. One, real estate majors find that they can hold their own with these other disciplines, that they do not have to be defensive about civil engineers or planners or lawyers or social psychologists and the like, and that they can operate within the context and vocabulary of these other disciplines. Second, our real estate students can police the professors with axes to grind in other disciplines. The students can lay out the facts of business and real estate life to them in terms of economics and cash flow. By the same token, our students can begin to see the premises and misconceptions from which the other disciplines are coming at real estate. This by itself is useful. So the interaction goes on, if you force it to go on, by either luring the other disciplines into your field or by forcing your students to go out and meet them.

You might call that exporting of business student missionaries a form of artful guidance, although my students would probably call it channeled demand through intimidation. We start with some of our students as freshmen, even though they do not come into the School of Business officially until they are juniors. We make sure that prebusiness science courses include chemistry, soils, geology for engineers, and climate and man—these types of topic areas. We "channel" them into social science electives such as social disorganization, urban sociology, survey research, psychology of space, architectural history, and so on. In engineering, a variety of programs have developed in the Engineering School such as science of materials, environmental pollution control techniques for non-engineers, surveying for nonengineers, soils for land use planning, and so forth.

In political science many of our students go into courses stressing the municipal government issues, the legislative process, demography in politics, or urban geography, and the like. (If you can handle demography in politics, you can handle demography for retail trade profiles as well.) One of the fast-rising firms

in the area of market research for real estate actually had its start predicting elections. Their political scientists have developed survey research techniques which they find relevant to real estate. Geography courses have many course topics which are relevant in terms of urban patterns, resource distribution, and so on.

Despite these efforts, our program is still in transition from traditional functional compartmentalization to realistic integration of all disciplines bearing on real estate. What we would like to evolve to eventually is a junior/senior series of five credit courses in which we would teach a real estate workshop, as in an architectural school design lab, and begin to unravel all of the threads of the real estate decision with increasing sophistication. At our graduate level, we are approaching that. We start with a commercial property appraisal in the fall, in which we dissect the facts both as to feasibility of alternative uses and in terms of our contemporary appraisal theories. By the time the students are done with the appraisal, they are frustrated with what they know about the retail trade areas. That appraisal becomes the base for doing the retail trade and merchandising research in the spring. We also take the lender financing apart in the fall, and in the spring the equity investment course parallels the spring course in commercial property development.

Ultimately, the School of Business is going to let me have a lab room, if you will, where every student has a desk or a drafting table just like the design disciplines, because the students learn more from each other than they do from the faculty. As instructors, we will set up situations which will channel the interactions on which they concentrate, and then the students will begin to teach each other. They will share information and viewpoints and opinions on the property. I would like to have my juniors, seniors, and master's students all in one room like the classic drafting room for the design school. The juniors are going to come along much faster because they are already going to be eavesdropping on the seniors and master's students. The master's students are going to be pushed to demonstrate why they are master's students because pretty soon the seniors are going to be as smart as they are.

We will generate a much faster interaction and synthesis going on with that kind of device than by the classic class lecture methods. Admittedly, there are high teaching risks for faculty needing the security of set lecture patterns and office hours. There are risks for the students when the faculty leaders misjudge the capacity of the real estate assignment to focus creative student interaction within analytical channels provided by the faculty. Some subject matter is more efficiently presented by lecture and assigned readings, but the test is still application.

The Urban Land Institute (ULI) has just set up, for the first time, a program for liaison with colleges to encourage schools to have a more positive approach to the teaching of development in real estate–related subjects. They have chosen two schools of design and two schools of business—the Harvard and Pennsylvania schools of design, and the Wisconsin and Stanford schools of business—in which to bring that about. Pennsylvania and Harvard schools of design would like to have better relations with their schools of business, but their schools of business have avoided them because they have not been able to have the money follow the student load. Therefore, *ULI is going* to entice the business schools to

cooperate with the design schools by giving the design schools some money with which to buy the services of the business schools. I think that real estate could be equally well housed in the design school that was open-minded in terms of definition of the design context or in the business school that was not too provincial or insular in its policies in terms of what are proper subjects for business students. At the same time, I am beginning to see many more ties and linkages back into engineering, both mechanical and civil. I would say the students who are being placed at the highest salaries out of our master's program are those who are coming to us with either mechanical or civil engineering degrees or architectural degrees and then have a master's in real estate on top of that.

When industry hires those with a multidisciplinary background and endows open-minded, nontraditional academic specialties, universities will take notice and respond to their ultimate sponsors, markets, and patrons. Real estate education offers more exciting opportunity to students who wish to operate in a civilized and urbane enterprise than most other management specialties, if it exploits the inherent merger of applied social sciences and business enterprise that occurs in the real estate process. Thus, real estate faculty can make a significant contribution in the reform of university faculty attitudes and habits about university administration.

Note

1. John A. Beckett, *Management Dynamics: The New Synthesis* (New York: McGraw-Hill, 1971), p. 180.

Overcoming the Obstacles To Education

James A. Graaskamp

Man is the only animal who manufactures a totally artificial environment for himself, and this building process is the subject of real estate. Real estate and land economics principles are therefore a crucial topic and should be part of the college core curriculum to develop more discriminating consumers and more informed citizens who are sensitive to land use policies. Professionalism for the real estate industry will occur only with intensive training of the consumer, so that the marketplace for real estate services can weed out the charlatan and the self-serving.

A Prototype

Real estate education in the 1980s is where insurance education was in 1960 when the author first began teaching risk management and real estate. In 1960, a few educators had recognized that a primary concern of business school education should be to teach insurance from the consumer's viewpoint rather than as narrow preparation for an insurance career.

Risk management took the larger view of control of variance in the plans, expectations, and assumptions in any organized undertaking and saw insurance as simply one of the tools to improve decision making. Buyers of insurance trained in this manner now control premium budgets as corporate and public risk managers and are revolutionizing the insurance product and its methods of distribution.

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Likewise, the only way to improve the real estate product and replace its obsolete methods of distribution is to create consumer managers of space and environment who are trained to get the most for their real estate budget. Only then will the real estate industry be forced to market through consumer research and sound capital planning, as opposed to selling by means of a monopoly of information, reciprocity, and grossly inefficient investment selection and appraisal methods.

In 1958 the author wrote a book on feasibility analysis which had almost no impact on project development. Later came the realization that feasibility is ethics; i.e., it is concerned with the needs and limitations of the physical, social, and community environment. The industry, on the other hand, builds anything it can finance. Their basic concern is financial viability rather than system feasibility because, in the opinion of the author, American financial institutions tend to be amoral. Surely financial solvency is critical, but it is only the minimum threshold. Capital efficiency, social equity, and environmental impact sensitivity should be the real objectives.

The Insurance Model

The real estate industry, like the insurance industry, has a vital need to improve education and professionalization, but the insurance industry has the better model. The American College of Life Insurance and the American College of Casualty and Property Insurance have shown the way toward standardizing the quality and content of courses, examinations, and professional designations. Indeed, they have developed an exciting Master of Science program format which combines classroom and field training into a program approved by the American Assembly of Collegiate Schools of Business (AACSB).

The colleges of insurance are loosely affiliated with the University of Pennsylvania, administered by a PhD with legitimate credentials as a dean and staffed by visiting academics on two- to three-year assignments as part of their academic career-development sequence. Insurance education has been removed from the parochial politics of its trade organizations and lobby groups.

Professionalism and education both require integrity. If the integrity of education and thus the advancement of professionalism are to survive, real estate educators must remain independent of the politics involved in the industry. While educators must rely on a certain amount of financial help from the outside, the choosing of instructors, texts, and subject matter should rest wholly with an independent body of real estate educators.

The University of Wisconsin And the Industry

When the late Professor Richard U. Ratcliff refused to research mundane matters, such as how many inches of classified space were required to sell a house, the Wisconsin Association of Realtors lost confidence in the university program. The only financial support came from a memorial fund for Paul E. Stark,

funded by his family and friends in Wisconsin and by individual contributions from graduates of the program who went on to careers in real estate.

In 1981 the state association granted four $250 scholarships to the university, as opposed to the technical schools. But, unlike any other source of financial help, they reserved the right to pick the recipients by means of ponderous committee review. Only the American Society of Real Estate Counselors within the National Association's umbrella has supported the Wisconsin program consistently and without conditions.

We have watched the outstanding programs at the University of California at Los Angeles and Berkeley, but unfortunately over the years California Realtors have politicized the distribution of license fees to schools. We have watched our friends at the University of Connecticut dissipate their considerable teaching talents attempting to pay for a share of state license fees with research time and time-consuming committee involvements. We are also observing our colleagues in Texas, who have used state funds so effectively to date, to see if they dare to research the controversial, to question the laissez-faire practices of Texas tycoons, or to describe the environmental degradation of further development of Westheimer and Post Oak Road.

Educators are short on funds and political sophistication and therefore are vulnerable to those with money who would proselyte their own point of view through education. I believe we have the best program at the University of Wisconsin because we have been free to search, to speak, and to teach without any debts to the industry. And now we have 600 graduates from our master's program and more than 1,000 from all our other real estate programs who can analyze real estate objectively and thoroughly. If the industry would pay us 50 percent of the head-hunting fee they pay others to pirate this young talent from competitive firms, our university's real estate programs would have all the financial support they need.

A Multidisciplinary Approach

A more integrated multidisciplinary approach is also needed to strengthen the integrity of real estate education. In general, business schools teach financial spread, tax leverage, and unit cost as traced by historical accounting transactions. Design schools teach social and environmental impact devoid of financial realities. Public administration schools teach fiscal impact and political sensitivity without regard for the business profitability on which the tax system depends. How then can real estate education achieve a multidisciplinary approach in the school of business?

Planning is the integration of the many subsystems of problem solving into a larger totality. Problem solving involves the exploration of many issues in terms of feasibility, but feasibility in a business finance department is confused with financial solvency and financial rates of return rather than being concerned with nonquantifiable institutional constraints and limitations. Business ethics are generally confined at the low end to a discussion of whether shortchanging a customer must be shared with your partner, or at the high end to a discussion of whether capital efficiency requires social and political brutality.

Business schools and finance departments have become too narrowly specialized to teach land economics with integrity to the land and to the consumer. Real estate taught by finance professors at best leaves students ignorant of planning issues or polarized in terms of capitalism versus social planning versus environmental engineering. However, universities are supposed to provide a platform for resolution of social conflict—not train students for a single viewpoint.

Several innovations are needed. First, business school curriculum standards must recognize the need for cross-pollination of majors by means of cross-listing required courses outside the business school. At the University of Wisconsin at Madison, real estate courses are cross-listed in economics, urban planning, agricultural economics, engineering, and the law school. As a result, more than 50 percent of our students are nonbusiness majors. In contrast, most business schools treat outside courses as electives not fundamental to a major.

Second, business school faculty hiring and tenure standards must relent from the emphasis on PhDs to a recognition of the teaching and research credentials of outstanding practitioners in real estate and other fields who wish to return to full-time teaching. Statistics show that business school faculty lack realistic levels of business experience, and even the AACSB has recently recommended recognition of degrees in architecture, law, public administration, or the Master of Business Administration (MBA) of an experienced executive as appropriate for tenure consideration.

Third, business schools must recognize the desirability of intensive project problem courses or role-playing courses in negotiation, sales, and communication arts, such as are traditional in design school labs and trade school courses. Thus, a capstone course for seniors or graduate students might be a nine-credit design lab or work/study semester with selected employment situations.

Business education has shown a 50-year trend toward quantitative specialization. By the same token, trade associations within the real estate industry generally have been self-serving, reactionary, and anti-intellectual.

A Public Perspective

In the future, most good real estate will result from a partnership between a municipality and a developer. Therefore, sensitivity to the collective consumer operating politically will be as important as the liquidity needs and locational preferences of the consumer. Stringent capital limitations and cash solvency will also limit the designer, while the public administrators will be looking for certain multiplier benefits to the fiscal position of the community. Also, regulation will move closer to the density zoning and public consortium concepts being developed in the East.

As a result of this social emphasis, one might argue that it would be easier to teach planners, architects, and public administrators about real estate finance than it would be to introduce political science, economic redevelopment, and environmental planning into business school to reduce the polarization between business and planning school viewpoints. The proper departmental base for university real estate education, therefore, may actually be in the schools of

planning, physical design, and public administration, which have a tradition of multidisciplinary treatment of subject matter. They only need additional rigor in matters of business strategy, finance, and marketing.

The real growth in real estate education will occur in multidisciplinary programs that introduce business forecasting, market survey, and other financial techniques into schools of physical planning and public administration. An additional possibility would be an "American College of Real Estate," separately endowed by the industry, including the National Association of Realtors, the Urban Land Institute, and the life insurance industry. Design schools and this American College of Real Estate would be able to employ experienced developers with a master's degree and rich experience—the people who are effectively screened out of AACSB schools of business because of counterproductive accreditation standards and tenure practices and the impotent intellectualism of academic finance.

Real estate professionals take pride in getting the job done. Real estate professionals, as well as truly professional real estate educators, will simply bypass these traditional barriers to excellence. We will exploit the intellectual freedom of design school formats or create our own college institution.

To this end, the Urban Land Institute (ULI) has been financing the introduction of real estate economics into design schools at Harvard and Berkeley. In addition, ULI has financed a seminar each summer to teach the faculty of physical planning and public administration schools how to introduce real estate economics and finance into their curriculum. This seminar has been held for the past two years at the University of Wisconsin at Madison.

Simultaneously, with the shift of creative real estate development, regulation, and operation outside of schools of business, business school courses will shift their emphasis toward the managerial decision process of when and how to use, acquire, and finance real estate. In addition, the consumer will be taught real estate from a financial asset management point of view, in contrast to the real estate professional who has traditionally approached real estate from a project feasibility context. This way the lambs will have the abilities needed to deal with the lions, and the lions will have the consciousness of the professional in dealing with the lambs.

PART III

FEASIBILITY ANALYSIS

Introduction to Part III

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."

"Real estate can be defined generally as space delineated by man, relative to a fixed geography, intended to contain an activity for a specific period of time. To the three dimensions of space (length, width, and height), then, real estate has a fourth dimension—time for possession and benefit."

A Guide to Feasibility Analysis
Chicago: Society of Real Estate Appraisers,
1970

Feasibility analysis—the determination of what makes sense and why—was a central factor in much of Graaskamp's work. Many consider *A Guide to Feasibility Analysis* and "A Rational Approach to Feasibility Analysis" to be among the seminal works in this area. Most important, these articles could be read and understood by the beginning student and appreciated and emulated by the most sophisticated academic.

Graaskamp enjoyed comparing appraisal techniques with feasibility study. He saw the disciplines as intertwined, but with important nuances as to their execution and intended use.

This chapter contains three very important pieces. The first, *A Guide to Feasibility Analysis*, could not be published in its entirety, so only Chapter 1 is reprinted here. The second, "A Rational Approach to Feasibility Analysis," has been reproduced in a number of publications and is readily available. But because of its place in the body of literature, we considered it important to include in this collection. The third piece, *Feasibility Analysis—State of the Art*, is an unpublished and incomplete manuscript that Graaskamp began in 1982. This effort to update his earlier ideas and works on feasibility analysis is published in its entirety, with minimal editing.

A Guide to Feasibility Analysis

James A. Graaskamp

Preface

Four years ago at the University of Wisconsin School of Business, it seemed like a good idea to offer a capstone course for our graduate program in real estate investment analysis and appraisal and to glamourize it with the title "Feasibility Analysis - 761." Ever since then we have been attempting to define "feasibility" and to provide some logical framework with which to structure materials which instinct told us were relevant but for which our formal training had provided no classification system. What began as a "how-to-do-it" course evolved into a critical review of "what-is-it-we-are-doing?" course. Each semester we have succeeded in adding one or two more thoughtful lectures to the course and then, to cover the embarrassment of having said all we know, in dispatching the students into the field to do field projects, often in joint projects with the land planning students in the university School of Landscape Architecture. This sketchbook summarizes what we have taught each other about evaluation of the creative process of putting together a real estate project.

Feasibility testing is a cycle of "stop-and-go" thinking. First someone brainstorms an idea, attempting to remain free of as many premature criticisms and conventional wisdoms as possible, which is the "go" process of creativity. Then at a certain point it is necessary to review and judge what is being proposed against some context of objectives and constraints, and this step is the "stop" process. Thus, there is an expanding cycle of planning and of testing alternatives, intended to solve a problem. Indeed, the "stop" process of critical review may

Reprinted with permission from James A. Graaskamp, *A Guide to Feasibility Analysis* (Chicago: Society of Real Estate Appraisers, 1970).

provide the next "takeoff" point for the creative "go" process. There are as many points for feasibility research as there are decision points in the life cycle of a real estate commitment.

While this publication I prefer to call a sketchbook, it has been titled *A Guide to Feasibility Analysis* to be consistent with other publications in the Society's series of guides. This sketchbook has attempted to provide a definition of "feasibility" and [bring] some small element of discipline to the methodology with which an appraiser should approach assignments within the general subject area. It is not meant to be a handbook of formulas for testing all types of land use, but it does provide source materials for discovering good technical materials already available. Indeed, a primary point of this essay on feasibility is that, unlike an appraisal where the format and premises are relatively fixed by appraisal doctrine, the essence of feasibility analysis is devising a correct statement of objectives and tests of proposals for meeting these objectives tailored to each specific case. The appraisal question is concerned with the narrow issue of "will it sell?" when at least one buyer is born every minute, while the feasibility question is concerned with "will it fly?" for a specific old fool—your client. This sketchbook raises more questions than it answers and therefore has deliberately avoided the more authoritative terms of "guidebook" or "handbook." As the title sketchbook implies, its contents are spontaneous, impressionistic, experimental, incomplete, and an ongoing exercise in the self-education of the author. No promises, no illusions, and no money back.

We hope that comment and suggestions for improvement will be forthcoming immediately so that following a year of dialogue and inquiry on the subject at hand we may rewrite and disclaim this first edition. The primary role of this sketchbook is to provide a flimsy framework for organizing the rich experience of those in the field who have proceeded independently to devise their own art forms in the murky specialty of "feasibility studies." It is an old teaching practice to meet tough questions from the students with another unanswerable question, a chain which escalates until the final answer is found by disposing of the student with a degree or the professor with hemlock. It is anticipated by this author that this rambling essay will be used as part of a certificate-granting one-day seminar.

Many persons have offered their suggestions, but this commentary was published nevertheless due to the patience of the members of the Education Committee of the Society of Real Estate Appraisers and its Subcommittee for Course Development and Revision, and the dedicated secretarial help of my accomplices, Mrs. Dorothy Beck and Irene Liang.

Chapter 1.
Feasibility Analysis and the Appraiser

A. Expanding Scope of Appraisal Assignments

It has been the experience of many appraisers in their communit[ies] that their opinion is sought on all aspects of real estate decision making. Many of the studies which they are asked to provide as a professional service are "valueless," as so well stated by Charles F. Seymour,[1] who went on to distinguish between valueless and worthless. Clients seek advice on plant locations and office sites,

architects support design proposals with economic justifications supplied by an appraiser, and local syndicates often invite an appraiser to join their group to benefit from free counseling on the course of action the group should follow on an investment decision. In short, there is opportunity for a dual role as appraiser and counselor.

The appraiser has long been regarded as a land economist, qualified to participate in land use marketability studies for urban renewal and cost/benefit studies for government projects such as airports and expressways. However, in many ways big pictures painted with a broad brush require far less immediate precision in terms of decisions than the small cameos that represent the investment of private persons who, unlike great agencies, cannot survive or shift the cost of premature forecast or technical oversights. This sketchbook or guide is primarily concerned with the big decisions of relatively little people who must operate in the real estate world as they find it with little capacity to absorb a serious mistake by their professional advisors. As the best-known analyst in the field, Anthony Downs, has said: "The feasibility study is any analysis aimed at discovering whether a specific project or program can actually be carried out successfully. Hence, every such study involves a particular development concept on a particular site."[2] "Success" has many more facets, however, than simply creating a present value of financial returns greater than cost to construct, and in that reality lies the theme of this publication. The framework of appraisal analysis is rooted in economic theory; the character of feasibility analysis is set by the pragmatism of business and political methods.

B. Expanding Membership in the Real Estate Team

The appraiser, like the architect, is finding it difficult but necessary to merge his professional concerns with a variety of specialties and options which focus on real estate problems; [they] include the various engineering specialties, the ecologists and sociologists, the industrial systems people, the planners, and the money managers. In the past 10 years several corporate giants have appeared in the real estate consulting field, combining staffs of 40 or 50 people of various specialties, which can focus on any aspect of a single real estate problem as required. Some of these firms began as land planners, others as appraisal firms, and others as economic consultants or construction specialists. Who has not seen an architectural firm letterhead with an appraiser listed as a partner, a construction firm that merchandises economic studies, or a brokerage firm which advertises itself as an investment research company?

In this era our national space rocket program has at least proved that as a country we can build what we can finance and in the urban space race we can build for any environment which can be supported by public and private finance. The private or public[3] entrepreneur in real estate will direct the thrust of inquiry by a committee of professional specialists involved today in the techniques of city building and land use. The appraiser is in a preferred position to chair this committee of talent if only he can ask the right questions, recognize and challenge the implicit assumptions, and perceive the financial implications inherent in the expertise of others. The appraiser is no longer expected to be an encyclopedia of answers, but for feasibility analysis no longer will he have license to assume away the critical questions. All of the technical contributions of the other

members of the team must eventually be synthesized by the appraiser into an economic evaluation to justify the financing from which all else is possible. Feasibility study is a process of collaboration rather than the prerogative of a single profession.

C. The Concept of Feasibility Analysis

The terms "feasibility study" and "economic study" are no more useful or precise than is the generic term "theft," which includes robbery, burglary, embezzlement, etc., among its specific variations. First, it is necessary to define the concept of "feasible" in order to structure the process of determining whether a real estate project has this elusive quality; [this is] akin to defining water as "fresh" or a woman as "attractive." Then it is vital for an analyst to understand why a feasibility study is not an appraisal. Indeed, an appraisal is a very narrow form of a feasibility study for a fictional client who exists only in the imagination of appraisal theorists.

There is great similarity between the broad concerns of feasibility analysis and the process of physical design, and the would-be analyst is urged to read *Notes on the Synthesis of Form* by Christopher Alexander (Cambridge, Mass.: Harvard University Press, 1966). The real estate analyst is testing the marketing, legal, financial, physical, and social dimensions of a real estate project. The client who is putting together a "deal," solving a land use problem, or making a real estate decision has control over only certain variables in his situation. He can give form to these variables, but this form must be compatible with the context of all those factors which he cannot change and which place demands on the solution or form which he selects. The designer speaks of the "fitness" of a solution to the context in which it must operate, and the basic object is to find a solution which is ideally frictionless. *Context* defines the problem, *form-giving* is the proposed solution, and feasibility analysis is concerned with identifying and measuring the decisive *elements of fit* between the two. Indeed, feasibility analysis of most projects is primarily a search for a possible material and potentially defeating misfit. A misfit represents a source of dissatisfaction or failure to achieve certain objectives, and of changing conditions. Depending on the assumptions related to the misfit attribute, it represents a primary indicator of feasibility. The process of achieving a good fit of a real estate project to the context in which its investors and the physical real estate must operate is often a negative process of neutralizing the incongruities, the irritants, or the unpredictable forces in context which could cause very unsatisfactory outcomes for the space user or the space owner.

This abstract thought that feasibility implies satisfaction of objectives and a freedom from the financial irritations of certain types of incongruities or misfits in a proposed course of action can be reinforced by a few actual situations:

Example 1. A townhouse project in Cleveland was not feasible because of the noise of the adjacent interstate truck route until the irritant was neutralized by an earth berm which reflected the noise above the site, thereby providing the required domestic attribute of peace and quiet.

Example 2. An apartment project was attractive in every way except that the financial default point was too high until mortgage terms were revised to

produce a default ratio that fit the criterion of the lender and the acceptable financial risk level of the owner.

Example 3. Rezoning of a site for apartments was an irritant to a contiguous single-family homeowner until the irritant was neutralized by purchase of the home of the complaining property owner and introduction of a buffer strip of single-family lots on the development parcel, thereby making the unfeasible "feasible."

D. Specific Definition of "Feasibility"

A real estate project is "feasible" when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources. The language of this definition has been chosen with care and contains a number of critical implications:

1. Client objectives are unique and a major function, perhaps the primary function, of a feasibility analyst is to seek a correct statement of the problem in order to evaluate the fit of a proposed solution to that problem. These objectives are often peculiar to the client and irrational in the narrow economic sense of "highest and best use," that maximizing returns is the rational overriding objective.
2. "Likelihood" implies explicit recognition that forecasting results involves the use of many variables about which subjective risk judgments must be made. The real estate community may not be ready for the more sophisticated concepts of probability. Still, a typical real estate practitioner is usually able to sense correctly that a horse is a "nag" without being qualified to be the odds-maker for the racing sheet.
3. The concept of "satisfying" must be organized to deal both with intangible requirements of social planning and real estate "amenities," and with the more tangible decision points of financial ratios and dollar profits.
4. Identification of the "context of special constraints" requires research of limitations not only in zoning or soils or structural layout but in the politics and preferred transaction styles of consumers, which may rule out certain courses of action. Specification of political-legal or marketing requirements is analogous to modern design methods referred to as preprogramming of an architectural or engineering project to define the functional attributes required of an adequate solution.
5. "Limited resources" is a broadly defined concept which relates to all of the financial, talent, good will, and time tools which may be tapped by the decision maker while providing acceptable alternative courses of action.

E. Framework of Total Feasibility Analysis

The structural framework for comprehensive development of feasibility analysis (and the structure of the balance of this sketchbook) provides for identification of objectives, existing constraints and self-imposed standards, and finally alternative courses of action in the following subject matter:

1. Objectives of the parties at interest and for whom the feasibility study is done (Chapter 2)
   a. Strategic objectives and priorities
   b. Acceptable tactical alternatives

2. Market trends and opportunity areas (Chapter 3)
   a. Aggregate data on local population, employment, income, etc.
   b. National economic and political policies affecting incentive, time, risk, etc.
   c. Industry trends relevant to the client
   d. Significant popular attitudes and trends
3. Alternative merchandising targets or market segments (Chapter 4)
   a. Special micromarkets with space needs
   b. Product and price specifications
   c. Effective demand for the product at a price
   d. Preferred merchandising methods
4. Legal-political constraints and alternatives (Chapter 5)
   a. Regulatory constraints on the parties at interest
   b. Regulatory controls on site and space development
   c. Exogenous political structure influencing alternatives available
5. Aesthetic/ethical constraints and alternatives (Chapter 5)
   a. Project relationship to immediate community
   b. Project obligations to space users
   c. Prime contractor-subcontractor relationships
   d. Client obligations to his preferred personal commitment pattern
6. Physical-technical constraints and alternatives (Chapter 6)
   a. Space user requirements as to location and improvements
   b. Site attributes satisfying elements of item 1
   c. All other space product engineering considerations
7. Financial constraints and alternatives (Chapter 7)
   a. Time line or assumed calendar of events for financial assumptions
   b. Capital budget required and sources
   c. Operating budgets and revenue sources
   d. Direct cash profit expectations
   e. Indirect benefits and returns
   f. Measurement of risks and yields

It is recognized that the appraiser or feasibility analyst may be called upon to do only a portion of the total analysis briefly outlined above. Nevertheless, someone must provide explicit assumptions in those elements listed prior to financial analysis or someone must specify the preliminary objectives and viewpoint from which the project must be justified as feasible. Every feasibility study must have the specific viewpoint of a single decision maker in order to define success in terms of satisfaction of goals. Profitability and thus feasibility in an FHA 236 subsidized rent project has one measure for HUD [U.S. Department of Housing and Urban Development] reviewers and quite another measure for the project developers. The suggested framework above will be shown to be an outline for a statement of limiting conditions and assumptions under which the additional inputs of the real estate analyst must operate.

F. Classification by Feasibility Component

The range and variety of considerations which may be involved in a total feasibility analysis are seldom done at one time by one individual. Indeed, the appraiser may be presented with a complete project design or existing facility and asked only to comment on its economic aspects. How well does it fit market

and merchandising contexts? How well does it fit capital budget constraints or prudent investment locations in view of resale value constraints? Nevertheless, the components give rise to the proper nomenclature of the various reports that may be lumped under the general term "feasibility study."

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.
5. Compatibility studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: Economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

G. Classification by Viewpoint and Premise

The current trade names or report nomenclature for various real estate research assignments confuse [the reader] with implicit or misleading connotations. Instead, these various reports must be distinguished by the viewpoint assumed and the premises as to client objectives and criteria. The most thorough effort to define these report types and their distinguishing attributes was done by Anthony Downs of the Real Estate Research Corporation, and his chart and discussion in *The Appraisal Journal*[4] suggested the matrix of report features in Figure 1. It may be too late to change the popular nomenclature but certainly the critical distinctions identified below should appear as a preface to a report, similar in form to a statement of limiting conditions or pertinent facts. Such an explicit identification of viewpoint and criteria assumed or selected would avoid direct misapplication of general economic studies to specific project evaluation and [would] force interpretation by the author of the report of data provided.

The critical distinctions are viewpoint assumed, the level of detail or decomposition of aggregate demand and supply analysis, and the source of decision-making objectives and criteria. Appraisal for fair market value presumes multiple buyers and multiple sellers, each having equal alternatives, so that the appraiser deals with his interpretation of a general subclass of actors in the marketplace, provides somewhat abstract supply and demand data, and presumes rational economic motives as decision-making criteria. Feasibility studies and derivatives dealing with specific problems require the analyst to determine decision-making criteria appropriate to the rational or irrational objectives of the client, micro-analysis of customers, and the economics of supply within constraints of the specific resources of the client. Highest and best use studies presume someone, not necessarily the owner, will be motivated to use the property to its most productive purpose, while land utilization studies may attempt to maximize the immediate aims of the client rather than the economic system.

Land use, market, and cost/benefit studies abstract to a larger frame of reference than feasibility analysis or appraisal, specifically a planning viewpoint, a community segment, or society as a whole. It is our opinion there is a real difference between a purely social viewpoint and a planning viewpoint, even

though the planner represents and regulates the investor and space user to protect the interest of society as he sees it. The planner is concerned with the pragmatic politics of accommodating and compromising the self-interest of investor-developers, space users, and the social ideal. For example, true conservation is concerned with protection of the resource at the expense of the short-term interest of the resource user, while the planner must originate and implement partial controls on supply which are politically possible and which lie between economic investment in the abstract and consumer demand in the abstract and finite limitations of the land. The distance between viewpoints suggested by the triangular illustration in the notes to Figure 1 is forever shifting.

Other distinctions between various study types are less absolute in regard to focus on specific property, programmatic recommendations, or the level of abstraction of policy conclusions. Since the popular trade lingo is so implicit in its description of content, it would be desirable for the profession to establish a standardized report title terminology as soon as possible. Without standard report definitions, it is not possible to provide simple boilerplate outlines for each style of report. This sketchbook attempts to provide a method for analysis for each report situation with which to design the correct economic model of demand and supply, and a decision model to demonstrate how the analyst reached his conclusions and recommendations. Probably the emphasis is on individual consumer and investor motivations within our definition of feasibility study rather than the broad quantities of supply and demand implied by the trade lingo of "economic studies."

H. The Appraiser—Playwright or Critic?

At this point, the appraiser may well ask if the definition of feasibility does not imply that he is the creative genius assembling the project under analysis rather than simply the economic critic of a project conceived and planned entirely by someone else. The position of the real estate analyst in the creative process of developing a project can be compared to the various levels of involvement in preparation of a Broadway play. An appraiser is trained to be a neutral observer and interpreter of the crowd in the lobby after the first-night performance when it is too late to affect the box-office results. The analyst of feasibility is more in the nature of constructive critic invited to the out-of-town trials by the producer. He is permitted some involvement in terms of redefinition of character, conflict, and dialogue. However, it presumes the critic has some technical standards with which to judge the format and execution of the drama unfolding. The moment that the analyst imposes his artistic impressions on the drama he has been transformed from critic into artist at work, and his critical statements are no longer to be trusted. The constructive critic at the out-of-town trials may probe the playwright's intent with questions which will help the playwright perceive his own characters and plot, thus serving as a foil for discussion, but he dare not collaborate in the rewriting of the script lest the critic become coauthor. In this role of detached involvement in the decision-making process, the professional training of an appraiser is both an asset and a liability.

The appraiser is trained primarily to observe what has been successful rather than what might be. "Highest and best use" must be reasonable and nonspeculative, but some shrewd analyst saw Disneyland as "feasible." Chances

FIGURE 1

CLASSIFICATION OF REAL ESTATE STUDIES BY VIEWPOINT AND PREMISES

	Nature of Viewpoint Assumed (a)	Level of Demand/Supply Analysis (b)	Use of Preexisting Development Concept	Focus on Specific Parcel of Property	Decision Maker Values, Objectives, and Criteria	Estimation of Value	Calculation of Rate of Return on Equity Investment	Considers Nonfinancial Factors	Programmatic Content and Recommendation	Calculation of Absorption Rate	Economic Premise of Highest and Best Use
Feasibility Study	Specific Client	3,4	Yes	Yes	Client Determined	NR (c)	Yes	Yes	Yes	Yes	NR
Appraisal	Class of Investor	2,5	Yes	Yes	Presumed	Yes	NR	NR	No	NR	Yes
Reuse Appraisal	Class of Developer	2,5	Yes	Yes	Presumed	Yes	No	No	Yes	Yes	Yes
Highest and Best Use Study	Class of Investor	2,5	No	Yes	Presumed	NR	Yes	No	NR	No	Yes
Land Utilization or Strategy Study	Specific Client	3,5	NR	NR	Client Determined	No	No	No	NR	No	No
Land Use Study	Community as a Whole	1,6	No	No	Previously Specified	No	No	Yes	No	NR	NA
Market Study	Class of Investor	2,5	No	No	Presumed	No	No	No	No	No	NA
Marketability Study	Specific Client	2,3	Yes	Yes	Client Determined	No	No	Yes	Yes	Yes	NR
Cost/Benefit Study	Community Segments	1,6,7	Yes	NR	Previously Specified	Yes	No	Yes	No	Yes	NR
Compatibility Study	Community Segments	NA(d)	Yes	Yes	Observer Standards	No	No	Yes	Yes	NR	NR
Economic Base Study	Community as a Whole	6,7	NA	No	NA	No	NA	Yes	No	No	NA

FIGURE 1 (Continued)

Notes

a. A class of investor is a hidden premise of market value which presumes multiple buyers and multiple sellers, each having relatively equal alternatives.

b. The demand/supply analysis which is implicit in any study with some quantitative analysis has varying degrees of dependency on aggregate/secondary data and specific/primary data, with the balance swinging around the viewpoint of the decision maker as follows:

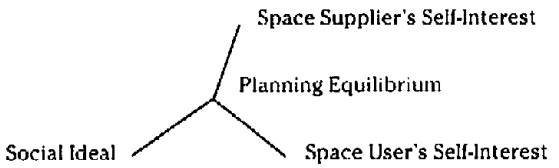
Levels of Demand Analysis

1. Social needs in the abstract
2. Demands of subclass of market
3. Individual consumer motivation

Decision Maker's Viewpoint

Levels of Supply Analysis

4. Individual investor motivation
5. Subclass of investor/decision format
6. Planner's compromise
7. Economic investment in the abstract



c. NR stands for not generally required or characteristic, with certain exceptions.

d. NA stands for not applicable.

are that analyst was not an appraiser. Professional training and data collection about real estate matters are the appraiser's prime advantages in performing feasibility studies, while traditional patterns of appraisal analysis are his prime source of inappropriate conclusions as to feasibility.

First, market-comparison justification stresses historical satisfaction of needs rather than opportunity for satisfaction of unmet needs. If two-bedroom apartments have no vacancy, [the inference is] that more two-bedrooms at that price are not a bad idea, but what of those families who did not find a four-bedroom apartment? How many did not rent the two-bedroom apartment because it lacked a carport? These are the questions that, properly answered, provide the best profits rather than average profits. Highest and best use studies search for that class of improvement which can bid the most for the land. Most reports of this type avoid the more realistic question of choosing the optimal plan for a given type of development which will maximize developers' cash returns, minimize his own investment and/or financial risks, and fit the merchandising strategy appropriate to the then-current market. With increasing and decreasing returns to scale, financial risks relative to scale, and holding power of the developer, the most satisfying or successful improvement may be distorted from the premise of appraisal theory to favor the requirements of pragmatic business standards.[5]

The definition of market value does little to encourage the appraiser to study the profile of buyers and sellers because the basic definition of value presumes the classical definition of "economic man." First it assumes that both buyer and seller have equally desirable alternative courses of action available, but the object of merchandising is to make the buyer believe no other equally desirable opportunity exists as an alternative. Nobody competes on price by cutting net profit if he can compete successfully on product differentiation. What may be significant about comparables is the amenities which are not present which some segment of the market must have. For that matter, appraisal theory presumes rational behavior on the part of the buyer and seller, while much merchandising of real estate is calculated to encourage irrational behavior. At the same time, many investors are not trying for maximum profit so much as they are for a minimum exposure to loss of capital and reputation or for intangible strategic gains of advertising image, self-satisfaction, or captive markets for retail services, construction services, and other generators of income and business stability. The typical business motivations for monopoly pricing, for minimum exposure to loss, and for satisfaction of irrational needs of both buyer and seller are out of harmony with the conditions presumed in "fair market value" but very much in tune with a definition of what is feasible in terms of subjective satisfactions.

I. Starting Point and Structure of a Feasibility Report

Remove the simple premise that a project is feasible if its market value exceeds its capital budget and then introduce a variety of noneconomic factors in the measurements of success or "satisfaction," and no sense of direction, no recognizable starting point or possibility of conclusion seems to be available. Feasibility studies seem unmanageable and conclusions unreachable when compared to the carefully defined methodology of appraisal. However, the analyst may proceed to chop the problem down to size in the same way in which the appraiser begins to focus on his appraisal problem by defining the purpose of the appraisal, the definition of value, the date beyond which information is irrelevant, the explicit exclusions, and the statements of limiting conditions and assumptions.

The analyst enters a situation requiring some aspect of research where the circumstances involve either

1. A site or building in search of a user, or
2. A user in search of a site and certain improvements, or
3. An investor looking for a means of involvement in (1) or (2).

At the outset of his final written report and early in his analysis procedure, the analyst needs to specify, in simple graphic form or a short statement (similar to the page of "salient facts" which often introduces an appraisal), the following limiting conditions:

1. The viewpoint which he represents
2. The critical objectives of the viewpoint represented
3. The elements of the feasibility process provided by others and those assumed by the permission of the viewpoint represented
4. The elements of the feasibility analysis to be researched by the analyst
5. Description of the decision model by which all elements can be synthesized into selection of a course of action or statement of a conclusion.

With the circumstances, the framework of available or missing information, and assumptions established, the initial thrust of thought and study is quickly limited by logic along the following lines:

1. If you begin with the site, begin with the attributes of the site because these will define the limited range of alternatives and constraints on its future use.
2. Too many projects are designed first, and then the ultimate consumer is asked what he thinks. If you enter the process at this stage, the developer will propose, but the ultimate consumer will dispose. So the essential premise to attack is the compatibility of project attributes, good and bad, with the decision criteria of the target consumer for which the real estate is intended.
3. If you begin with the need for a site, it is necessary to define the static attributes and dynamic functions an appropriate site must possess and the weights to be attached to each for comparative analysis of alternatives.
4. If you begin with an investor in search of an opportunity, first determine the essence of his objectives and modus operandi plus those of his regulatory overseers to generate criteria that will suggest limitations on any acceptable array of real estate alternatives. Attributes of the desired solution should bring to mind real estate deals which stress such features.

Perhaps the only element not familiar to the training and the good common sense of the real estate appraiser is the need to identify or create a decision model custom-tailored to the problem, the available data, and the fee. In appraisal, the systematic process to arrive at a value decision is largely prescribed by theory; in feasibility analysis, it is limited only by the imagination of the analyst and the facts of life as seen from the viewpoint which the analyst must represent and simulate.

J. The Value of a Systematic Decision Process

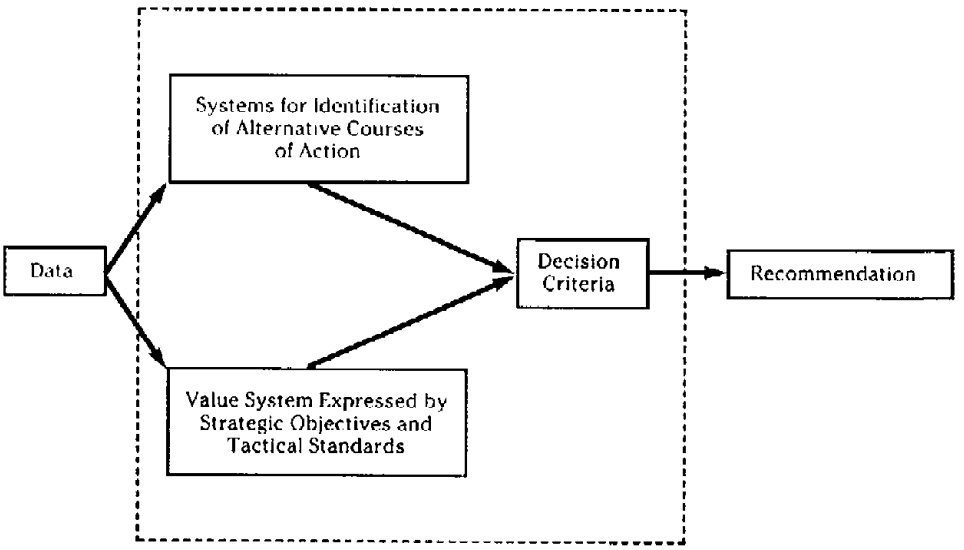
The components of the decision process will be suggested by the objectives of the client since it is satisfying or failing to satisfy these objectives which determines the success of feasibility of the project. The decision machine chosen with which to relate and synthesize tangible and intangible factors alike must serve the following functions:

1. Since there is an infinite amount of information about any project and its environments, the decision process should select only that which is critically relevant. The confusion created by excess detail, as well as the time constraint and size of the professional fee, requires systematic oversimplification.
2. Systematic simplification must be accomplished with an explicit statement of premises upon which forecasts of success or failure may depend.
3. While the basic framework of the decision machine is always the same, the logical process can be executed in a manner improvised for each problem if one can understand the basic process.

K. Four Steps to a Decision

The systematic process of reaching a decision has been well described in a fast-reading little book, *Design for Decision*, by Irwin D. J. Bross (Macmillan, 1953), and the basic concepts of this book have been adapted to this discussion of feasibility analysis. A decision machine can be diagrammed, as in Figure 2. It

FIGURE 2



consists of four steps or components: facts (data), identification of alternatives, values and objectives, and decision criteria.

1. The first step requires collection and organization of a wide variety of facts and figures to identify or formulate possible alternative courses of action compatible with the facts, from which one must be chosen. If a filling station is put on the site, it excludes the doctor's office, but considerable information is required to identify and describe these possible alternatives.
   One alternative course of action which is often available is to do nothing. For the client to continue the status quo, factual information is necessary to see if the decision making would be permitted to do nothing. The efficient collection of information is possible when the standards by which the alternatives will be judged, the decision criteria, have been selected.
2. Alternative courses of action must be expressed in the form that permits the analyst to compare the likelihood of realization and the desirability of the results. Consider the classical decision machine of Coach Woody Hayes relative to the use of the forward pass: "Three things (alternatives) can happen, two of which are bad." The payoff on the third alternative changes with the strategic circumstances of the team and the completion average of the quarterback. Probabilities in real estate can seldom be statistical; instead they are intuitive judgments which may be expressed, as the analyst terms a luxury apartment project "a natural" or an automatic car wash "out of place." The possibilities for a successful result from the viewpoint of a specific client do strange things to the concept of "highest and best use," which assumes somebody in the market is willing to take the risk of loss for the maximum gain.

Example 1. The sale of lakefront lots might be 90 percent certain, while the success of a resort on the same site might be only 50 percent certain. Despite the higher profit on the resort, one might choose the investment that had the lowest possibility of loss rather than the highest potential for profit—the mini-max criterion that most businessmen follow.

Example 2. An apartment-house builder is confident of all his capital costs and operating projections on a new project except for the interim interest cost on construction loans during the rent-up period. This interest cost could be as low as $30,000, or as high as $180,000 if it took two years to fill the 300-unit luxury apartment project. To avoid the cash drain of a slow rental market, the developer/contractor might negotiate a clause in the contract with his joint venture partner to the effect that if interim interest costs exceed $40,000, the contractor will assign half of his 50 percent interest to his joint partner; and if interest costs exceed $100,000, [he will] transfer all of the remaining ownership interests to his joint partner. His insurance company partner can afford to absorb the variance in interim indirect construction costs, preferring the slow quarter to the quick nickel. The contractor agrees to perform in those matters over which he has internal control.

3. Alternatives can also be arranged according to desirability or priority, and maximum profit can be only one of the required desirable attributes. The limit of liability may be a highly prized legal attribute, along with freedom from a commitment of management time. In the ethical area of concern, the preservation of specific ecological qualities may supersede other considerations. Description of courses of alternative action in terms of their attributes to provide certain desirable features or stated possibilities for successful execution obviously requires some knowledge of the objectives and priorities and philosophical values of the client which the analyst must serve. If these are known first, it is then possible to assemble the facts about alternative courses of action or consequences which are relevant to the attributes by which the desirable and probable criteria may be applied. Inevitably, therefore, feasibility analysis—that is, the measurement of the likelihood of satisfaction—begins with identification of what satisfies the client and the resources at his disposal with which to seek satisfaction.
4. The decision criteria by which the client may choose between alternatives reflect his objectives, which in turn are specifications of general value statements. A planning agency may value public access to all major bodies of water in a given area and state its objectives to be ownership of 25 percent of all shoreline frontage on navigable water by 1980. This is a strategic objective which in turn provides tactical alternatives which might include outright public ownership, acquisition of scenic easements, conservancy zoning, land planning controls on subdividers, and so on. Each of these tactics would generate decision criteria such as requiring a developer to dedicate a minimum of 20 percent of his shoreline frontage to general public access, requiring building setbacks 200 feet from the shoreline, prohibiting individual piers, etc. Notice values give rise to strategic objectives which may have alternative tactical methods of achievement, which in turn suggest standards of acceptable or nonacceptable courses of action.

The creative function of the feasibility analyst is to understand the values, objectives, and alternative tactics of the parties at interest well enough that the

analyst can invent methods of assembling facts about these alternative courses of action or consequences which fit both the information available and criteria which apply the objectives and value preferences to a choice. A "decision machine" is only the careful and conscious application, in a simplified model form, of the methods by which we all make choices. It is a stylized model of behavior reduced to a point where it is capable of using available information to represent what is a dynamic process relative to real estate questions.

L. Models and Creative Analysis

It should be possible to create an oversimplified model of analysis for each component of feasibility analysis—market trends, merchandising, the law, the ethical, the physical, and the financial. Modeling to forecast behavior or result is derivative of thinking by analogy, and the creative uses of analogy have been developed in a powerful little book, *Synectics: The Development of Creative Capacity*, by William J. J. Gordon (Harper and Row, 1961). Models for forecasting are not new to the appraiser. The market comparison method models the steps a rational and knowledgeable buyer might take in applying the principle of substitution. The income approach oversimplifies the relationship of net income to value by the model 1/C = V. Feasibility analysis generally requires the analyst to innovate his own model to fit the elements of satisfaction and alternatives at hand.

M. Analysis by Analogy

The Gordon book suggests conscious methods of stimulating creativity through the basic technique of making the strange familiar and the familiar strange to gain simplification and perspective. For example, in the introduction to this sketchbook it was suggested that the vital ingredient of real estate is space—empty voids—and that the spatial utilities are manufactured from solid planes such as land and walls and roofs and invisible constraints such as survey lines and flight approach zones. By converting the image of real estate from physical brick and mortar in its familiar sense to the less familiar concept of space, one provides a link to questions of environment, movement of people and goods, and functional efficiency of structural forms. The mechanism for consciously developing this ability to reverse ideas as suggested by Gordon is the use of personal analogy, direct analogy, symbolic analogy, and fantasy analogy:

1. Personal analogy to relate to a problem would be to note one's own resentment to noise from an adjacent apartment and assume tenants like yourself might place a premium on soundproofing.
2. A direct analogy would be to compare the flow of traffic to the flow of fluids which would tend to prefer moving downhill and to the side of the current, such as traffic crossing the potential "dam" of an intersection before turning right into a filling station.
3. Symbolic analogy might be found in a name, such as a resort motel called "The Abbey," symbolizing peace, quiet, a retreat from the city, and dedicated service to the traveler.
4. Fantasy analogy might be to analyze the attributes of a motor camper owner by reference to the restlessness of a gypsy caravan and concluding that one

would capitalize on this characteristic by providing a chain of campsites, one with the romance of white river water, another with the seclusion of a deep woods site, another with the drama of rocky cliffs, etc.

The ability to associate a real estate problem with some analogous natural or mechanical process and to extend the metaphor may well lead to creative perception and construction, and this type of thinking by analogy will be repeated throughout this publication. It is the basic tool of the good writer, the creative artist, or the intelligent analyst, and the facility can be increased with deliberate practice.

N. Models as a Form of Analogy

Model-building is a method of reasoning by analogy. Models are replicas of the real world to permit simplification for analysis and are of three types: physical models, abstract models, and symbolic models.

1. Physical models are objects, like sand tables of the topography, and architectural models, which can be very useful in communicating the findings of feasibility analysis in matters of shape, sun and shadow, microclimatology, and siting questions.
2. Abstract models are graphic layouts, such as flowcharts of pedestrian and vehicle traffic, production processes, critical-path network diagrams, etc., which have great value both in visualizing a problem and in communicating complex dynamic relationships. Even the physicist uses round balls and pipe cleaners to describe molecular structure.
3. Symbolic models use algebra-type statements, such as (Cash rent = operating expenses + real estate taxes + interest + principal payments) divided by default point desired.

Symbolic models have great value for feasibility analysis in organizing bits and pieces of information, identifying critical relationships which should be explored, and explaining to the client at the outset of the report the logic of the analysis. With more elaborate development, it is possible to create a mathematical model of whatever phenomenon is to be described, such as cash flow after taxes over time. Unfortunately, the variety of relationships in a dynamic real world exceeds the capacity of the mathematicians, and so various shortcuts are chosen to build a model. The creation of a model is not enough, however; the model must survive repetitive tests in predicting alternative futures that may result. Thus, there is a constant interplay between mathematical models and available data for testing and application. Any model for feasibility analysis must always fit the data that are available if it is to be tested and then applied in future cases. Most of the millions spent in medical research are spent on collecting data with which to test a hypothesis—a model. It does not cost much to think up a model. So it is in appraisal: most of the time is spent collecting information to fit the model of what an appraisal should be. So it is in feasibility analysis, but unlike appraisal, the analyst must also provide the model.

O. Advantages of Analysis by Means of Models

Models are primarily useful when they prove to be good predictors, but models have additional advantages for feasibility analysis:

1. A model provides a preliminary frame of reference for analysis, and failure of a model to predict may reveal information gaps not apparent at first.
2. Another advantage of model-making brings into the open the problem of abstraction. An apple has an infinite number of attributes or properties in regard to size, shape, color, and chemical composition. In deciding to eat it or not, only a few characteristics are considered—wormholes, color, texture, and height above ground on the bough. Some degrees of abstraction are necessary for decision.
3. Once the problem is expressed in symbolic language, one may simplify it by the manipulation of mathematics or publish a concise statement of the problem.
4. Models often provide the cheapest way to accomplish prediction, as well as the fastest. The gross rent multiplier is a model of investor reaction to a stream of rent dollars, a cheap and sometimes accurate decision tool even though its simplicity contains opportunity for error in application.
5. Models are subject to the usual dangers of abstraction, false premises, translation in scale, or infatuation of the model builder with his brainchild rather than reality. Criticism must always be directed toward the assumptions required by the model to be useful for a specific purpose.

Teaching feasibility analysis is a matter of teaching creative modeling techniques that are adaptable to the great variety of real estate projects which must be evaluated as to their capacity to satisfy the objectives of a specific client. Some basic, simple models can be reapplied to these many cases through

1. A process of enrichment—that is, elaboration of the very simple model such as that above estimating cash rents required.
2. Analogy and association with a previously developed model such as applying retailing territory techniques to location of an office for an orthodontist.
3. Alternating attention to partial aspects of the total solution, such as relating a physical characteristic of the site to a merchandising technique.

With a little practice the technique of asking the right questions becomes a basic format for the interview with the client.

The analyst has only performed part of his function when he has answered the question, "Is it feasible?" He is in the position of the attorney who was told by J. P. Morgan in a shout, "Don't tell me what I cannot do; you are paid to tell me HOW to do what I want to do!" Thus, the analyst begins with the need to specify the objectives of his client.

Notes

1. Charles F. Seymour, "More and More of My Reports Are Valueless," *The Appraisal Journal*, vol. XXXV, no. 4, October 1967, p. 453.

2. Anthony Downs, "Characteristics of Various Economic Studies," *The Appraisal Journal*, vol. XXXIV, no. 3, July 1966, pp. 329–338.

3. Jewel Bellush and Murray Hausknecht, "Entrepreneurs and Urban Renewal," *Journal of the American Institute of Planners*, vol. 32, no. 5, September 1966.

4. Downs, "Characteristics of Various Economic Studies."

5. Since these comments were written, a far more skillful statement of the relationship between highest and best use and development profit has been published by Bruce Singer, a financial analyst with Dillingham Land Company, in an article, "Optimum Developmental Intensity," *The Appraisal Journal*, July 1970, pp. 406–417.

A Rational Approach to Feasibility Analysis

James A. Graaskamp

Introduction

A Neanderthal developer once rolled a rock to the entrance of his cave and created real estate, providing the natural void with some additional attribute not found in nature, such as warmth, security, or exclusiveness. He had successfully interfaced land (a finite natural resource) with an artifact (the rock—the first solid-core door) to serve an unmet need of a space consumer (a market). Eventually his possession of the cave over many moons became institutionalized, as artifacts for the delineation of space became more sophisticated with survey monuments, condominium plots, county records, and equity courts. Real estate is therefore a manufactured product of artificially differentiated cubage with an institutional time dimension (square foot per year, room per night, cave per moon), designed to interface society with the natural resource, land. Thus real estate at any level is an organized undertaking whose form is subordinate to the constraints imposed on it by nature and man.

Nature and man, both in their smallest units and in the aggregate, represent variables which the real estate entrepreneur can seldom change and which place demands on the artifacts which he produces to serve a need. Nature and man represent the *context* into which a real estate solution is thrust, while the elements of *form* are those variables in the physical, financial, legal, and behavioral matters over which the undertaking has some control. In the broadest sense,

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feasibility is concerned with identifying and measuring the adequacy of fit between context, which defines the problem, and the form of the proposed real estate solution. Indeed, the objective of the analyst is to search for the possibility of a material and potentially defeating misfit, incongruity, or unpredictable force which would cause a very unsatisfactory outcome for the user, owner, or capital source of a real estate undertaking.

The Decision Process

The decision process of any undertaking might be abstracted as follows:[1]

1. Setting goals based on value judgments
2. Converting values to form policy standards
3. Searching for opportunities consistent with policies
4. Selecting opportunities consistent with policies
5. Designing a system for capturing selected opportunities
6. Constructing the system for capturing the selected opportunities
7. Operating the systems that have been constructed
8. Monitoring the operating systems to improve the functions above.

Implicit within this basic list of management functions are a *flow of events*, a *feedback mechanism* for modifying policies and solutions based on previous experience, and standards by which solutions must be judged. The feasibility analyst in the real estate field is primarily involved with management functions 1, 2, 3, 4, and 8.

The configuration and performance of a real estate project, or of any enterprise, represent "a negotiated consensus between . . . the power of the environment to dictate the form and the behavior of the organization, on the one hand, and the power of the organization to decide for itself what its conformation and behavior will be, on the other. To be mindful of the inevitable presence of both forces is to be able to penetrate the meaning of organization purpose . . . in every system, every organization."[2] Perhaps the abstractions of a systems approach to enterprise management are too esoteric for the real estate professional. Yet, today, it is critical that the practitioner become aware of the underlying concepts shaping other forms of American management in terms of disciplined problem definition and product design resolution. The appraisal profession has remained insulated in the management dogma of the 1930s, and must redefine its processes in order to return to the mainstream of American management and financial planning. The view of feasibility advanced in this essay is heavily influenced by the systems approach to management recast into less abstract real estate terminology.

Feasibility Defined

In initially approaching the elusive concept of "feasibility," the following definition is useful:

> A real estate project is "feasible" when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources.[3]

Several critical assumptions are contained within this definition:

1. To test for *"fit"* between a course of action and explicit objectives requires a correct statement of the problem, for these objectives are often unique and personal to the client and internal to his own decision rules determining what "his conformation and behavior will be." The form of the real estate must respond to and fit the need of *all* the parties concerned.
2. *"A course of action"* must also fit the specific constraints imposed by the power of the environment (market, legal, financial, and social) to dictate the form and the behavior of the enterprise, and these often must be precisely identified.
3. *"Limited resources"* is broadly construed to include not only the equity and credit line of the client but his personnel, public image, and energy which may be tapped by the proposal under review.
4. *"Satisfaction"* must be organized to deal not only with the tangible decision points of financial and quantitative ratios, but with the *ethical* responsibilities to the land as a finite resource and man as a victim of his own real estate terrarium.
5. *"Likelihood"* requires explicit recognition that economic forecasting must treat risk *explicitly* and therefore does not produce a single-point conclusion but rather involves a statement of reasonably foreseeable alternative outcomes, a *range* of possible results. (For example, the Ellwood graph reveals the impact on yield of alternative resale prices when the appraiser is unwilling to assume just one possible resale price.)

Collaboration among Professions—A Necessity

In light of these implications, a feasibility study is not in any sense an appraisal; rather, it is primarily addressed to the question: "Will it succeed in solving a problem while interfacing with the land and with the community?" Questions of price and value are only *input to a synthesis of many factors* leading to a conclusion. The issue—whether a specific project will serve the objectives of a particular client—is vastly different from the viewpoint of an *economic* man as contemplated by appraisal. "Satisfying" entails more facets than that of simply computing a present value in financial terms greater than cost to construct: it embodies the ability to judge the fit of the project to the land and the irrational needs of man. The feasibility analyst has no license to assume away the critical questions in a "statement of limiting conditions."

The analyst is not expected to have answers but should be capable of asking the right questions of other professions who can offer expertise in related areas. Feasibility analysis must become a process of *collaboration* among the professions, so that the simplistic and naive concept of "highest and best use" is no longer the prerogative of any single profession. In short, an appraisal is a very narrow-minded form of a feasibility study because market value presently requires a fictional client and limiting conditions which exist only in the deductive logic of appraisal theory. Appraisal methodology must be revised to reflect current competition and be in accord with behavior of the economic enterprise

or actor. Only then will the theory of appraisal be compatible with the reality of feasibility analysis.

The Framework of Total Feasibility Analysis

A logical structure in which to organize all relevant data is necessary to replace the formalities of appraisal and the comfort of knowing the question in advance, i.e., fair market value. With the exception of preliminary studies, the single analyst seldom deals with the total problem. All the objectives, context, and self-imposed limitations rarely appear in a single report. The components of feasibility analysis and report types might be briefly outlined as follows:

1. **Objectives of the enterprise for whom the feasibility study is performed:***
   a. Strategic objectives and priorities
   b. Tactical alternatives acceptable to the enterprise
   c. Decision rules or policies to ultimately make a selection from alternatives

   *Reports dealing with these problems are properly termed *strategy studies.*
2. **Market trends to identify opportunity areas consistent with objectives:***
   a. Aggregate data on population, employment, and income for the appropriate area
   b. National economic and political factors affecting priorities, incentive, timing, etc.
   c. Significant trends in public attitudes and mores which create or delineate submarket motivations
   d. Economic innovation relevant to the client

   *Market analysis reports would include economic base studies, trade area delineation, or broad statistical surveys.
3. **Market segmentation for merchandising targets:***
   a. Selection of special micromarkets with unmet space needs
   b. Consumer profile analysis to determine product, price, and motivation
   c. Determination of capture rates required as a ratio of total micromarket effective demand to achieve required levels of absorption
   d. Preferred merchandising methods

   *Merchandising studies include competitive property analysis, consumer surveys, product mix determination, and amenity product and pricing, as well as retail volume projections and formulas.
4. **Legal-political constraints:***
   a. Regulatory constraints on the decision maker
   b. Regulatory controls on site and space development
   c. Regulatory controls on space users and managers
   d. Regulatory constraints on those who supply capital
   e. Outside political forces influencing administration of discretionary regulations

   *These studies include legal opinions, statutes, corporate charters and by-laws, administrative rulings of various agencies, and political briefs.

5. **Aesthetic/ethical constraints:***
   a. Environmental impact on the physical qualities of the land
   b. Project impact on the general plans and values of the immediate community
   c. Project obligations to future space users
   d. Project influence on prime contractor/subcontractor relationships
   e. Project relationship to priorities and self-image of the decision maker

   *Reports on these aspects are generally called *impact* or *compatibility* studies.
6. **Physical-technical constraints and alternatives:***
   a. Design to fit space-user requirements as to location and improvements
   b. Static and dynamic attributes of the site
   c. All other space-product engineering considerations

   *These aspects are treated in engineering studies, architectural schematics, and land suitability reports.
7. **Financial synthesis of proposed enterprise form:***
   a. Specification of selected profit centers
   b. Definition of time line for the enterprise forecast
   c. Capital budget estimate and schedule of outlays
   d. Pattern of operating revenues and outlays
   e. Financing plan for source and application of funds
   f. Tax strategy
   g. Selected measures of profitability
   h. Selected indices of risk

   *Financial studies may be termed financial feasibility, economic modeling, appraisals, sensitivity studies, cash flow forecasts, or income tax impact analyses.

A Starting Point for Analysis

In carrying out the total feasibility study, the analyst begins to unravel the complex and interrelated issues by carefully defining the point at which he enters the decision process. Essentially only three situations exist wherein the analyst can counsel on the feasibility of a real estate question:

1. *A site with or without improvements in search of a user.* In this case careful recognition of the attributes of the location or of the improvements will greatly narrow its marketing opportunity areas, and generally suggest a limited number of alternative courses of action requiring further in-depth analysis.
2. *A space user in search of a location or a site and specific improvements.* In this case, the economics of the intended use or occupant values are the point of departure in order to narrow the logical alternative opportunity areas.
3. *An investor looking for a means of involvement in one of the above.* Here the investor's objectives, legal constraints, and his implicit conclusion that he should be involved in real estate must be taken into consideration.

Limiting Conditions

In the early phase of the analysis it is essential to explicitly define some special limiting conditions:

1. The question of feasibility is always based on a particular *viewpoint.* A successful investment for the mortgage lender may not be profitable for the

equity investor, the space user, or the community at large. It is not uncommon to lend on the credit capacity of the borrower despite a marginal feasibility report in terms of success of the project.

2. The feasibility process is constituted of *components* provided by others, accepted as *premises* with the explicit permission of the client. Legal, architectural, engineering, or soil reports furnished by the owner should be so identified as satisfying the pertinent components in the outline.
3. The components of *total* feasibility analysis which are the responsibility of the analyst and his associates.
4. Description of the decision models and criteria by which alternative courses of action can be judged or report purposes achieved.
5. The report should specify the *point* along the enterprise time line from which the analyst is viewing the project. The analyst may begin either at a preliminary point, prior to any transactions, or he may be confronted with construction already in place and with limited options in the modification of the physical product.

In the first case, the decision model may require development of objectives and definition of opportunity areas with a conclusion that there is an avenue for a successful course of action. On the other hand, the analyst confronted with a *completed* design proposal need only test it against a profile of the consumer need or regulatory constraints of a party at interest, to affirm or reject its feasibility.

Often the prospective client does not clearly understand his own objectives and constraints. It is therefore essential that the analyst thoroughly probe the implicit assumptions of his client. Determination of feasibility depends largely on answering the question "Will it succeed?" by focusing on the counterpoint inquiry "For whom?", "By what standards?", "Based on which assumptions and judgments?"

The Economic Feasibility Study

Some professionals have sought to avoid many of the components of feasibility by classifying their reports as economic feasibility studies, a generic title presumably concerned only with certain revenue and expense patterns inherent in the project. If the present value of these rather narrowly defined costs and benefits exceeds some estimate of cost, the project is termed to be feasible. Evidence to support the conclusions in such studies regarding projected revenues and outlays is usually based on evidence drawn from comparable projects which suggest average market rents, absorption rates, and typical appropriate costs.

The professional appraiser has been taught to analyze what has been true in the immediate past rather than what might be possible in the future. Highest and best use must be nonspeculative and reasonable, yet someone determined that Columbia, Maryland, Disney World, and condominium camper pad clubs were feasible. Obviously information *internal* to the enterprises which created such projects was far more significant than external market data—the feasibility analyst must intelligently interrogate his client as to these internal resources and limitations. It is essential, therefore, that the appraiser entering into feasibility analysis overcome some of his training and viewpoints which run counter to in-depth feasibility analysis.

A Reorientation in Appraisal Concepts

Several of these hangups which manifest themselves in economic studies are revealed in this short essay:

1. *Highest and best use* is a moribund concept as presently defined. At the very least, Professors Wendt,[4] Singer,[5] and others are correct in advocating that highest and best use be considered in terms of after-tax spendable dollars, but there is a more insidious flaw. As originally coined by the economist, the concept included benefits and costs to the *society* as well as to the owner, and when that facet was *lost* the appraisal profession was evidently excused from considering the *aesthetic* and *ethical* questions previously outlined in Item 5.

   This brief essay does not permit a full expansion of the professional's responsibility to consider the ethical elements of a proposal over and beyond society's consensus as expressed through existing building and zoning codes. Nevertheless, during the coming decades wherein authority over land use will be transferred to the public sector, the true professional will be obligated to operate with greater sensitivity than the letter of the law. The concept that whoever can pay the highest cash price for a particular site is the most appropriate user of that site, represented an era of laissez-faire land economics, and becomes *obsolete* in a decade when the public is reestablishing its control of land use. Highest and best use, the critical premise of an appraisal, is theoretically and pragmatically untenable as presently defined by appraisers.
2. Real estate decision makers are not interested in economic surpluses but in *cash profits*, expressed as after-tax spendable dollars; in *yield*, not cap rates; and in *measures of risk*, as opposed to the traditional view that mortgages are preferred to equity or that motels are riskier than moderate-rent housing. Such judgments are naive, particularly when they are converted to decision factors by adding an arbitrary .01 to the overall capitalization rate.
3. The profits in real estate investment are more likely to be found in its *outlays* than in its net income, and the true test of equity ownership is the degree to which an "owner" can control or *divert discretionary expenditures* of the real estate enterprise. Productivity must therefore be redefined to encompass recognition of cash profits in land writeups, construction contracts, management contracts, insurance premiums, lending formulas for indirect costs—not to mention captured markets among tenants and other users for retail services, etc. In short, the feasibility analyst must consider the cash potential inherent in the business environment of the decision maker, before and after the commitment to the real estate.
4. Many facets of the income approach to appraisal no longer serve as useful tools in feasibility analysis under a *cash concept* of a real estate enterprise.[6] Modern capital budgeting techniques treat the realities of business cash flows on an in-and-out basis, rather than accepting convenient assumptions necessary to the continued use of the income approach with a single capitalization rate. At the risk of possibly raising more questions than can be answered, compare the operation assumptions of the Ellwood approach to modern corporate present-value decision models:

Ellwood Model	Capital Budgeting Model
a. Instant investment	a. Discontinuous series of outlays
b. Productivity limited to parcel after debt but before income tax	b. Productivity is net change in spendable cash from all sources after debt and income tax traced to real estate parcel
c. Continuous income function	c. Discontinuous series of tax-classified receipts
d. Recapture from income and resale	d. Payback of equity from after-tax spendable cash and debt from pretax net revenue and resale
e. Projected for normal turnover period 5 to 10 years of typical investor	e. Projected for elapsed time of outlays and receipts for specific investor time line horizon
f. Weighted average Inwood discounting	f. Present-value techniques selected to fit the cash flow pattern, characteristics of investors, and nature of valuation question to be answered

5. Risk analysis today recognizes risk, in large part, as a manageable or measurable factor in an enterprise. *Risk* is the variance between one's expectations and realizations, between budget forecast and end-of-the-year profit and loss statements. Risk management is first concerned with conservation of the decision makers, net worth position just prior to a new commitment, in this case real estate. Risk management is then concerned with realization of the forecast which led to the commitment through a course of action. The techniques of risk management require identification of significant exposures to surprise and financial loss, estimation of the economic consequences, and selection of risk management methods to control and mitigate these consequences, in priority to the severity of the latent impact on expectations.

Risks can be avoided, shifted by contract, limited to some maximum as in a corporate shell or a limited partnership, or combined to increase predictability and permit budgeting as expenses or reserves. Modern financial analysis not only provides techniques for sensitivity analysis for the impact of variance in financial inputs or the time line of the project, but is also exploring the application of probability models and risk preference curves to investment decision. In short, financial decision theory capable of dealing with *uncertainty* is many years ahead of the simplistic decision rules which characterize real estate appraisal.

The Analytical Process

The term "economic study" is a Freudian slip indicating the disorientation that has occurred among appraisers relative to basic premises of appraisal theory. Land economics began with concern regarding the overall productivity of the capital asset which was given an economic rent, normalized expenses, and longtime reserve for replacement, in order to measure net productivity of the total capital employed. But the tools of economic analysis were *subverted* to serve liability evaluation, to determine the total value of financial claims on the productivity of the assets. As the productivity of real estate capital declined or at least failed to keep pace with alternative capital investment opportunities, the finan-

cial opportunities in real estate were found to lie in manipulation of the outlays and the liabilities and the captive businesses inherent in real estate enterprise.

Thus the questions which land economics and its models were designed to serve are not necessarily the questions which a cash-oriented enterprise may need answered to determine feasibility. The analytical process must always be subservient to the problem at hand, the data available, and the ability to communicate both the process and its answers. Do the economic methodology and semantics of traditional appraisal effectively communicate the particular project's feasibility to an investment banker, corporate treasurer, or developer?

Conclusion

Those who act or invest on the basis of a feasibility study are in actuality "buying" *the assumptions* about its future productivity, having been given their investment context and the form the opportunity has taken—*not brick and mortar and ground*. The feasibility analyst must make these assumptions regarding context as explicit as possible and then test the form of the investment to that context, according to the priorities of success from a particular viewpoint.

The essence of a feasibility determination lies in correctly defining the *objectives* which the solution must serve, and the *context* or standards wherein an acceptable solution must be found. Only then can the analyst judge the degree of consensus which exists between the external forces imposing on this decision and the internal capacity to achieve individual objectives in a real estate enterprise.

Notes

1. For a concise statement of evolution of management theory from which this paragraph is abstracted, see John A. Beckett, *Management Dynamics: The New Synthesis* (New York: McGraw-Hill, 1971).

2. Ibid., p. 180.

3. James A. Graaskamp, *A Guide to Feasibility Analysis*, 2d edition (Chicago: Society of Real Estate Appraisers, 1970), p. 4.

4. Paul F. Wendt, "Highest and Best Use—Fact or Fancy," *The Appraisal Journal*, vol. 40, no. 2, April 1972, pp. 165–174.

5. Bruce Singer, "New Methods of Income Analysis," *The Appraisal Journal*, vol. 39, no. 3, July 1971, pp. 327–337.

6. Ibid.

A Guide to Feasibility Analysis: Update

James A. Graaskamp

Chapter 1. Feasibility Analysis—State of the Art

A. Basic Principles Surviving the 1970 Edition

As a point of departure for rewriting *A Guide to Feasibility Analysis,* first published in 1970, it is useful to inventory the contributions of the first *Guide* in terms of the current lexicon of real estate and concepts of real estate analysis.

1. Perhaps the most useful residual of the original synthesis of feasibility concepts applied to real estate is the definition of feasibility itself as found in Byrl Boyce:[1]

> FEASIBILITY—A real estate project is "feasible" when analysis indicates that there is a reasonable likelihood of satisfying explicit objectives and when a selected course of action is tested for fit to a context of specific constraints and limited resources. The context defines the problem. Feasibility of a real estate project is normally related to its probable economic potential.

The author is pleased that the basic elements of this definition are word for word from the original text of the *Guide,* but he is chagrined at the further amendment introduced by authors unknown to the effect that "feasibility of a real estate project is *normally related* [emphasis added] to its probable economic potential." The real estate industry generally misunderstands eco-

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This is part of an unpublished revision of *A Guide to Feasibility Analysis* written in 1982–1983.

nomic potential to be synonymous with the financial viability of any solution. Economic potential implies the net surplus to the total economic system in terms of cost/benefit analysis, but the real estate mentality thinks in terms of project financing only. We will expand further on the errors and misjudgments which result from the confusion of feasibility with financial viability. One purpose of this text will be to clarify the necessity of distinguishing simple number-crunching to achieve minimum solvency or financial viability, and the broader ethical obligations of feasibility within the meaning of economic potential.

2. Another element that has survived and has had an impact on real estate education is the recognition that real estate analysis combines applied social science or the dynamics of behavioral systems with the physical systems of nature and of manufactured artifacts. Thus, real estate should be taught and understood in terms of ideal-seeking systems, a dynamic process, rather than a descriptive report of the status quo or some normative state with fictitious motivations and conditions of a one-dimensional economic man maximizing value in money terms.
3. Reviewers[2] of the original *Guide* commented on the importance of its holistic view of real estate, but the *Guide* itself failed to properly position feasibility as a testing of solutions within the larger subject area of problem solving. Problem solving, in turn, is generally recognized in decision theory as a subset of the activities involved in the planning process. Planning is defined as the effort to deal with sets of interacting problems as a whole. "Planning implies not only dealing holistically with a number of interacting problems, but also doing so with a prospective orientation."[3] Prospective orientation was shown by the original *Guide* to be a critical distinction between feasibility and appraisal because the feasibility analyst always represents a specific decision maker with unique and sometimes subjective standards of acceptability as compared to the appraiser, who describes the economic man with a fictitious set of traits and value systems from classic Marshallian economics. Appraisal is now recognized as a fictitious feasibility problem in best use and transactional behavior of buyers and sellers in the marketplace.[4]
4. With recognition of the holistic nature of feasibility analysis by textbook authors and real estate lecturers, there has been a general acceptance of the broad categories of interacting problems that are the subject of feasibility analysis. These subcategories and report titles, in Figure 1 [not included], also parallel the more contemporary synthesis of management systems theory originally adapted from the introductory text by Beckett.[5]

   These definitions and conceptual outlines are taken as given for the next foray into the generic area of feasibility analysis.[6]

B. Insights since 1970

Upon review of real estate investment and development procedures in the decade and a half since feasibility was first defined, one has a great sense of disappointment that the planning process, the art of problem solving, the discipline of testing alternative courses of action for feasibility, and indeed the techniques of capital budgeting and forecasting for the basic element of financial viability have not been adapted or utilized more fully by the industry. However,

the author now recognizes that feasibility within the planning process, in its attempt to reduce and eliminate conflict of a real estate decision upon others in the community and on the physical environment itself, is a question of ethics. Testing the real estate project for fit to all the elements in its context reflects special care and concern for the impact of the project on others and implies a social ethic.

On the other hand, financial viability depends only on the expectation or fact that capital contributions will eventually be refunded from revenue. Financial viability is seen only from the viewpoint of solvency and cash dividends for the investment capital source. Mortgage banking, investment banking, and indeed the American commercial banking network are amoral, seeking only an opportunity to earn a spread between the cost of funds and the income to be earned from capital in place. Those institutions which are amoral have no incentive to encourage, support, or insist on adequate and sophisticated feasibility analysis, particularly where such study might in fact reduce the number of opportunities with which to earn their spread on capital.

Far more opportunities are viable from a financial sense than are feasible from a social sense. Since in a price economy we do only that which we can finance or that which is required by our financial institutions as a condition of financing, it is small wonder that there is little interest and little money for adequate analysis of real estate proposals and issues. In fairness to the banking system, few real estate professionals[7] have been motivated to provide the best techniques of analysis to justify more preproject investment in feasibility analysis. The best work is done in the form of post-mortem diagnostics of foreclosure workouts.

However, forces at work suggest a more ethical employment of technique in the future of real estate. The power of consumerism and environmentalism has sensitized all the actors in the real estate process. The growing power of the minicomputer to focus large amounts of information on many alternative courses of action and outcomes permits efficient testing of consumer, environmental, and financial implications. Of course, the overriding emphasis upon financial viability has meant that technique in financial forecasting for capital budgeting has progressed most quickly, both in theory and in quantitative practices. One exciting exception to the industry and academic failure to link environmental and consumer data to financial alternatives is the work of the land planning firm Rahenkamp & Associates.

The reliability of input for these models has improved tenfold with the expansion of environmentally sound land planning techniques, sophisticated construction management controls, creative and sensitive marketing research, and heightened understanding of the relationship of the individual project to municipal fiscal reality. All of the various disciplines which input to the real estate process have made sizable gains in their abilities to find solutions and convert them to a financial dimension. Academic sensitivity to the relevance of these techniques to real estate has been greatly accelerated by the increased emphasis on graduate education for real estate and urban land economics.

Regrettably, these techniques have not been transmitted to the industry because the real estate industry has avoided, until recently, any participation in the development of an educational base at the university level as a prerequisite of introduction to the profession. At the university level, a young cadre of talents

from a variety of disciplines is bringing breakthroughs in civil engineering, architecture, marketing, finance, accounting, organizational theory, decision-making theory, and the art of interfacing between the individual firm and the body politic for application in real estate. As a result, there is a better understanding of the real estate process, which permits more systematic investigation with relevant results to real estate problems.

At a broader level there has been a discovery and development of literature on creative problem solving which has certainly permitted expansion of concepts, refinement of ideas, and strengthening of the relationship of real estate to the common elements of enterprise management. Any student of feasibility should include as basic reading Ackoff, Hayes, and Brandt.[8] Their works will be quoted frequently in this monograph.

As mentioned earlier, the opportunities for improvement of the feasibility process and the academic disciplines will soon find outlet in real estate but not through the traditional real estate professional societies. Traditional real estate societies for appraisal, finance, and brokerage are near collapse from internal squabbles and external economic pressures. The appraisal societies are exhausted by their failure to merge and their inability to redraft appraisal theory or even issue a single white paper to adapt old theories to new problems.

The real estate financial societies are being swept aside by the institutional monetary reforms which are shifting the traditional formats of access to capital. Real estate brokerage in the residential area is already undergoing reform through franchising and absorption into the American retailing system. Commercial brokerage is being bypassed by the major institutional investors or is being forced to restructure its modus operandi to accept declining listings and commission fees.

Real estate decision making in the future will depend upon institutional fiduciary capital, and the personal exposure to liability of the directors of these fiduciaries will force institutions to be both efficient and ethical. These pressures in turn will cause institutions to budget more adequately for professional services. These greatly expanded budgets for services will go to the professional groups that are currently trusted by the administrators of the Securities and Exchange Commission (SEC), Employee Retirement Income Security Act (ERISA), the legislators, and the courts which enforce their policies. These regulatory groups trust accountants, engineers, and teams representing scientific disciplines. Each of these professional specialty areas has relatively exhaustive standards of training prior to eligibility for practice; each has operational ethical codes of performance; and each has generated peer-group pressures as well as business practices which are supportive of the independence of the profession, at least in part, from the short-term expediencies of client relations.

Recognition of real estate investment sensitivity to the general shortage of capital for national requirements in the next decade will heighten the urgency for achieving capital efficiency with successful solutions to real estate problems and avoidance of waste in unsuccessful ventures.[9] Failure to use capital effectively and fairly will result in capital rationing to real estate as a result of widespread social and political distrust of real estate industry skills and motives. To these ends financial institutions will need to take the responsibility for thorough, systematic, and sophisticated analysis of real estate project proposals as a part

of the cost of search for investment opportunities, or share in the public distrust of real estate enterprises. The altruism of capitalism depends ultimately on the altruistic standards of its capital intermediary institutions.

The individual with sufficient scope of technical expertise, professional elan,[10] and imagination for specific problem solving may yet be produced by modernized university programs for real estate and urban land economics. Professional offices for real estate analysts will become clinics that combine the strong points of a variety of professions including physical planning, accounting, engineering, political science, market research, and environmental science. Indeed, design or the testing of a proposed program is essentially a synthesizing process.

Real estate, like any other product, is a set of interrelated parts that form a whole. It follows, therefore, that a professional office dealing with real estate problems should represent the major professions that contribute to each part of the larger project. A system of solutions to interrelated problems will always have capacities that the present compartmentalized real estate industry will lack, and will acquire powers as a system that any one individual discipline could not otherwise have. Such a clinic of professional talents is the idealized solution to what otherwise will be a political and financial power contest among various professions wishing to monopolize feasibility projects for reasons which are self-serving rather than for purposes which advance the idealized design of creative urban solutions.

C. Counselors, Feasibility Analysts, and Appraisers

Defining the basic format of the decision process generally involves several standard steps. In sequence, the steps are 1) defining the objectives of the decision maker; 2) identifying alternative courses of action available to move the decision maker toward those objectives; 3) forecasting the consequences of alternative courses of action; 4) ranking these consequences in terms of priorities with the decision maker; and 5) choosing one specific course of action to the exclusion of the others. Ranking consequences implies that each decision maker has unique standards or criteria of acceptability that vary with the capacity for the cost and stress of risk-bearing inherent in the realization that any particular set of consequences is subject to conditions of uncertainty.

Feasibility analysis is concerned with identification and testing of available alternative courses of action for adequacy of fit to objectives, limiting conditions, and environmental requirements within which the ultimate solution must operate. One amoral element of this task may be financial viability. However, just because one or more alternative courses of action are technically feasible or financially viable does not immediately imply that such courses of action are acceptable to the decision maker from his point of view.

The choice of an alternative involves correctly perceiving the problem from the unique and subjective orientation of a particular decision maker. Counseling provides assistance in that process of introspection of moving from the problem initially understood to the correct problem perceived. At the other end of the scale of professional significance is the appraiser. The appraisal process is responding to a stylized institutional format which requires fictional and oversimplified benchmarks for both definition of alternative courses of action and

motivation of a decision maker described as economic man. Standardized traditional appraisal reports have been carefully bred, like collies, to a point where standardized appearances are of greater value than the utility and functional attributes of the breed.

D. The Literature of Problem Solving

The traditional literature of the real estate industry has seldom related to the growing body of literature on innovation within the general subject of enterprise management, and particularly the related processes of planning, programming, decision making, and management theory. Over the years there has been a generous supply of literature outside the normal scope and concern of real estate that bears directly on an understanding of the issues of creative problem solving, feasibility testing, and financial viability. They have their roots in physical planning, enterprise management, and education psychology as well as institutional history.

A few of the key authors influencing the author's thoughts on feasibility subject matter, from whom we have borrowed liberally and to whom we owe much, are briefly discussed in the following paragraphs. At the same time, the books presented represent a sort of chronological development of the author's thoughts on the topic at hand.

There is great similarity between the broad concerns of feasibility analysis and the process of physical design, and the would-be analyst is urged to read *Notes on the Synthesis of Form* by Christopher Alexander (Cambridge, Mass.: Harvard University Press, 1964). The real estate analyst is testing the marketing, legal, financial, physical, and social dimensions of a real estate project. The client who is putting together a "deal," solving a land use problem, or making a real estate decision has control over only certain variables in his situation. He can give form to these variables, but this form must be compatible within the context of all those factors that he cannot change and that place demands on the solution or form he selects.

The designer speaks of the fitness of a solution to the context in which it must operate, and the basic object is to find a solution which is ideally frictionless. Context defines the problem, elements of form are attributes optional with the analyst, and form-giving is the proposed solution. Feasibility analysis is concerned with identifying and measuring the decisive elements of fit within the ensemble of context and form elements. Indeed, feasibility analysis of most projects is primarily a search for a possible material and potentially defeating misfit. A misfit represents a source of dissatisfaction or failure to achieve adequately certain objectives or to anticipate changing conditions. The process of achieving a good fit of a real estate project to the context in which its investors and the physical real estate must operate is often a negative process of neutralizing the incongruities, the irritants, or unpredictable forces in context which could cause very unsatisfactory outcomes for the space user or the space owner.

E. Problem Solving and Decision Making

There are only three types of problems encountered in the basic real estate counseling situation. The analyst may have a client with a use in search of a site,

a client with a site in search of a use, or a client in search of an opportunity to invest money in real estate. While some feel that the search of money for a real estate investment outlet is, in fact, part of the first two problems,[11] the increasing flow of funds from pensions to real estate in pursuit of commodity diversification is an example of money seeking real estate to diversify on a theoretical basis of fungibility, heterogenous risk methods, and liability for failure to meet ambiguous requirements and not for any specific utilitarian purpose.

Indeed, real estate investment today may be to create a facility to house an activity, the traditional utilitarian function; it may be to create employment opportunities for the expertise of the investor;[12] or it may be to facilitate a long-term commodity speculation in a fungible commodity called space-time, such as square feet of Class A office space, cubic feet of light industrial warehouse space, or room nights in a franchise motel. Managed money may seek real estate for attributes which have nothing to do directly with traits of land and building, but rather because of strategic attributes related to price and commodity phenomena not directly related to traditional real estate attributes.[13]

It is useful in conceptualizing the nature of a problem to subdivide it into five types of components, as suggested by Ackoff.[14] His five components are

1. The decision maker—the person or persons faced with the problem, as a group or individual.
2. The controllable variables—those aspects of the problem situation the decision maker can control.
3. The uncontrolled variables—those aspects of the problem situation the decision maker cannot control but which, together with the controlled variables, can affect the outcome of his choice. The uncontrolled variables may be quantitative or qualitative, but together they define the problem environment, in the language of Ackoff, or the context, in the language of Christopher Alexander.
4. Constraints imposed from within or without on the values of the controlled and uncontrolled variables. For example, the consumer places a limit on how much he is willing to pay for rent, although rent levels themselves are often set by cost factors beyond his control.
5. The possible outcomes produced jointly by the decision maker's choice and the uncontrolled variable.

Choice exists so long as there are two alternate courses of action available or where there are two possible outcomes of equal value or where different courses of action have different levels of effectiveness. In effect, a problem is a concept of the choice, and the decision maker attempts to resolve the problem as he has conceived it. If his conception is wrong, if his understanding of choices is incomplete, or if he fails to perceive the real essence so that he treats the symptoms rather than the cause, he will fail more often "to face the right problem than fail to solve the problem we face." Ackoff's conception of a problem has the general formula:

The value of the outcome = A specified relationship between the controlled variables and the uncontrolled variables.[15]

Again, in the language of Ackoff, there is a distinction between solution of a problem, resolution of a problem, and dissolution of a problem.

Miles[16] has indicated that one weakness in the previous *Guide* was the author's preference for satisficing, rather than optimizing, because of the large number of uncontrollable variables in real estate. The Ackoff definition neatly dissolves this debate:

> A problem is said to be *solved* when the decision maker selects those values of the controlled variables which maximize the value of the outcome; that is, when he has optimized. If he selects values of the controlled variables that do not maximize the value of the outcome but produce an outcome that is good enough, he has *resolved* the problem by satisficing. There is a third possibility: he may *dissolve* the problem. This is accomplished by changing his values so that the choices available are no longer meaningful. For example, the problem of selecting a new car may be dissolved by deciding that the use of public transportation is better than driving oneself. It may also be dissolved by moving to within walking distance from work so that driving is no longer required. We use "solving" loosely to cover all three alternatives.[17]

This logical progression parallels a second hierarchy in the narrower topic of financial viability in which we argue that the first element of financial planning is to achieve solvency, i.e., dissolve the problem of failure; the second level of refinement is to achieve an adequate cash flow to provide a threshold of acceptable profit; the final iteration of refinement is to maximize profit through careful structuring and iterative adjustments of the enterprise.[18]

The implication for the feasibility analyst is that he must first properly define and frame the problem before he can adequately test alternative courses of action for fit. In any situation the elements which are controllable or uncontrollable may shift. In one case, zoning on a particular lot may be unchangeable and the slightest variance politically unavailable. In another situation, the zoning need not be taken for granted but may be manageable where the objectives of the body politic and the individual landowner can both be advanced by a change in the zoning.[19] Hence, the ultimate definition of the enterprise is found, as previously defined by Beckett, to exist in the power of management to modify the decision environment within which it must operate.

Feasibility analysis and the social dynamics of organization strategy and values must be stressed at each level of planning, problem solving, and testing of alternative courses of action. At the very highest level of business planning and value recognition is the text, growing out of a course at the Stanford School of Business, called *Strategic Planning in Emerging Companies*, by Steven C. Brandt.[20] Much would be lost by recapping his discussions on dimensions of strategic planning, the selection of planning units, or the hierarchy of planning units. His discussions on putting excellence into management and the cultivation of a corporate culture articulate our concern for a business ethic in real estate ventures.

However, at this point it is worth emphasizing his emphasis on the search for the competitive advantage, which can be reduced to four basic strategies. There is technical superiority; there is the premium for quality; there is the ploy of providing a primary advantage in terms of supporting services including broad inventories, quick delivery, and customer service. Of course, price is an element

of strategy as well. In real estate we might add that pace is also a competitive strategy, given the susceptibility of any local market to saturation.

Many have written on the techniques of problem solving in the process of implementing strategic and tactical plans, and many of them have alluded to the relationship between learning strategies and problem-solving strategies. For example, J. J. Gordon and Tony Pose have accomplished wide application of the concepts detailed in *Synectics,*[21] which builds on the need for the teacher to convert the new and the strange concept to something already familiar to the student by means of analogy, sometimes an extended analogy to bridge the gap in perspective.

Similarly, the problem solver, frustrated by inadequate solutions to a given problem, can refresh and extend his perspective by use of analogies, poetic contradictions, and restatement of the problem to reverse it. For example, a small specialty restaurant with a limited menu found it necessary to expand its menu choices and price range, necessitating expansion of cooler space, which seemed expensive and awkward in its well-established location. By reversing the problem to see it as a problem in eliminating the need for storage space while expanding the menu, it was discovered that wholesalers could be forced by negotiation to deliver more frequently while still permitting prices to reflect semiannual volumes. Some creative thinkers would classify this reversal as simply challenging the implicit assumption that purchasing policies would have to remain fixed; others would see this as a technique in problem dissolution by expanding the frame of reference from square footage to operations and the activity to be enclosed; still others would simply see this as moving from the problem perceived to the problem understood.

Whatever the technique for systematic recasting of the problem which leads to resolution or solution, it is important to realize that there are techniques which increase the probability of a creative answer to the problem. One of the richest compendiums of techniques and succinct discussion of the cognitive processes of creativity is a book by John R. Hayes called *The Complete Problem Solver,*[22] a text growing out of the search for a way to teach problem-solving skills at Carnegie-Mellon University. Creativity has been defined by Hayes as "a special kind of problem solving, that is the act of solving an ill-defined problem. . . . Ill-defined problems are ones which require problem solvers to contribute to the definition of the problem from their own resources."[23]

Having stumbled past the temerity of the title, the author discovered systematic discussion of elements only intuitively understood and utilized before. Of particular merit is the section on problem solving which emphasizes the need to represent a problem with doodles, flow charts, simple diagrams, and other visual, auditory, or other communications. It further elaborates on the need to externally represent the goal, the initial state of affairs, differences between the current state of affairs and the goal, restrictions in moving toward the goal, and operators available to advance affairs toward the goal. Of particular value are chapters dealing with chance in decision making due to risk where probabilities can be calculated, uncertainty where circumstances do not permit calculation of probabilities, or conflict where one decision may initiate countermoves by the competition or antagonist. Under these circumstances, Hayes develops four strategies:

1. The mini-max strategy, which assumes that "nature is against us," so that the object is to choose the strategy that will minimize the disaster, although it has the unfortunate property that it may also eliminate the best possible outcome.
2. The maxi-max strategy that chooses the course of action which could provide the best of the best possible outcomes (but it does not defend you against the possibility of enjoying the worst possible outcome).
3. The Hurwicz strategy allows a compromise between the very pessimistic and the very optimistic strategies above while allowing one to modify the probabilities with a factor for the level of optimism or pessimism of the decision maker.[24]
4. The fourth strategy is perhaps the most significant for practitioners of real estate investment and is referred to as the strategy of minimizing maximum regret (MMR). One may phase a real estate project to avoid the maximum loss of not renting a portion of the project. One may buy insurance with regret about the loss of premium to that insurance company and damn agent to avoid the maximum regret in the unlikely event the house burned down without insurance.

The chapter on making decisions in a complex world under conditions of certainty not only emphasizes getting your facts straight but is an excellent review and comparison of techniques everyone uses in one fashion or another, although perhaps not as systematically as they might. The reader is referred to Chapter 7 of *The Complete Problem Solver* for detailed application to a real estate example involving selection of an apartment for a student given incomplete information (pp. 145–157). The effort of doing the exercises contained in Chapter 7 may be the first time the professional counselors in real estate discovered there are systematic decision-making methods for real estate other than simple-minded, retarded economic man.

F. The Linking of Real Estate Feasibility to Planning and Problem Solving

The real estate process as defined in Chapter 2 below provides a simplified system of interacting problems and orientations which serve as the framework for the planning process within which individual enterprises are attempting to solve real estate problems. The better one understands the interacting subsystems of the real estate process, the less ill-defined will be the problems for which creative solutions must be identified and tested for feasibility. At the same time, recognition that each of the subsystems in the real estate process is a decision-making enterprise with its own objectives, limitations, and standards permits some initial classification of various feasibility problems into decisions under conditions of certainty or risk. In the case of risk, from proposed scenario of action or inaction, the subsystem classification as behavioral, natural, or artificial will suggest if the risk is primarily from probabilities, uncertainties, or conflicting protagonist-antagonists.

As noted earlier, the various actors will need assistance from time to time on one aspect or another of the hierarchy of enterprise decision steps, and the probable response is a report *in genre* of a feasibility study or a prophecy *in genre*

of a review of chicken entrails. Feasibility reports are preferred because real estate requires far more guts than running the Roman army.

Chapter 2.
The Real Estate Process

Real estate can be defined generally as space delineated by man, relative to a fixed geography, intended to contain an activity for a specific period of time. To the three dimensions of space (length, width, and height), then, real estate has a fourth dimension—time for possession and benefit. This can be referred to as a *space-time* characteristic. The space-time concept is illustrated by the terms apartment per month, motel rooms per night, square footage per year, and tennis courts per hour. A fundamental element in real estate is that any space-time unit has a corresponding monetary value. While many of the value judgments and debates about real estate projects relate to elusive criteria of what is good and beautiful, in a money economy the ultimate criterion is cash.

The creation and management of space-time units is termed real estate development. Real estate developments range from a simple cave to the complex technology of the Park Avenue skyscraper. Like a manufactured product, a real estate project is part of a larger physical system programmed to achieve long-term objectives, but each real estate project is also a small business enterprise of its own. Thus, the development process is a continuum of construction technology, financing, marketing skills, administrative controls, and rehabilitation required to operate the real estate enterprise over many years.

Real estate development also is a complex, collective process, not only accommodating an activity within the parcel, but also adapting to the context of a specific surrounding environment, involving different personalities and interest groups as well as limited resources. The political and social process required to produce a real estate product must consider a diversity of impacts to find equitable reconciliation between who pays and who benefits.

A. Basic Real Estate Relationships

The real estate process is the constant interaction of three groups—space users (consumers), space producers (those with site-specific expertise), and public infrastructures (off-site services and facilities).

The *space consumer group* includes *individual space users* attempting to rent or buy real estate space to house their specific needs. This group operates individually in the marketplace. The individuals' goals are to survive and to improve their sense of satisfaction and security, using their own funds. In order to achieve the unique combination of attributes each desires, there are trade-offs, such as location, space, and operating cost, that must be made and which influence real estate decisions.

Collective users generally pursue their interests in real estate activity through the political systems that purchase open space, provide for public infrastructures, or regulate space production with pooled funds from taxes, bonding, etc. *Future users* are typically represented by proxy—either by developers, to anticipate the need to change the use of a building in the future, or by the judiciary or

special interest groups, who perceive some trusteeship of the land for future generations. Provision for future users is a hidden charge to present consumers.

The *space production group* includes all forms of expertise necessary to convert from space-time requirements to money-time. The system includes those who assemble the capital and those who prepare materials as well as those who contribute to the assembly of these on site. Architect and mortgage banker, lumberman and lawyer, city planner and hotel manager are all in the real estate business. The real estate business includes any person with expertise in creating and maintaining spaces to house activities of space users in the marketplace.

The *public infrastructure group* includes all those enterprises that provide a network of tangible and intangible off-site systems for the individual space user, including physical networks of streets and sewers and other utilities; services like education, police, and fire; and operational systems for deed registration, governmental regulation, adjudication, and all forms of economic activity with efficiencies of scale that suggest collective off-site action. Note that the difference between space production and public infrastructure has nothing to do with private or public ownership, since private companies may provide utilities and public agencies may develop real estate. Necessary services, like sewer and water, schools and libraries, become elements of infrastructure when there are economies of scale to be enjoyed through collective action of many parcels, leading to off-site centralization.

B. Cash Solvency—The Critical Common Concern

Each of these three functional groups, and any subgroup therein, represents an organized, rational undertaking, called an *enterprise* in the language of systems.[25] In an industrial society, each enterprise is a cash-cycle operation. Each begins with certain cash resources with which to purchase raw materials and services, to add value through expertise, and to exchange finished inventory for accounts receivable and back to cash. Most such enterprises, whether a hospital, a city, a household, a university, or a single student, are not attempting to make a profit, but each and every enterprise is constrained by the need to maintain cash solvency, both in the short and the long term, or become bankrupt.

Cash solvency of each enterprise in the total process, not maximization of value, is the pivotal issue of survival and the one measure of self-interest that all these conflicting entities have in common. Only a few enterprises are intended to be profit oriented. Cities, school districts, and homebuilders are all cash-cycle enterprises. Of course, solvency *plus a surplus* at the end of a year can mean the city manager, the hospital director, and the homebuilder will enjoy praise, trust, and greater latitude to try new things from their city council, hospital board, or bank loan committee. Cash solvency is a continuing test of management and cash surplus the measure of survival risk as well as managerial skill.

Therefore, a basic axiom for determining real estate actions is that a desirable real estate program permits maximum satisfaction of the consumer within an affordable price structure, while respecting environmental limits of the natural resources and permitting the public infrastructure and space production groups to achieve cash solvency. *Cash solvency* is defined as that point where cash resources from income and financing are exactly equal to cash obligation

for operating expenses, property taxes, and interest and principal payments on debt. Because cash inadequate to pay interest and principal payments implies default on loan contracts, the cash break-even point is often termed the *default point* in financial planning. Several important implications of this view of the real estate process are these:

1. The true profit centers in the real estate development process are in payment for services or the value added to the cost of materials and services by the expertise of the developer in producing space-time units which contribute to the efficiency and pleasure of the activities enclosed.
2. Equity ownership is the degree to which any one enterprise can control or divert cash flows from a real estate project to compensate for its contribution of land, materials, money, and/or expertise.
3. Since the public has constitutional rights to divert cash productivity of the property via real estate tax and user fees, the public has direct ownership of every taxable parcel to some degree, is a preferred partner in the ownership structure, and possesses real assets in terms of taxes, net service costs, and user fees.[26]
4. Site selection represents a consensus of cash-cycle forces, with the cost of site preparation acceptable within solvency limits, which are determined by rent levels, real estate taxes, and an infinite number of factors reflecting the economic characteristics of the user, the producer, and the cost of infrastructure services at alternative sites.
5. Control of land through ownership, option, or alliance can control who in a real estate project will be hired, what materials will be purchased, and where all the cash flows generated by development and management can be directed. That is why architects, mortgage bankers, public authorities, and cities become developers—to capture some small percentage of the cash flow benefits to their enterprises.

C. Land versus Location

Land is not location, property rights, or the most important aspect of a project site; instead, land is a natural resource upon which real estate decisions come to bear. It is those geologic strata which can be brought under the control of man to bear his structures. It is a finite resource that can be exhausted by extractive industries, destroyed by seismic and ocean upheaval, or wasted by ignorance of its processes. It is a limiting factor in development and both a reference and a bearing point for space-time units.

The physical land attributes—with legal-political constraints, linkage attributes that define location, dynamic attributes that exist in the eye of the beholder (such as prestige, anxiety, and claustrophobia), and attributes of a larger environmental system—are situs factors which create a site.

Location[27] is often identified as the critical factor in a site, but it is seldom understood that location value is related to the functional needs of the activity and not the site. The family unit is a common example of multiple functions involving employment, school, shopping, and recreation. The family chooses a home site that balances convenience against the cost of inconvenience. Each relationship between a household and another point requires movement of

persons, goods, or messages. This is termed a *linkage,* and the time, stress, and dollar costs involved are referred to as the *costs of friction*. Each establishment seeks a location defined as a set of linkages that will minimize these costs. As the costs of energy, congestion, and time have risen for commuters and the need for suburban school linkages has diminished, the opportunity for reducing costs of friction by trading the house in the suburbs for a condominium downtown has been transferred into rent or the price of a condominium.

Rent differentials for location reflect market recognition of perceived costs of friction to desired amenities. Therefore, locational value is in the mind of the space user rather than inherent in the land, and demand pressures on land shift as perceptions of convenience shift. Of course, movements of goods and services and people often employ networks of pipes, paving, and wires directly to the site so that some linkages become physically set due to economies of scale in reducing the costs of friction. Some communities have expanded the web of physical linkages to include pneumatic-tube garbage collection, centralized heating and cooling, cable TV, skyway systems, and pedestrian tunnels. However, most linkage relationships are subtle, systematic, behavioral patterns that require a thorough understanding of particular establishments and are the basis for marketing.

D. Linkages, Location, and Cash Cycles

Location as an attribute of the establishment rather than of a physical site can be understood by a look at simple financial plans of hypothetical industrial, retail, and household establishments. In Figure 2 [not included] the relative revenues and expenses of two plant locations are presented. Notice that the linkages in each community to customers provide different sales estimates, while expenses also are altered by the proximity of each site to raw materials, distribution points, and the availability of labor pools with different expectations of hourly wages, vacation time, and benefits. Indeed, benefit costs may be lower because the average age of the population in site B is much lower than in site A, with resultant reduced hospital costs, pension costs, and prerogatives of long-time seniority.

On the other hand, administrative salaries are higher to compensate executives for doing without certain amenities not available in a small town, such as a country club, a parish school, or diverse medical services. Real estate taxes may be minimal because government services are much less comprehensive, and fire insurance may be higher due to a remote fire station. Utilities may be lower because of linkages to hydroelectric power rather than coal-fired plants for site A. Even the capital costs are modified by the intensity of nearby land development and the willingness of state governments to subsidize the costs of relocation. All these factors are linkages for an industrial establishment which alters its cash flow, business and financial risks, and profitability. In theory, it could pay more for site B because of the increment in the efficiency of its operations.

The retail store location example in Figure 3 [not included] depends on its linkages to families in the trade area which have both the income and inclination to visit a particular store or supermarket. The relationship to the store to other nearby retail establishments may generate traffic volume and attract customers, or may intercept customers from the potential trade area. A potential linkage to

a flow of passing customers can be subtly strengthened by a stoplight or a right-hand turn lane or devastated by a median strip which cuts off the linkage of a particular store site to traffic lanes going by.

A great number of linkage relationships will affect potential sales for the store, and that factor in turn controls the acceptable rent levels, capital budgets, and store sites in the real estate process. Notice that any particular retail store can pay a premium for a site where the linkages are expected to produce more than average penetration into a potential consumer group passing by or living in the vicinity.

Some retail establishments need multistate linkages by interstate or airline, such as Disney World or ski resorts in Colorado. In Vancouver a development company owned the north shore of Howe Sound but the only linkage was a ferryboat, so the property was relatively worthless despite its views and southern exposure. A suspension bridge two-thirds the size of the Golden Gate was built, and Lion's Gate Bridge became the critical linkage to create land of immense value for homes and businesses.

Many of the most subtle linkages are involved in selecting a housing unit for the family household. Linkages of the home site in terms of density per acre and a prestigious location must be traded off with neighborhoods which have homes of different sizes and quality in order to arrive at a monthly housing cost which is acceptable within the cash limits of the household. The family is tempted to strain the cash budget because the house purchase is perceived as a major investment opportunity that may provide significant capital appreciation. This capital gain is thought to reduce their net housing cost below that of rental alternatives in the long term. Combine net housing costs with costs of transportation to work, play, and shopping, and with possible costs of poor schools or exposure to natural disaster, and the choice of a house becomes a problem.

E. Cash Cycle of the User versus Cash Cycle Of the Collective Consumer

The solutions to real estate problems, like most other problems, have an impact on many others as well as the problem solver, or initial user. It is necessary to anticipate the responses of this collective group to identify correctly the consequences of an alternate course of action. Unfortunately, planners, developers, and others who have authority to make land use decisions generally assume they understand the others and know their objectives.

As Ackoff has pointed out,[28] this assumption is often in error, the alternative outcome is unexpected, and the collective behavior is deemed irrational. Nevertheless, the perversity and irrationality of the collective consumer group is generally in the mind of the beholder and critic, while the behavior is quite consistent with the popular premise of reducing expenses and increasing net worth.

Public decision groups, like city councils, school boards, and county governments, often fail to recognize the relationship between the cost of their decisions and the true cost of land: the land cost is out of one pocketbook, while the costs of friction are shifted to others who may not vote in their district. Consider the community college district which purchases a cheap rural site

rather than assembling a more expensive urban campus because the five rural counties in the district can outvote the single urban center. While capital costs to the community college funds are reduced, there is a significant increase in the total ongoing cost to students who must commute long distances to school and part-time jobs, to the urban community in underutilized residential land, and to retail real estate near the abandoned old campus.

More recently, natural resources are becoming scarcer due to population pressures, depletion, and occasional misuse in the past. Mindful of this, Congress passed the National Environmental Policy Act in 1969. Its purpose was to prevent or minimize damage to the environment by new industrial and residential development for the benefit of all present and future consumers. To implement this act, most state and local governments now require an Environmental Impact Statement (EIS) for all proposed large developments. A carefully researched EIS may sometimes help both the developer and the city planner by pinpointing major problem areas and suggesting alternative courses of action. An inadequately researched statement can waste everyone's time and money, either during the planning stage or later during the project's use. Generally, a shorter environmental impact evaluation of critical issues is the most cost effective.

Recently, many planning departments and conservationists have used the EIS and other provisions of the 1969 act to thwart growth in their cities and towns, which was not the original intent of the act.[29] MIT professor Bernard Frieden warns that a new "exclusionism" is surfacing across the country. Where the old exclusionism attempted to exclude only low-cost housing in an effort to keep out minorities and the poor, this new exclusionism attempts to keep out everyone—rich, poor, and middle class alike. This restriction on growth, especially in the suburbs and infill areas of the cities, Frieden claims, results in higher prices for housing, reduced choice of housing location, and longer commuting distances, and it discourages carefully planned developments by the large developers. In the same vein, political use of infrastructure systems has become an oblique and debatable extension of land use control law for exclusionary purposes.

The collective consumers are moralistic in public statements but are generally motivated to enhance their own cash positions. For example, in a city south of San Francisco, Palo Alto, further residential growth would require present homeowners to share the subsidy from the industrial tax base for residential services with new residents. Thus they voted to commit 7,000 acres of development land to open space, estates, and some new industrial parks in the name of environmental quality. The monopoly created by growth management causes home prices to skyrocket, to the advantage of existing residents.

The exclusionary zoning may make it unnecessary to expand the sewer and water facilities, which would have to be financed by raising everyone's water service fees. Those who benefit as existing residents control local votes, and those who must ultimately pay monopoly prices have no standing to vote. Thus the collective consumer will operate to block or imbalance development to protect his short-term cash interest; by the same token, the collective consumer as a builder of public facilities often thinks only of its own budget and not of the shift of hidden costs to consumers and taxpayers.

The one-time customer for a new real estate development becomes a long-term customer for the public infrastructure which supports the develop-

ment site. Each home constructed creates a new customer for the water service, the school system, and the fire department, and generates revenue in the form of meter charges for utilities, real estate taxes, and other receipts such as a share of gasoline taxes for street maintenance and state aid for education based on a per-student formula. There are secondary revenues, albeit indirect, in terms of increased retail sales levels, commercial land values and assessments and, therefore, real estate taxes on ancillary uses.

No aspect of cash forecasting is more difficult than fiscal planning for the impact on revenues and service expenses of alternative land use plans, but much has been learned in recent years about the techniques of forecasting cash-cycle implications of alternative development.[30] In the past, there was a tendency to oversimplify revenue/cost implications with broad generalizations: mobile home parks presumably had low assessed value but high education cost burdens and high service cost implications for welfare and security; everybody knew that industrial plants produced far more tax revenue than required for service costs, since there were no children to educate or streets to plow in winter. However, industrial plants attracted workers at wage scales that could finance only mobile homes and contributed to highway congestion, which led to street-widening programs. The combination of new residents and new jobs was the final burden on the sewer and water systems and required an expansion of the processing plant and well system to anticipate growth for the next 10 years.

How does one allocate the current costs for expanding the water system and the street capacity between residential and industrial users and further subdivide the burden between present and future users? Fiscal zoning of land use mix within a community requires open-minded flexibility to balance cash revenues and cash expenses with mixed-use planning concepts and multiple development proposals spanning different development times.[31] A new industrial plant may create a tax surplus that will be consumed in providing services for new residents hoping to work at the plant. But these new residents in turn will prompt commercial development, which will further expand the tax base and may restore some real estate tax surplus five to seven years after construction of the first new plant. Recognition of the interplay between the land use mix and local fiscal concerns has made the Philadelphia firm of Rahenkamp and Associates a prototype clinic of physical planning, financial forecasting, and the law of land use.[32] The interplay over time between cash cycles of users, collective users, and the infrastructure system is the base for the interface between economics and property rights.

F. Most Fitting and Most Probable Use

Until recently the economic theory of real estate decision making was built on the premise that the system was committed to finding the private use of a parcel of land that would maximize the owner's wealth by being the most profitable use of the site's physical land. Presumably, the only criterion was profit—hence, the cryptic term "highest." As an inheritance from Adam Smith, there was the further presumption that maximum profit was "best" for society. Actually, the allocation of land to those who would pay the most or develop it most intensively was characteristic of 19th century America, when society needed

to reward those who would modify the frontier to accommodate a rush of immigrants. At the same time, society had not melded to a point where it could find a consensus on land use priorities and social objectives.

However, it was only as recently as 1975 that the fundamental economic premise of "highest and best use" was redefined as that use on a given date that could be selected as most profitable from reasonable and probable alternatives that were physically possible, legally permissible, and financially viable, given a specific level of effective demand and costs of production.[33] The official definition further made it explicit that wealth maximization was to be qualified by recognition of how a specific use would contribute to community environment and community development goals.

Thus it has been recognized that the development of each parcel must be considered within a larger system and pattern of land uses. The frequent use of the words "reasonable and probable" reveals a recognition of many of the uncertainties that attend assumptions required in the decision to use and develop a parcel. At best, however, the term "highest and best use" is an anachronism from laissez-faire attitudes of the 19th century that have undergone an evolution in meaning, like the concept of fee-simple title. At worst, it implies certainty of one man's judgment, a one-dimensional measure of the adequacy of a development concept and cash for the landowner even when it is apparent that there are many vested interests in the cash flows that are affected by a given land use decision. Therefore, it is useful to replace this terminology with the terminology of "most fitting use" and "most probable use."

Any decision process requires identification of alternative courses of action and their consequences, and the consequences must then be evaluated and ranked in terms of their acceptability and probability to choose the appropriate plan of action. Typically, a set of consequences is compared to some set of standards which defines the acceptable, the undesirable, and the unthinkable. These standards can be somewhat altruistic, or what might be defined as the norms toward which a society is striving.

The concept of *most fitting use* is normative, that is, the optimal reconciliation of affected consumer demands, the cost of production, the cost of infrastructure services, and the fiscal and environmental impact on third parties. Reconciliation involves financial impact analysis of who pays and who benefits in cash terms as well as compatibility analysis of the collective consumer's perception of environmental quality and impact on the good life—elusive standards at best. The concept of most fitting use assumes the goals and limitations have been well defined and that misfits between proposed solution and standards can be recognized.

However, it is dangerous to dismiss the ideal because it is impractical or unattainable for the moment. Many problem-[solving approaches] are *reactive*, states Ackoff.[34] We respond to dissatisfaction and irritation with the current state of affairs which leads us "to walk into the future facing the past—we move away from, rather than toward, something. This often results in unforeseen consequences that are more distasteful than the deficiencies removed." Recall DDT.

Problem solving can be *proactive*—by specifying the ideal or ultimate outcome and then looking for ways to move in that direction. Once again quoting Ackoff, "The more ultimate the desired outcome we specify, the more likely we are to consider the intermediate and long-run consequences of our immediate

actions. The more immediate the source of dissatisfaction we try to get rid of, the less likely we are to take account of relevant consequences. Therefore, *the chances of overlooking relevant consequences are minimized when we formulate a problem in terms of approaching one or more ideals.*"[35] Ackoff also states, "Because focusing on an ideal reveals the relationships between different things that can be done in the future, it tends to make us deal simultaneously with sets of interacting threats and opportunities, to treat them as a whole, as a *system of problems*. The effort to deal with sets of interacting problems as a whole is what *planning*, in contrast to problem solving, should be about."[36]

The principal obstruction in most proactive plans is man himself. Since idealized design is capable of mobilizing a collective effort to obtain it, containing the capacity of finding intermediate solutions, and producing a consensus of those involved, idealized design can remove many self-imposed constraints which frustrate recognition of alternative solutions.

Experience tells us that most plans, development or otherwise, fall short of the ideal. This tendency is implied by the concept of *most probable use*. Most probable use is that alternative course of action which is closest to being the most fitting use while recognizing strong constraints imposed by current political factors, real estate technology, the personalities and talents responsible, the money market, and short-term solvency pressures on consumer, producer, and public infrastructure.

Any enterprise is a compromise because the form it takes, in terms of both its configuration and its behavior, reflects a negotiated consensus between two general sources of power—the power of its environment to dictate form and the power of the organization itself to decide what its characteristics and behavior will be.[37] In the process of development, the elements of law, public infrastructure, and consumer preference are the external forces affecting behavior, and the ability to respond from within the organization is a function of talent, money, and political skills.

G. Conditions of Uncertainty in Problem Solving

All parties in the development process must accept significant levels of uncertainty about the cash budgets and other expectations as each enters the development process with a set of assumptions about the future in a society that has been changing at an accelerating rate. The amount of uncertainty for an enterprise varies according to its needs and income.

The homebuyer expects to have the same job and the same family needs and disposable income for at least several years but must organize family finances through insurance and savings to anticipate unemployment, illness, and even death. The pushcart vendor can change his location, his prices, his product mix of flowers and bouquets almost hourly and clean out his inventory by evening. Should he be unsatisfied with his business, he can convert from flowers to scrap collection or popcorn sales the very next day, unless frustrated by municipal permits. The retailer needs six months to re-form his inventory to changing consumer tastes, and the manufacturer needs five years to research and develop a new product line or relocate his plant.

But the real estate developer is locked into a specific location with an immovable inventory of room nights, apartment months, or square feet of leasable area that must be priced and sold many times, for as long as 25 years, before the total capital investment is recovered. That is a unique risk management assignment, and the developer who succeeds most often is the one who takes most care to validate the assumptions over which he has some control and to cushion the enterprise with tolerance for surprise and those changing conditions over which there is little control. The real estate process is concerned with identifying the explicit and implicit assumptions on which each consumer group, each infrastructure, and each production element of expertise is operating, to allocate risks among those who benefit and those who pay each development alternative.

Control of this variance is called risk management. There is a continual refining of assumptions to convert as much speculation to fact as is possible and to provide tolerance for the uncontrollable surprises. Risk management is not only a philosophy of inquiry and problem solving, but also a primary objective of market research, of contract negotiation, and of strategic positioning of any enterprise or investment selection pattern.

H. Basic Risk Management Techniques

Aside from the outright avoidance or acceptance of the unknown, the business risk situation can be improved through application of one of the following techniques:

1. *Improving forecasts* through statistical research of the critical facts. For example, the reliability of a forecast is improved by increasing the sample size (the standard error of the estimate is reduced by the square root of the expansion in the sample size). While not all real estate research is statistical research, nevertheless, the general principle at the exposure to surprise can be reduced by knowing more about the problem in a systematic fashion. Survey research of the consumer, soil testing, and quality control of materials are all elements of risk reduction through research and information processing.
2. *Combining risks* by pooling resources, by diversifying investments, and by improving forecasting through scale of operations. A four-unit apartment with a single vacancy has lost 25 percent of its income, while a 100-unit building with 10 vacancies has a 10 percent vacancy loss to gross income, a far more stable situation.
3. *Shifting risks* by insurance contract, accepting the small certain loss of an insurance premium rather than the unpredictable loss of unknown frequency and severity of some insurance catastrophe like fire, collapse, death, or disability. Most static risks—contingencies which are sudden, external, random, and unpredictable as to time—are insurable.
4. *Shifting risks by two-party contract.* The escalator clause in leases is a classic example of shifting the variance in rising operating expenses or real estate taxes to the tenant; the construction contract shifts some of the risk of rising material and labor prices to the general contractor, but in recent years there has been hard bargaining so that developer and contractor each share a part of the risk. Careful study of development ventures between private and public

agencies will show that the majority of the contract is allocating responsibility for political administration or construction according to the expertise of each. For the dynamic risks of management, the best controls are the pains of penalties for the failure to perform and the profits that go with expertise in the execution of a plan.

5. *Limiting liability for losses* through the form of ownership as a corporation or limited partnership or exculpatory clauses (which says the lender can take the property only in case of foreclosure) with which one party releases a second from an obligation to perform or for damages as a result of failure to perform.
6. *Hedging* is a term which covers a wide variety of devices for protecting oneself against future price fluctuations or other future contingencies. For example, a buyer can make an offer to purchase, contingent on future realization of political approvals, financing, or other requirements. An option to buy, an option to repurchase, or a variable-interest-rate mortgage are forms of hedges. The classic hedge in real estate is a mortgage loan for nearly 100 percent of the development cost without personal endorsements. If the project succeeds, the borrower can call out the equity profits by selling the property and paying the loan from the proceeds. On the other hand, should cash flows and appreciation prove inadequate, the borrower can default on the mortgage and *give up* the property to the lender through foreclosure or voluntary conveyance of deed in lieu of foreclosure. Business censure for mortgage default, while still damaging to the developer, has weakened significantly in recent years.

Not only do the parties to the development process seek to arrange the best possible solution to their problems, but also they must anticipate the many less favorable alternative outcomes to a given set of assumptions in order to survive an upset of their plans.

I. Time as a Critical Risk Element

The passing of time is the most critical risk in the development process. Time permits the power of compound interest to erode the developer's resources, and it allows the conditions of competition and consumer needs which were true when the project started to change significantly. Perhaps it is the impact of compound interest which is least understood by most government regulators and most often used for extortion by those few who do understand it. Remember that a project with $1,000,000 invested at a nominal construction interest rate as low as 12 percent per annum is costing $10,000 interest for the first month ($333 a day), and then $11,200 the second month, etc. If the developer had hoped for a net profit of $50,000, a total delay of four months in completing the project not only will cause the loss of that profit in additional interest charges, but also may give the tenant the right to renegotiate more expensive terms than those in the original commitment and a competitor the opportunity to finish first and capture the market.

As money and time are expended on the project, time becomes of the essence in achieving expected revenues from sales and rentals. Thus, it is not uncommon to see tall buildings where the top floors are still being constructed while the bottom floors are already receiving tenants. In a slow office market, it

may be cheaper to build three 100,000-square-foot buildings, one after the other, rather than a single large 300,000-square-foot building where the economies of scale can be lost quickly to the cost of carrying a vacant inventory of space.

It is a customer and the rate at which customers absorb space that drives the cash-cycle development process. A careful study of each market segment for demographic characteristics, the needs and motivations of the consumer, his priorities for a finished product, and the price he would be willing to pay is merchandising research. American developers have tended to neglect marketing research in risk management in favor of faster construction methods and more elaborate contract allocations of risk among money partners and government agencies. Nevertheless, cash from rapid occupancy or sales turnover of inventory as a result of careful research is the best method for reducing the relentless pressure of compound interest.

Notes

Editor's note: Many of the complete references were filled in by the editor whenever possible.

1. Byrl N. Boyce, *Real Estate Appraisal Terminology*, 2d edition (Cambridge, Mass.: Ballinger Publishing Co., 1981), p. 101.

2. Mike Miles, *A Conceptual and Computer Model for the Analysis and Management of Risk in the RED Process* (Austin, Tex.: University of Texas Press, 1976). Dissertation.

3. Russell L. Ackoff, *The Art of Problem Solving* (New York: John Wiley & Sons), 1978.

4. See Lynn Woodward, who has accurately recorded the author's views, in *The Appraisal Journal*, Summer 1982.

5. John A. Beckett, *Management Dynamics: The New Synthesis* (New York: McGraw-Hill, 1971).

6. "Feasibility" is a generic term, like theft, which covers a multitude of sins and requires specification of particulars before determining the charge to be made—a double entendre attributed to Steve Pyhrr and James Cooper, who had seen James Vernor's notes of a seminar by the author, a specialist in the oblique.

7. Ralph Nader has properly noted that true professionals are obligated to employ the best techniques, whether requested by the client or not. Perhaps "professional" is another generic term, like theft.

8. Ackoff, *The Art of Problem Solving*; John R. Hayes, *The Complete Problem Solver* (Philadelphia: The Franklin Institute, 1981); and Steven C. Brandt, *Strategic Planning in Emerging Companies* (Reading, Mass.: Addison-Wesley Publishing Company, 1981).

9. Stephen E. Roulac, *Modern Real Estate Investment: An Institutional Approach* (San Francisco: Property Press, 1976).

10. Ackoff has pointed out that educators generally produce only competence, communicativeness, and concern, while the characteristics that make for outstanding managers are courage and creativity (p. 1).

11. Stephen D. Messner, Byrl N. Boyce, Harold G. Trimble, and Robert L. Ward, *Analyzing Real Estate Opportunities: Market and Feasibility Studies* (Englewood Cliffs, N.J.: Prentice-Hall, 1977).

12. A real estate developer may pursue a project to provide work for his staff or control a customer for his architectural or mortgage banking services.

13. An office building purchased with a small downpayment on a land contract is a commodity purchased for future delivery to speculate on rising costs to construct a square foot of space, rising rents per square foot, or falling interest rates per dollar, all fungible commodities in a long-term business cycle.

14. Ackoff, *The Art of Problem Solving*, pp. 11, 12.

15. Ibid., p. 13.

16. Miles, *A Conceptual and Computer Model*.

17. Ackoff, *The Art of Problem Solving*, p. 13.

18. Original manuscript contained no reference.

19. John McDonald, *The Game of Business* (New York: Anchor Press/Doubleday, 1977).

20. Brandt, *Strategic Planning in Emerging Companies*.

21. W.J.J. Gordon, *Synectics* (New York: Collier Publishing, 1961).

22. Hayes, *The Complete Problem Solver.*

23. Ibid., p. 199.

24. To be distinguished from the Irish factor which, when multiplied times any empirical observation, will convert it to the desired result. This theorem was developed by a German logician, Count Von Nagel, while in exile in Ireland, and is known as the *finagle factor* in mortgage banking practice.

25. Beckett, *Management Dynamics.*

26. Robert A. Caro, *The Power Broker: Robert Moses and the Fall of New York* (New York: Random House, 1974).

27. "Location, location, location" is the ranting of a graybeard who once found public license, loans, and luck on his side.

28. Ackoff, *The Art of Problem Solving,* p. 32.

29. Bernard J. Frieden, *The Environmental Protection Hustle* (Cambridge, Mass.: MIT Press, 1979).

30. June R. Vollman, "Here's a New System for Figuring Project Feasibility," *House & Home,* October 1973.

31. See Robert W. Burchell and David Listoken, *The Fiscal Impact Handbook* (New Brunswick, N.J.: Rutgers University, Center for Urban Policy Research, 1978), or Burchell and Listoken, *Practitioner's Guide to Fiscal Impact Analysis* (New Brunswick, N.J.: Rutgers University, 1980).

32. John Rahenkamp.

33. Boyce, *Real Estate Appraisal Terminology,* pp. 107–108.

34. Ackoff, *The Art of Problem Solving,* p. 26.

35. Ibid.

36. Ibid.

37. Beckett, *Management Dynamics.*

PART IV

APPRAISAL THEORY AND PRACTICE

Introduction to Part IV

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."

James A. Graaskamp, A Guide to Feasibility Analysis
(Chicago: Society of Real Estate Appraisers, 1970)

"Real estate is a manufactured product of artificially differentiated cubage with an institutional time dimension (square feet per year, rooms per night, caves per moon), designed to interface society with the natural resource land. Thus, real estate at any level is an organized undertaking whose form is subordinate to the constraints imposed on it by nature and man."

James A. Graaskamp, "A Rational Approach to Feasibility Analysis,"
The Appraisal Journal, October 1972

Graaskamp was an appraiser first. He sought to elevate the profession to a level to which few of its practitioners aspired. He saw the appraiser's role as that of keeper of an eternal flame of transactional fairness, arbitrator between financial interests, and guardian against irresponsible and unethical behavior.

In many quarters, Graaskamp's "rantings" on the subjects of appraisal theory and practice drew stares and references to his status as an official gadfly. If his precepts had been followed rigorously beginning in the early 1980s, however, the financial institutions debacle would have been largely checked. Billions of dollars of taxpayers' money would have been saved.

Graaskamp knew the emperor had no clothes. He preached that gospel far and wide. In retrospect, we can appreciate fully the incisiveness of his techniques and the accuracy of his predictions.

This part on appraisal theory and practice is divided into two sections. Section One focuses on appraisal technique, Section Two on appraisal reform. Space constraints made it impossible to publish the vast amount of material on this subject. We tried, however, to provide a useful sampling of various aspects of appraisal taken from unexpurgated class notes, presentations, articles, and a U.S. House of Representatives hearing.

Section One
Appraisal Technique

Feasibility Analysis — The Father of Appraisal

(Speech Notes)

I. *The topic title was suggested by the Chicago statesman Larry Cleland, who thought "Feasibility Analysis, the Father of Appraisal" had a loftier and more academic tone than my suggestion, "Appraisal, a Bastardized Offspring of Feasibility," whose maternal lineage walked the streets of the financial district during the Depression.*

A. *At the University of Wisconsin, we have been building our program on a number of basic definitions or axioms.*

1. *Real estate is artificially delineated units of space-time.*
2. *A real estate enterprise is any systematic conversion of space-time to money-time or vice versa by a cash-cycle enterprise that includes consumers of space-time, the public infrastructure on which real estate depends, and the private sector of space production management.*
3. *A cash-cycle enterprise depends on a forecast of assumptions about future receipts and outlays.*
4. *All forecasts are subject to error and risk. Business and philanthropy are the variance between pro forma expectations and historical accounting realizations.*
5. *Enterprise management involves assumptions of a scenario and then control of variance and the execution of the program. The primary control on variance is expertise—entrepreneurial skill.*
6. *Therefore, the real estate business is essentially a service industry providing expertise in the management of cash-cycle enterprises in the conversion of space-time to money-time. In the private sector or the public sector, all the profit centers lie in the delivery of services.*

This is a slightly abridged version of a Lambda Alpha presentation, March 19, 1976.

7. *A real estate project like a shopping center or an office building is attractive to private enterprises because each project is a captive buyer of services and can be profitable to the promoter even though the net income, or traditionally economic surplus, is close to zero if the developer is successful in laying off the cost of unexpected variance on others.*
8. *Therefore, it follows that cash flows, monthly payments, loan disbursements, etc., are real and values are subjective, and value is not the central issue of urban land economics.*

B. *The real estate process involves the interaction of space users, space producers, and the public infrastructure, all of which are cash-cycle enterprises which must remain solvent. No one can force any of the other sectors to operate at a negative cash flow without putting the whole system into a self-destructive process à la the city of New York. Like the great forces of air masses from the north and south, etc., which interact over Chicago, producers and the consumers and the public infrastructure find equilibrium over a given piece of land. The land itself imposes certain constraints on an equilibrium solution.*
   1. *The important point to remember is that cash flow equilibrium among the three factors is more important than profit maximization for any one of these factors.*
   2. *The ecosystem in land is not constrained by survey boundaries or political district lines, so impact must be concerned with the total context of a given site.*

C. *All one purchases in a real estate transaction is a set of assumptions that immediately and explicitly recognizes a degree of uncertainty about the future results, and the management of such financial uncertainty is the field of risk management, of feasibility, and thus—as we shall see—the presentation of appraisal opinion.*

II. *Now consider the terminology book's definition of feasibility, which is verbatim from our feasibility guide:*[1]

> *A real estate project is "feasible" when analysis indicates that there is a reasonable likelihood of satisfying explicit objectives and when a selected course of action is tested for fit to a context of specific constraints and limited resources.*

A. *Notice the implications of probability, a specific site or project, and specific assumptions as to constraints and limitations.*

B. *A project is feasible only after the criteria of satisfaction have been defined. Any decision requires identification of alternative courses of action with alternative outcomes, a statement of values reduced to objectives and criteria, and then a set of screens applied to alternative courses of action to see which is most likely to produce a satisfactory outcome.*

C. *There are three feasibility situations:*
   1. *A site in search of a market*
   2. *A market in search of a site and*
   3. *An investor in search of a real estate opportunity.*

FIGURE 1

APPRAISAL AS A FICTIONAL SET OF FEASIBILITY ASSUMPTIONS

Feasibility Analysis

Will the project really work for a specific investor?

1. *Objectives—decision standards provided by client decision process*
   a. *Maximization of spendable cash of total enterprise*
   b. *Subjective gratification of specific individual*
   c. *Adaptation to enterprise management specialties and weaknesses*
2. *Aggregate market potential opportunity identification*
3. *Merchandising analysis (defining competitive edge) and specific-user profile*
4. *Legal-political context*
   a. *All legal constraints on site, seller, buyer, and user are considered*
   b. *What is legal is qualified by what is political*
5. *Physical-technical constraints are examined in terms of what might be*
6. *Impact on environment and community specifically forecast*
7. *Financing from buyer viewpoint considering all profit centers*
8. *Income tax advantages or disadvantages affecting spendable cash*
9. *Actual cash revenues and expenses forecasted for each period of time*
10. *Limiting assumptions of solution*
    a. *Identification of potential variance and sensitivity of objectives to alternative outcomes*
    b. *Responsibility allocated among sources of expertise*
    c. *Budget and purpose of study explicitly edits information scope*

Appraisal Analysis

What would the project sell for if it did work for a typical investor?

1. *Objectives—decision standards provided by theoretical framework*
   a. *Maximize economic surplus of individual parcel*
   b. *Prudent behavior of economic man*
   c. *Average management to isolate return to land and capital*
2. *Aggregate market potential business climate*
3. *Merchandising comparison (defining standard competitive substitute)*
4. *Legal-political context*
   a. *Fee simple assumed*
   b. *Limited to site use rather than regulations on probable user*
5. *Physical-technical constraints are studied as is by visual inspection*
6. *Impact on environment and community assumed acceptable within existing permitted uses*
7. *Financing from lender viewpoint considering only net income line and below*
8. *Income tax not considered except implicitly recognized in market comparison*
9. *Revenues and expenses generally normalized and projected on linear trend for standard period*
10. *Limiting assumptions of solution*
    a. *Single number conclusion without qualification as to alternative outcomes*
    b. *Responsibility denied for other areas of expertise*
    c. *Date of appraisal implicitly edits information scope*

III. *It can be seen that an appraisal report relies on a standard model of economic man and a set of limiting assumptions which permits the appraiser to operate as a generalist and as a loner. The feasibility analyst is a generalist in his ability to perceive unanswered questions or critical assumptions, but feasibility confirmation will depend on a team of specialists.*

A. *An initial feasibility study defines the parameters within which a project could work, and many lenders, to their sorrow, have confused that with feasibility confirmation in which the specialists establish that it will work.*

B. *Ratcliff and others are suggesting that appraisal methodology be more explicit in recognizing that it is a thought process that first depends on establishing feasibility of a site or building in search of a market and then attempts to determine what that feasible use would sell for.*

C. *Site attributes in search of a market suggest alternative uses.*
   1. *Alternative uses are culled by market conditions indicating which uses would be most profitable as of the date of the appraisal.*
   2. *The most probable use suggests the most probable buyer group.*
   3. *The appraiser then attempts to forecast what the most probable buyer would pay by inference from past transactions or, failing that, simulation of economic logic.*

D. *This contemporary approach to appraisal is easier to write and to understand as the site in search of a market leads to a natural inductive form of presentation:*
   1. *The problem*
   2. *The definition of value most relevant to the problem*
   3. *The site attributes (static, legal, linkage, and dynamic)*
   4. *The most probable use*
   5. *The most probable buyer*
   6. *The initial appraisal estimate*
   7. *External conditions not present in past sales or accounted for by simulation*
   8. *The final value conclusion*

E. *The appraisal process is a model and, like all models, it should be judged on six elements:*
   1. *What is the question?*
   2. *What are the data?*
   3. *What is the logic that focuses data on the question?*
   4. *What are the abilities of the analyst?*
   5. *How does one communicate with credibility to the client?*
   6. *What is the cost/benefit ratio of the method?*

F. *Appraisal methodology must give more explicit recognition that assumptions of sale at a given price depend primarily on first solving the feasibility question; present appraisals fail to meet that test.*

Note

1. Byrl N. Boyce, ed., *Real Estate Appraisal Terminology*, revised edition (Cambridge, Mass.: Ballinger Publishing Co., 1981), p. 101.

Guidelines for Attributing Project Income to Real Estate Components

James A. Graaskamp

Since Ricardo, a major premise and concern of urban land economists has been the proper attribution of net income of economic surplus to the instruments of production. The sentimentalist may still prefer the 19th-century equity and romance of land, labor, capital, and management, but accounting specialists prefer 20th-century refinements of the pittance left to land and capital with allocations to land, structure, personalty, and tangible and intangible assets. Intangible assets include entitlements such as permits to build a dam or operating agreements to create a unique joint marketing *environment* at a regional shopping center. Intangible assets might also include premiums paid for properties suitable for the business opportunity of condominium conversion or for syndication.

The land economist prefers working with a pristine landscape à la Johann Heinrich von Thünen, and his poor second cousin, the appraiser, prefers things simple, if not pure. The appraisal world, then, is built on three concepts—fee-simple title, highest and best use, and fair market value. The gross momentum of change in the real estate world is leading to some difficulty in the application of fee-simple title, fair market value, and best use concepts that are consistent with the accounting elegance of intangible entitlements, tangible assets, and indirect benefits from the profit centers for services inherent in the real estate business. As a result the economist, planner, and tax assessor are misreading the marketplace to a degree that is counterproductive to public land use policies and priorities.

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Fee-Simple Title

Fee-simple title is a term surviving from the Middle Ages because of its elasticity in adapting to the definition of the moment, the residual left to the private sector after allowing for first claim on productivity via the real estate tax, public control of use via police power, and cash compensation for benefits perceived as vested in the individual by historical precedents via eminent domain. One exhaustive litany of the benefits in fee-simple title is provided in Figure 1. Nowhere in that list does it recognize the fleeting entitlements provided by density zoning, environmental impact permits, project approval, and the infinite variety of burdens and benefits created by political action at every level of government to create monopolies in time and place or potential responsibilities out of scale with potential values. Where does it recognize entitlement for septic tank capacity to serve 72 bedrooms, or access to the state highway for 16 traffic lanes adequate for a regional shopping center, or limitations on residential development à la Petaluma, California, or Ramapo, New York? Entitlement rather than title is the stuff from which value is generated. The economist and the appraiser today are more concerned with fee-simple title encumbered by entitlements or management burdens imposed by subsidized lending, joint private/public development agreements, and the like. If that is so, then we need to review the conventional use of the term "fair market value" that assumes purchase of fee-simple title.

Highest and Best Use

In recent years the lexicons for real estate have clarified the definition of highest and best use to be that use which is legal, technically feasible, and financially viable at a proven level of effective demand and financing terms. Moreover, best use has been qualified as one that is sensitive to community planning goals and fiscal limitations. Unfortunately the industry retains the subtle arrogance or ambiguity of the term in lieu of more contemporary substitutes, such as most probable use or the normative most fitting use. Urban economics and appraisal presume that best use refers to the real estate productivity, the economic surplus to be generated from allocation of receipts and outlays to the real estate.

However, real estate has become recognized as a fungible commodity—square feet of Class A office space, room nights, apartment unit months, not to mention condominium convertible square footage. As a fungible commodity, it has become a speculative commodity that permits the investor to go short or long in a specific market constrained by physical and regulatory phenomena, as well as a proxy for a long-term monetary standard or interest-trend speculation. Purchase of a building on a land contract with a minimum downpayment has become virtually a perfect hedge or straddle in two commodity markets. The exculpatory clause in the mortgage or land contract permits the buyer to call the future appreciation by selling the property and paying off the loan; if the property does not appreciate, the buyer can default or put the property to the lender or

seller. The straddle is purchased with a downpayment recovered from tax shelter in a short period of time.

Notice that, if the futures market for real estate improves, net income will rise and cause the property to appreciate. If interest rates fall in the money market, the opportunity to refinance from this money market speculation will

FIGURE 1
DEFINITIONS OF FEE SIMPLE

FEE SIMPLE: An absolute fee; a fee without limitations to any particular class of heirs or restrictions, but subject to the limitations of eminent domain, escheat, police power, and taxation. An inheritable estate.[a]

FEE SIMPLE: *Absolute.* A fee-simple absolute is an estate limited absolutely to a man and his heirs and assigns forever without limitation or condition. An absolute or fee-simple estate is one in which the owner is entitled to the entire property, with unconditional power of disposition during his life, and descending to his heirs and legal representatives upon his death intestate. Such estate is unlimited as to duration, disposition, and descendibility (*Slayden* v. *Hardin*, 257 Ky. 685, 79 S.W.2d 11, 12).

The estate which a man has where lands are given to him and to his heirs absolutely without any end or limit put to his estate (2 Bl. *Comm.* 106). The word "fee," used alone, is a sufficient designation of this species of estate, and hence "simple" is not a necessary part of the title, but it is added as a means of clearly distinguishing this estate from a fee-tail or from any variety of conditional estate. Fee simple signifies a pure fee, an absolute estate of inheritance clear of any condition or restriction to particular heirs, being descendible to the heirs general, whether male or female, lineal or collateral. It is the largest estate and most extensive interest that can be enjoyed in land.

Conditional. Type of transfer in which grantor conveys fee simply on condition that something be done or not done. A defeasible fee which leaves grantor with right of entry for condition broken, which right may be exercised by some action on part of grantor when condition is breached.

At common law an estate in fee-simple conditional was a fee limited or restrained to some particular heirs, exclusive of others. But the statute "De donis" converted all such estates into estates tail (2 Bl. *Comm.* 110).

Defeasible. Type of fee grant which may be defeated on the happening of an event. An estate which may last forever, but which may end upon the happening of a specified event, is a "fee-simple defeasible" (*Newbern* v. *Barnes*, 3 N.C. App. 521, 165 S.E.2d 526, 530).

Determinable. A "fee-simple determinable" is created by conveyance which contains words effective to create a fee simple and, in addition, a provision for automatic expiration of estate on occurrence of stated event (*Selectmen of Town of Nahant* v. *U.S.*, D.C. Mass., 293 F. Supp. 1076, 1978).[b]

a. Byrl N. Boyce, ed., *Real Estate Appraisal Terminology*, revised edition (Cambridge, Mass.: Ballinger Publishing Co., 1981), p. 102.
b. Henry Campbell Black, *Black's Law Dictionary*, 5th edition (St. Paul, Minn.: West Publishing Co., 1979), p. 554.

also result in appreciation. And if the economy stagnates, investment opportunities will shrink relative to the supply of investable funds, the investor expectations will fall, and property will appreciate. Since money is defined only in terms of commodities, and real estate is the only commodity that permits long-range speculation without spoilage or loss of income—as opposed to wheat, sow bellies, and so on—real estate space-time units have become a significant commodity in the long-term futures market. Purchases for commodity speculation are significantly distorting current prices and creating a second market tier that is concerned with purchasing power rather than productivity in use, portfolio effects rather than productivity in use, and portfolio effects rather than properties as single enterprises.

Fair Market Value

The basic definition of fair market value from the authoritative *Real Estate Appraisal Terminology*[1] is provided below with certain elements italicized to anticipate argument in the monograph that follows.

> MARKET VALUE—The most probable price in terms of money which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently [and] knowledgeably and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby
> 1. Buyer and seller are typically motivated
> 2. Both parties are well informed or well advised and each acting in what he considers his own best interest
> 3. A reasonable time is allowed for exposure in the open market
> 4. *Payment is made in cash* or its equivalent
> 5. Financing, if any, is on terms generally available in the community at the specified date and typical for the property type in its locale
> 6. The price represents a normal consideration for the property sold *unaffected by special financing amounts and/or terms, services, fees, costs, or credits incurred in the transaction*

Nothing is mentioned in terms of opportunity costs of capital for the foreign investor, the institutional pension fund, or the investor washing illegal funds. Financing presumes equal access to straight debt capital at a time when U.S. citizens do not have equal access to capital and the probability of more selective credit controls is increasing. Neither is anything said about special permits and entitlements, the encumbrance of political administration, or the normality of subjective financing in assumptions 5 and 6. As an alternative, consider the contemporary definition of less normative most probable selling price:

> MOST PROBABLE SELLING PRICE—The price at which a property would most probably sell if exposed to the market for a reasonable time, under market conditions prevailing as of the date of appraisal.

This definition implies:

1. That the most probable use will govern the most probable buyer type, and that the central tendency will reflect the relative bargaining position of buyer and seller as best can be known from public information. That means the appraiser must consider the buyer's access to capital, the buyer's emphasis on productivity versus commodity price-level speculation, or the necessity of seller financing.
2. That there is no cash equivalent rule, but valuation price must always be conditioned by the terms of sale indicated from similar market transactions.
3. That the best way to predict price is to mimic or simulate the bargaining behavior and calculus of the most probable buyer rather than to measure the economic productivity as perceived by the normative methods of the economist or appraiser.

Fair market value assumes that the income anticipated from purchase of an income property is inherent in market-level operations of the rental business. On the other hand, the most probable price requires an a priori description of most probable buyer so that it might reflect a syndicator or condominium converter who is expecting to capitalize for the spread between investment value and consumer retail value. Are the short-term prices paid by the condo converter or syndicator the fair market price or the most probable price?

Limitations on the Market Comparison Approach to Value

Not only is there a two-tiered market for real estate as a tool of production and as a commodity-money standard, but the market is further fragmented by financing terms offered, income tax considerations, and motivations for investment or arbitrage (conversion, syndication, trade). Major income properties of investment quality are bought and sold under the supervision of accountants, lawyers, security dealers, pension fund regulators, and institutional investment committee preferences. The result is prices and terms engineered to suit the bookkeeping of the parties at interest.

While tax considerations are an immediate example, equally often the corporation sells at a fake price to avoid a capital loss while providing a master lease to the buyer that will result in the conversion of the capital loss to an operating expense. Sometimes real estate is purchased at a high price to reduce the nondepreciable goodwill residual in the purchase of a business or is sold at a low price to facilitate a shift of value to personalty. Condominium converters and apartment syndicators may purchase desired properties at a discount from the retail price of individual investment units, sharing with the seller the spread between investment value of the project and retail value of the units. Developers may sell projects under the guise of convertible mortgages to take a development profit, management fee, and tax shelter and to avoid the trap of an expiring construction loan without permanent financing. Car dealership buildings may be sold subject to an encumbrance that no future owner may sell cars on that site;

land may be purchased to acquire easements, extinguish air rights, or complete assemblages despite holdouts.

In short, verification of most major investment-quality income-property prices is most difficult. Market-derived capitalization rates are therefore volatile, misleading, and likely to be undefined as to which market tier the buyer was in at the time of purchase. On the other hand, the cost approach, after adjustment for wear and functional obsolescence, must fall back on the income approach to explain the economic obsolescence or premium that is due for a particular project.

One writer has called the spread between cost and market the entrepreneurial factor[2] and added it to the cost approach; however, it is not earned with construction nor is it even a tangible asset. It is the present value of income attributable to the ability of management to exploit market shortages in order to arbitrage opportunities between market tiers or to obtain nonmarket financing. Therefore, it is a return to management, a goodwill factor in defining intangible assets of the enterprise. If the market approach and the cost approach are increasingly unreliable, then the income approach might be necessary, which brings the essay face to face with the problem of attributing income to real estate.

The Income Approach

Properties purchased for income and appreciation due to improving productivity might logically emphasize some form of the income approach to value. It is a truism to say that the present value of an income property equals the present value of all private sector claims on periodic income plus the present value of the private sector interests in the reversion, discounted or converted to value by a formula representing or predicting the price to be paid, either under the cash-to-seller premises of fair market value or the more behavioralistic freedom of most probable price concepts. The application is a bit sticky because of conceptual accounting problems in attributing revenue and expenses correctly to land, improvements, personalty, intangible assets, working capital, management, labor, and ancillary public vested interests. An additional problem lies in forecasting a reversion value that is consistent with nonspeculative canons of appraisal and the nonvested nature of the future without ignoring perceived futures affecting behavior of the investor.

Some general questions to be addressed[3] for real estate project revenues allocation or attribution to realty, personalty, or management might be:

1. Is income attributable to entitlements that are point-specific and go with fee-simple title to the land or that are transportable permits separable from the deed? (A permit to build a dam or sewer plant is site-specific but assignable with the land; in some areas the liquor license goes with the building, but in most jurisdictions, it can be reassigned to new locations with the same operator. Sale of land with development entitlements is more than a fee-simple title; it significantly alters development risk potentials for the next buyer. Most appraisers would estimate the rental value of the bar space and assume that the surplus income was attributable to management and monopolistic licensing.)

2. Does the real estate income accrue from retailing of space or from wholesaling space? (Lease of a parking ramp is real estate income versus rental of a parking space by the hour, which is business income. Similarly, lease of the top floor of the John Hancock building is a real estate transaction, but admissions income from operation of the observation desk is show business.)
3. Is the income generated by extraordinary services or by intangible benefits rather than customary components of space? (Refrigerator/stove might be customary compared with maid service; joint merchandising and guarantees of the shopping center operating agreement create a rental premium for this intangible asset compared with rental of basic retail space.)
4. Is the income derived from ancillary functions rather than those that must be integral with the project? (Janitorial service could be contracted for off-premises or utilities purchased directly from utility company rather than purchased from developer, who receives a distributor's margin. Heat from a single boiler is integral with the project.)
5. Does the IRS classify the asset as real property or personal property, or tangible or intangible assets? Did the owners and tenants define personal property in their agreements?
6. Is income attributable to governmental agencies in exchange for contractual entitlements of control or use to the public interest for the term of the contract?

While accounting societies issue professional white papers directing their membership on the proper treatment of these matters as business issues evolve, the appraisal guilds wallow around in banal feuding about organizational matters or the adequacy of old techniques. Figure 2 suggests the need to match the definition of value to the purpose and benefits to be appraised.

Relevance of Valuation Issues to Urban Land Economics

Urban land economics has held that fair market value is central to the premises and models of land use decisions and successions. A few of us have argued that cash flow is more relevant and that each land use establishment is purchased in view of its contribution to spendable cash and liquidating value of net worth after taxes, a going concern view or at least purchase of access to profit center opportunities in a development project. Nowhere is the problem of defining the economic surplus of the real estate more significant and more misunderstood than in the valuation of properties for tax assessment purposes. Four illustrations are provided below to illustrate topic areas where the economics and the appraiser should have some current rules and definitions to improve the efficiency of public policy and the equity of a major public activity (tax-revenue generation) tied to fair market value concept.

Case 1

Assume that a regional shopping center has been developed on land owned originally by two of the major department stores. These two stores select a

developer who in turn leases pads to two additional majors and purchases a sandwich of land which he developed into 100 stores. At the outset the four major department stores and the developer enter into an elaborate operating agreement that guarantees that the majors will operate under their brand names for at least 30 years, participate in joint merchandising of the center, abide by common operating rules, and maintain vast amounts of parking. The developer

FIGURE 2
CRITICAL ISSUES THAT DEFINE APPRAISAL PROCESS

Function Of the Appraisal	Property Rights	Relevant Definition Of Value	Allocation Of Productivity	Buyer Motivation Presumed
Tax assessment	Fee-simple private rights unencumbered	Cash market present value (as opposed to most probable selling price)	Present value income attributable to land and structures only	Purchase of economic productivity
Mortgage loan (non-participating)	Encumbered fee-simple private rights plus additional right pledged	Regulations—market value; underwriting—solvency price or liquidating value	Fixed income pledged from all sources less costs of creative management	Share of economic productivity contributed by capital
Mortgage loan (participatory)	Encumbered title plus non-vested interest in selected future revenues	Present value of all future cash flows	Variable income pledged plus share of reversionary interest	Share of economic productivity contributed by capital plus share in selected management returns plus positioning against devaluation due to changing conditions
Sale of an investment	Encumbered title plus vested entitlements plus going concern profit center opportunities	Most probable price above minimum acceptable alternative opportunity	Returns from land, structures, personalty, and selected entitlements	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions

➔

FIGURE 2 (Continued)

Function Of the Appraisal	Property Rights	Relevant Definition Of Value	Allocation Of Productivity	Buyer Motivation Presumed
Purchase of investments	Encumbered title plus positioning for access to entitlements	Most probable price within perceived peril point limit	Land, structure, personalty, and intangible assets less profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Going concern purchase of a business	Encumbered title plus positioning for access to entitlements In risk for business startup plus control of monopolistic market position controls	Most probable sales price within perceived costs of creating an alternative	Land, structure, personalty, and intangible assets and goodwill plus artifactual profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions

in turn agrees to build, operate, promote, and secure a synergistic mix of smaller tenants to optimize trade area penetration, etc. His selection by the department stores is, in effect, giving him a franchise to provide subfranchises to the tenants in a joint merchandising effort; at the same time, the small tenants receive guarantees about ongoing operations of their neighbors, parking, and security they could never find in a multiple-landlord downtown where participation in a merchant association is both voluntary and democratic. These merchants are clearly paying a premium rent for the existence of the operating agreement, and that intangible agreement is a franchise under any state law.[4] Therefore, it is personal property, and income attributed to it should not be included in valuation for real estate tax assessment.

Shopping center development is a business, and sale of the developer's position is sale of an ongoing business management opportunity. The value of the opportunity is the present value of management fees and other profit centers plus the premium rent paid by tenants to be paid off for the shopping center marketing and controlled business environment. Notice that the accountants, when allocating the purchase price of a business, first subtract the cost to replace all tangible assets and then divide the remaining intangible balance of the

purchase price among patents, copyrights, franchises, and a catchall called goodwill or going concern value. Accountants are trained in the problems of attribution of income, while appraisers and assessors avoid the discipline whenever possible. Assessors clearly have a vested interest in exaggerating real estate values; presumably, appraisers need oversimplification so that they do not overwhelm the simplicity of NOI/OAR for regional shopping centers.

Case 2

Subsidized housing for the elderly and low-income families is another area of confusion for lack of proper income attribution that reflects benefits to the private sector as opposed to the public sector. Notice that the shopping center case is concerned with allocation to tangible and intangible assets, while subsidized housing is concerned with allocation of productivity from the private to the public sector. Appraisal is typically concerned with benefits to the private sector, as demonstrated by the traditional subtraction of sales taxes, real estate taxes, and even income taxes attributable to the real estate. Consider the appraisal of a Section 8 project, which includes elderly housing units and family housing units on separate sites under a single mortgage and under a single subsidy contract. Furthermore, assume that construction and permanent financing is provided by a state housing finance agency at nonmarket rates subject to a detailed management agreement defining tenant selection, rent controls, expense escalation, special services, special reporting and auditing requirements, and the maximum subsidy available over a five-year span. Assume further that failure to observe management covenants is a default on the mortgage and that, in the event of a default, the Housing Finance Authority will become general partner, at its option, without foreclosure and with automatic consent of the limited partners.

Given the gap between market rents and higher rents necessary to justify construction and the elaborate indirect costs of the subsidy process, the federal government has thoughtfully provided a fictitious set of fair market rents (FMRs) for the market area that is capable of justifying construction. To a degree, these FMRs favor elderly construction, and the elderly unit component of the project subsidizes adequate unit costs and operating budgets for the family housing. The developer is willing to submit to rent control, to serious limitations on his right to resell, and to major responsibilities to provide welfare types of services in exchange for the opportunity to make a development profit, a property management fee, and a sale of a participation in tax shelter to limited partners. The limited partners are not to receive more than 6 percent cash income on an artificially defined equity established at the outset of the project even though operating losses on the down side are unlimited; sale to another group other than a tenant co-op is discouraged by taxes on excess depreciation and the lack of tax incentive for the second owner.

There are no market comparison sales of Section 8 projects, and cost to replace is irrelevant because the costs are inflated by protracted negotiation with the government and federal regulations relative to union labor, etc. Moreover, the project might have more or less space, amenities, or site density than is consistent with highest and best use in the private market. Functional and economic

obsolescence relative to the private market is not easily measured. With the cost approach distorted and the market nonapplicable, the appraiser is left with the income approach.

The present value of cash dividends to the equity position plus the present value of the reversion to equity 20, 30, or even 40 years in the future is minimal to the second owner without the tax shelter because there is no opportunity for an increase in cash dividends by rolling over the leases. Therefore, the net income to the project should be the actual rents paid by the tenants plus one-fifth the actual subsidy dollars available per year less actual operating expenses; that net income discounted at the full market rate is the value of the economic product to the private sector. The difference between that number and the higher costs is a transfer of wealth to the public sector, which has purchased housing for a particular social group in this rather obtuse and oblique way. The premise that Section 8 is a cost-effective way to provide for public purposes by means of a wealth transfer through subsidized rents and subsidized interest rates is suspect. Nevertheless, a large portion of project value is encumbered by de facto land use covenants in mortgage and management contract terms which are, in effect, an easement-in-gross to the social body politic. Wherever there is subsidized demand, subsidized interest, or special tax benefit to ownership, it is necessary to think through the attribution of income and value among the private interests and the public interests.

Case 3

A significant number of major income projects today involve the limited use of Urban Development Action Grants (UDAGs). Sometimes these grants are used to fund directly certain community infrastructure, such as a parking ramp. Building it could not be justified by the ratio of market revenue to construction costs and operating costs but was, nevertheless, a preexisting condition for other private capital efforts.

Assume that a community wished to bring housing to the downtown area and that it was necessary to write down land costs from commercial expectations and provide underground parking for the housing residents. A UDAG is made to the city which, in turn, provides the loan to the developer at 3 percent interest and 50 years' amortization so that the cost of underground parking and land will not increase the borrowing of conventional funds at a rate that would preclude acceptable rents or condominium prices with consequent monthly payments beyond the means of the market. If other uses could have justified a higher land price and if effective demand could not have supported living units with indoor parking in a downtown area, considerable violation would have been done to the concept of highest and best use. What has occurred is a transfer of potential value from the private sector to the public sector, because the public was willing to buy encumbrances on the land that reduced fee-simple title options in order to advance public purposes of returning residents downtown, of accelerating urban redevelopment, and perhaps of anticipating the need for urban compression as an energy-conservation strategy.

Again, the income approach for fair market value of the complete fee title, which has been reduced by assignment of certain rights and considerations of

nonmarket financing, indicates that net income should be defined as the actual revenues of the project attributable to the real estate less all operating expenses. This net income should be capitalized at the appropriate cost of private capital. Similarly, fair market value of an industrial plant financed by an economic development bond at less than market interest rates would need to be appraised by taking actual market rents less full operating expenses and capitalizing it at the market rate for cost of capital.

Case 4

All real estate investment enjoys some degree of special subsidy from federal tax treatment of depreciation, a subsidy that tends to favor new residential as compared to old, subsidized housing relative to conventional, intensively renovated housing units relative to existing units, commercial renovation relative to commercial new, and farm development versus urban development.

Depreciation understates taxable income from the real estate and occasionally shelters other income as well, but the tax is postponed and the benefit is largely in the present value of deferring cash outlays for tax payments. Nevertheless, a significant segment of the development industry is devoted to the protection, marketing, and replacement of tax shelters to a degree that overprices the supply of certain types of real estate while contributing nothing to the production of economic surplus to which fair market value is related. Since the degree of tax shelters is inherent in the tax bracket of the investor and not directly related to fee-simple title, it would seem that cash equivalency value would need to discount sales for the premium paid for tax shelters. Pricing of real estate income to be on an after-tax equivalency basis with other forms of investment income is consistent with the premises of most probable price but not inherent in fair market value. There is considerable doubt that the tax subsidy to real estate is an efficient and cost-effective policy relative to housing, rehabilitation of existing structures, or retrofitting for energy conservation.

Defining the Problem of Net Reversion to Equity Investment

As the net cash available for the equity position from operations has been squeezed even thinner by rising costs, rising interest expense, and elastic demand, real estate investors have made a fetish of gambling on the resale price as developed earlier. The resale price is seen as a hedge for devaluation of money, falling interest rates, or even changing supply/demand relationships. As if the predictability of the resale price 10 years in the future were not sufficiently in doubt, a number of definitional problems in attributing the increase in value to real estate or personalty remain. At this point, we can raise the question in general better than we can state a solution in the form of a set of rules appropriate to every case. Presumably the equity reversion attributable to resale would be the net proceeds from sale less total dollars due and payable to lenders, to the tax authorities, and to the costs of transfer, including fees to professionals involved. However, measuring these components raises several interesting questions:

1. Does the syndicator's share of the net reversion represent deferred payment for his management, which created the value because he invested his time rather than his own money and which was subordinated to cash returns to the investors from operations? This could be a sizable 10 percent to 20 percent.
2. Were the variable-rate mortgages negotiated to use an index that reflected the cost of money? If not, the share of sale or refinancing proceeds might provide the lender with more than an acceptable return on capital invested at the expense of land and management.
3. Is the premium paid for real estate suitable for syndication or condominium conversion? Is the payment attributable to the real estate or the business opportunity of retailing market shares or market units?
4. In subsidized housing, is there any reason to believe that the resale price will increase for 20 years or more? Rents are allowed to increase only enough to cover increased operating costs and subsidized loan agreements, and rental contracts place a variety of penalties on conversion to conventional market use. Prices paid for the unit represent primarily the present value of tax shelter plus a small cash dividend; the resale values and profit centers for the limited partners attributable to anything but tax shelter are virtually discarded in the investor calculus.
5. Many leases today feature full pass-through of increasing expenses to the tenant, and so the cost of occupancy can become unreasonably high. Is it the terms of the lease or the cost of occupancy that represents fair market rent? Just as property is appraised on the basis of market rent rather than contract rent, should not the appraiser reduce income by an amount attributable to income derived due to insensitive negotiation of escalator clauses? For example, in California, Proposition 13 reduced taxes, but many tenants received no benefits because their leases passed through the increases from the status quo.
6. The issue of whether to lease or buy is a function of current cash needs, salvage value of the asset, and the opportunity cost of money. As interest rates fluctuate, a bank could find ownership or leasing more attractive, depending on net bank earning power rates and rates assumed by lessors providing building space. Should a bank own half and lease half to average the loss of the rental position versus the short-term straddle?
7. How does one define equity when the mortgage lender decides to take that portion of resale value necessary to modify its yield on the financing to an internal rate of 18 percent, given a 12 percent interest-only mortgage?

Each of these seven scenarios requires a handcrafting of the reversion from the circumstance, and the result will seldom be neatly correlated with net income or some other defined residual. Still, that is what is being taught when income property appraisals are done with overall capitalization rates and resale prices are unadjusted to cash equivalencies in order to reflect assignable financing, deferred fees, or entitlements and monopolistic advantages from a going concern—intangibles included in the purchase price. Recent awards for appraisal essays defended the overall rate method when discounted cash flow is the only workable process for irregular return. Indeed, given the uncertainties of the forecasting process, the logical priority for appraisal would be development of Bayesian models or density models that could assign probabilities to alternative

outcomes. That development must be postponed until the appraisal fraternity adapts to the silicone chip for work processing and arithmetic. In the meantime, the problems of investment valuation are having their impact on land use patterns of use and reuse, and that is the theme to which we wish to return in the final section of the essay.

Distorted Values and Policy Issues

The difficulties in coordinating public incentives for priority real estate needs with institutionalized definitions of fair market value lead to unfortunate misallocations by those who regulate capital flows toward these priorities. Tax incentives for the production of new housing lead to syndication profits on existing projects, which increase the real estate tax burden on all apartment buildings if the few sales for syndication are used as comparables for the remaining properties used as investments. The result is to raise the tax cost and rent of the residents as much as $10 to $15 a month. Given the increasing shortage of rental housing units at reasonable prices, the tax assessor is working at cross-purposes to housing policy. The assessor has misunderstood and exaggerated the market value on subsidized housing to produce a regressive real estate tax by requiring the private sector to pay a tax on fee-simple prerogatives that have been transferred for the term of the subsidized financing to the public. The assessor stands on traditional definitions of an encumbrance by means of an easement for the benefit of the public, failing to recognize that a mortgage is also a transfer of property rights, particularly when the defeasance clause is tied to performance on a management contract as well as the conditions for eligibility for subsidized mortgage interest rates.

The need to fund private pension programs with investment opportunities sensitive to inflationary trends has led to reorganization of the development investment and investment banking industry into alliances intended to produce product for the institutional investor who provides 100 percent of the funds. At the same time, the deals are structured to provide entrepreneurial incentives for long-term management by the developer. To what degree does this represent a return for management that should not be capitalized into the real estate value even if the full charge for management does not appear above the net income line? If compensation is contingent on earnings, must we redefine economic surplus to be that amount of cash throw-off that remains after interest is paid on capital and contingent compensation is paid to management? If the developer sells his position, is he selling a real estate interest or a business opportunity to earn the contingent compensation?

The pressure to maintain some equitable title in a real estate project for all those who want the benefit of tax shelter leaves the appraisal process confused as to allocation of income among land, improvements, personalty, and the capitalized value of services performed by those who take a nominal equitable title and convert payment for services to a capital gain. The lack of direction to appraisal practitioners from their own professional societies means that fair market values are exaggerated, often undermining the equity in real estate taxation, the safety of regulated securities, and the auditing controls on institu-

tional real estate investment portfolios. The cumulative result must be distortion in the rate of land development, redevelopment, and cost efficiency of land use decisions.

Notes

1. Byrl N. Boyce, ed., *Real Estate Appraisal Terminology*, revised edition (Cambridge, Mass.: Ballinger Publishing Co., 1981).

2. Sanders A. Kahn, "Kahn on the Entrepreneur," *The Appraisal Journal*, January 1973, pp. 113–118.

3. Refined from discussions with Phil Adams, CPA, Touche Ross, public accountants, Chicago, Illinois.

4. Few developers are arguing loudly for a franchise definition. Since sale of a franchise is operating income, not capital gain, sale of a shopping center would not entitle the seller to take capital gain on the sale of his interest in the operating agreement.

Computerized Appraisal Analysis for the Appraisal Of Large-Acreage Wilderness Tracts

James A. Graaskamp and Michael L. Robbins

Abstract

The pricing of large-area roadless natural lands of great topographical and ecological diversity is a specialty within general appraisal practice which has received little theoretical or practical development.

Research has shown that the utilization of a fine-grained computer mapping technique to record the physically ascertainable components of the subject and comparables, when available, can greatly advance the defensibility of value estimates. The two case studies will illustrate that the valuation process is simply the extension of general data techniques used for land use planning and that the use of a point system, to establish ordinal ranking and cutoff decision, is well established in valuation theory. The innovative aspect of the case studies is the use of spatial databases to systematically describe and evaluate the parcels being studied.

Appraisal Purpose and Assumptions

An appraisal report serves to communicate a defensible benchmark of value where value is determined by the context and assumptions inherent in the

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This unpublished manuscript was prepared in 1983. Michael L. Robbins, PhD, a former colleague of Dr. Graaskamp, now is associate professor of real estate and construction management at the University of Denver. The original paper included two case studies. Space limitations preclude use of the second study in this volume.

property, database, or factors affecting buyers and sellers in the marketplace. Defining the value situation provides the basis for determination of the appropriate valuation methodology.

Appraisal Issue

The issue for which fair market value was required as a benchmark for both case example appraisals was fair compensation of a private landowner for a taking of acreage under eminent domain to advance a public project. In the first case, 25,000 acres of rugged mountain terrain were to be acquired by the U.S. Forest Service to protect and enhance a premier wilderness area in the northwestern United States. The unique physical attributes suggested that the highest and best use could be scenic quality conservation and that this traditional public use concept could also be identified as a private market phenomenon where there was an organized market acquiring land without right of eminent domain for the specific purpose of scenic and environmental conservation. In the second case, the acquisition of wilderness was, in fact, the acquisition of a unique set of physical attributes which determined its use as an economic corridor 35 miles long; again, it could be shown that there was a private market for the purchase of such corridors that did not and could not operate under eminent domain. As a result, there were dramatic opportunities to link the Ratcliff tautology that most probable use suggests most probable buyer, which leads to the appropriate search and selection of comparable sales with fair market value for eminent domain based on relevant application of the market approach to value.

Appraisal Principles and Definitions

Contained within the definition of market value, as provided by the American Institute of Real Estate Appraisers (AIREA), are several significant assumptions.[1] Critical to the understanding and application of the definition is that both buyers and sellers have alternative choices that are possible and of which all parties are knowledgeable, so the price of a transaction presumably optimizes the self-interest of both at that particular point in time. The premise of a choice of alternative sites underlies the principle of substitution—a cornerstone of appraisal pricing methods.

Real Estate Valuation Methodology

Contemporary appraisal process moves inductively from what is known about the property to be appraised toward identification of alternative uses that might be placed on the land. These alternative uses are then ranked in terms of economic benefit, physical suitability, political acceptability, effective demand, and economic viability at a particular point in time. This matrix of choice suggests scenarios of most probable use for the parcel, which in turn suggests the nature of the most probable buyer. To estimate what the most probable buyer would pay in terms of market value or most probable price, the appraiser must either find direct cash equivalent sales of comparable property between fully informed parties or, in the absence of current market information, the appraiser must

simulate the economic logic and pricing calculus of the most probable buyer, given political constraints and available market alternatives.

Once a tentative value has been set, it must be reviewed for exogenous factors such as changing interest rates, changing investor expectations about future economic scenarios, or other factors not explicitly considered in the basic pricing formula.

The following cases will illustrate these issues clearly. The appraisal of the Alpine Lakes area will illustrate the application when direct comparables are available. The Ahtna corridor appraisal will illustrate the application of economic logic and pricing calculus drawn from negotiation principles of comparable transaction representing Ratcliffian simulation.

Case 1
The Alpine Lakes Appraisal

Introduction

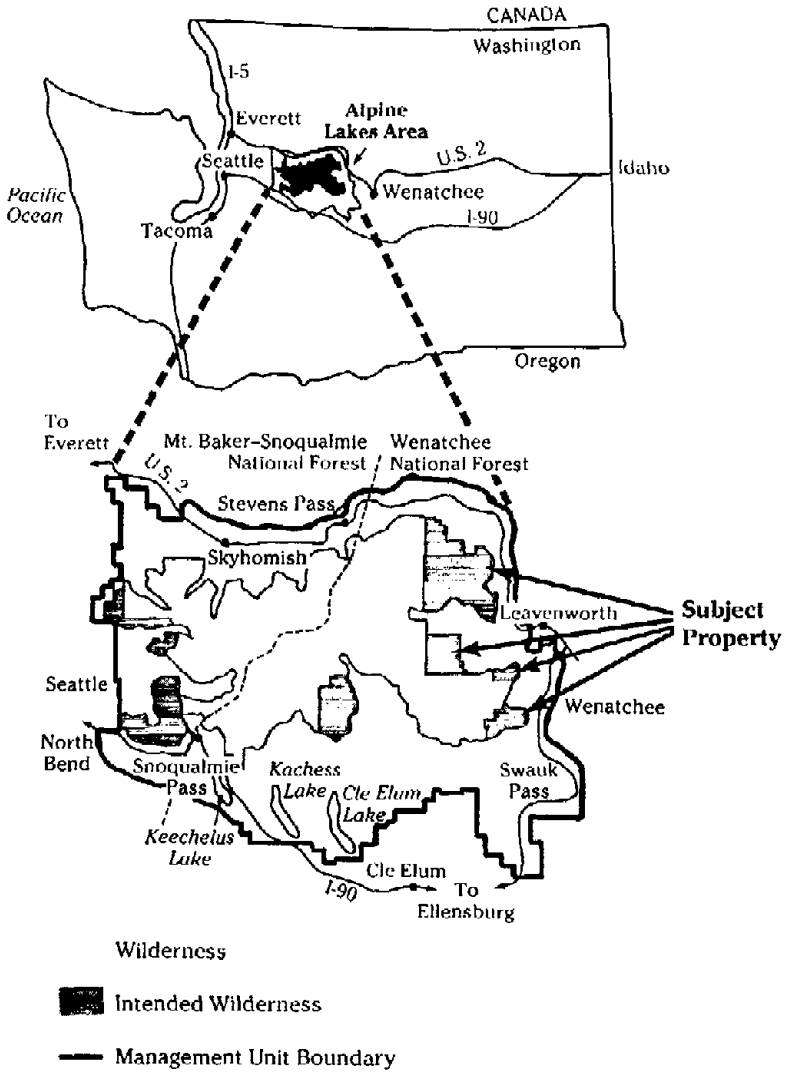
The goal of the research was to develop a methodology for the valuation of mountain wilderness land.[2] The need for the methodology arose in part from an increased public and private awareness of the social value of natural landscapes, specifically wilderness. This awareness is manifested in a variety of individual and community actions toward preservation, but none as important as the passage of the National Wilderness Preservation Act (NWPA).[3] This statement of public intent by the Congress established the legislative basis for the creation of wilderness areas. In general, areas designated as wilderness are to be created out of lands primarily owned by the U.S. government but, to the extent that private ownership is included in those designated areas, ownership rights are to be acquired by the federal government. The form of these acquisitions can range from donation and trade to purchase of fee-simple title. While the NWPA gives the government the right to acquire property under the government's power of eminent domain, the act clearly suggests that condemnation is not to be the principal method of acquisition.[4] Emphasis is given to negotiation of value difference between private and public parties in settling differences between value estimates. In all instances a negotiated determination of just compensation is sought.

The research focused on a specific acquisition of approximately 23,000 acres of private lands owned by 20 individuals, located in the Cascade Mountains, in the state of Washington (see Figure 1).

These lands were to be acquired by the federal government for inclusion in the Alpine Lakes Wilderness Area, authorized by passage of the Alpine Lakes Management Act (ALMA) by the U.S. Congress on July 12, 1976.

The ALMA authorized acquisition by donation, trade, or purchase, with the value basis being the "fair market value" of the private interests being acquired. Beginning with an initial premise of estimating fair market value, the research showed how the definition of fair market value leads to the need for determination of the land use policy most appropriate for the property being valued. In appraisal practice, this procedure is referred to as determination of "highest and best use."

FIGURE 1
SUBJECT PROPERTY—VICINITY MAP



Data from Land Management Plan, Alpine Lakes Area, U.S. Department of Agriculture, Forest Service, Wenatchee and Mt. Baker–Snoqualmie National Forests, 1980.

An important component of the research was to recognize "wilderness" as the best use having economic capacity to compete with other land use policies, such as logging and recreational home development, and how the identification of wilderness as best use could become operationalized within appraisal methodology. The research further described how the best use definition led to the

identification of the valuation method utilized and how the valuation method was applied for pricing.

Significance of Research

The research has shown that spatial database concepts can be used to price individual appraisal units, explicitly recognizing the unique combinations of ascertainable facts present in each appraisal unit. Rather than assigning average values for limited amounts of the total site (valuing the site for timber or recreational lot development by either the aggregate or multiple regression methods), the techniques utilized in this project provided for the pricing of each individual appraisal unit making up the subject property.

The development of the Wilderness Evaluation System (WES) provided for the use of physical attributes and user attitudes, based on ascertainable facts, in establishing proxies for recognized wilderness characteristics. Through the use of the WES, individual wilderness attribute scores were determined for appraisal units as small as 10 acres. The WES also allowed individual 10-acre cells to be combined into alternative appraisal units as large as 640 acres.

Having established the wilderness proxies, the wilderness scores were evaluated and priced using an attribute matching methodology which was not dependent upon inferential statistical reliability for accuracy. In addition, the attribute-matching pricing methodology provided for testing of alternative pricing models, thus allowing internal consistency and appraisal goals to be evaluated and maintained. Finally, the derived price estimates are provided in a format that is easy to follow and explain, thus adding greatly to the defensibility of the price estimate.

Appraisal Methodology

Since land appraisal depends primarily on market comparison as opposed to income or a cost approach to valuation, the goal of the research was to establish a methodology to enable the market comparison valuation method to be applied to the pricing of the subject property. While this is a simple statement of intent, the implementation was very difficult, partly because of a complex land ownership pattern overlaid on the scale and diversity of a complex physical pattern.

It has been indicated that of the three most likely methods of appraisal, the most desirable is to estimate value from what buyers have done in prior transactions (inference). This preferred method of determining most probable price is to infer future market behavior from recently completed market transactions. This method implies that a prudent person will not pay more to buy a property than it will cost to buy a comparable substitute property.

The concept of comparable substitute states that buyers have personal values which they attach to combinations of specific attributes. Then, through a process of evaluation and elimination, buyers will match attributes from one property to another in deciding which property (if any) provides the greatest amount of satisfaction relative to its cost. Thus, it can be seen that the application of the market comparison method of real estate valuation requires the collection and analysis of pertinent data which describe the attributes of both the compa-

rable properties and the subject property. It is through these analyses that an indication of the transaction range for the subject property can be estimated.

The structure of the contemporary appraisal clearly indicates that to be properly sensitive to the attributes affecting economic value, it is important to analyze any economic unit of land, from residential lot to national wilderness, by collecting relevant data according to the five following categories:

1. Physical attributes, such as size, shape, soils, geology, slope, water, flora and fauna, etc.
2. Legal-political attributes affecting use and degree of decision making within the private sector, including federal, state, county, and private land use controls relevant to the parcel
3. Linkage attributes—those relationships which tie the site to systems such as roads and sewer or to peripheral activities and establishments which may generate demand for the parcel
4. Dynamic attributes which have to do with how people perceive a site—such as prestigious, dangerous, attractive, enjoyable, beautiful, etc.
5. Environmental attributes which have to do with off-site impacts of the subject property, such as stormwater runoff or destruction of a viewshed[5]

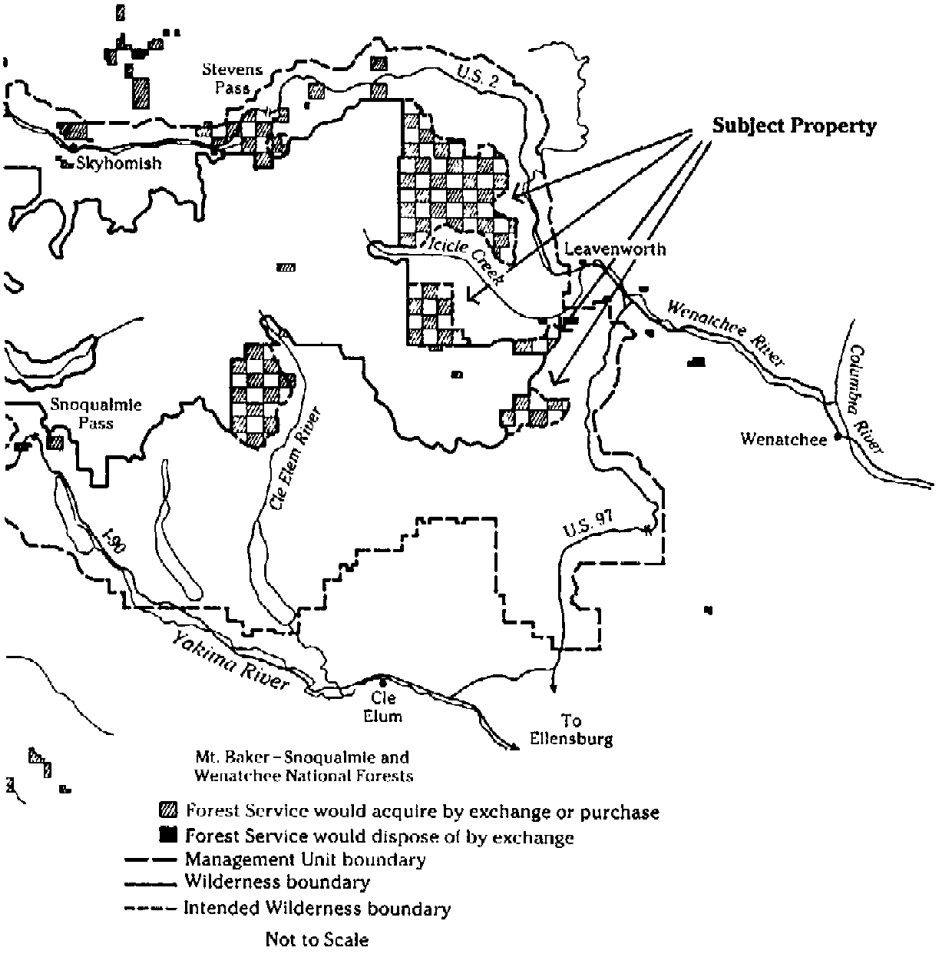
The contemporary appraisal process prefers to compare the subject property in specific, physically ascertainable attributes to broadly similar properties which have sold to a class of buyers with similar motivation. Therefore, it is necessary to describe the physically ascertainable attributes of the subject property which may be significantly related to alternative uses for the selection of the most fitting use. In the case of the Alpine Lakes Wilderness, where the subject properties were owned in a checkerboard pattern adjoining both government and other privately owned positions, it was also necessary to place the subject properties in context to the regional pattern and subenvironmental systems (see Figure 2). Comparison of scale, physical diversity, ruggedness, and quality of the properties in question creates a data problem of unusual proportions. Nevertheless, the distinctions between and among subject properties and comparables must be retained with sensitivity if pricing inferences are to be equitable.

Spatial Organization

To describe the subject properties in a context of a regional pattern, a computerized spatial database was constructed. The spatial database covered an area roughly 13 miles wide by 23 miles long and included an area of approximately 133,000 acres (see Figures 3 and 4).

The recording of data for record keeping and storage in the spatial database is based upon an arbitrary X/Y coordinate basis. Each pair of X/Y coordinates references a unique 640-acre section, based on the township- and range-mapping system. The X coordinates (columns) range in value from 1 through 13, and the Y coordinates (rows) range in value from 1 through 23. The starting X/Y coordinate (1,1) is located in the northwest corner of the database beginning at Range 15E, Township 26N, Section 24 (see Figures 3 and 4).

FIGURE 2
SUBJECT PROPERTY—ALTERNATE SECTIONS

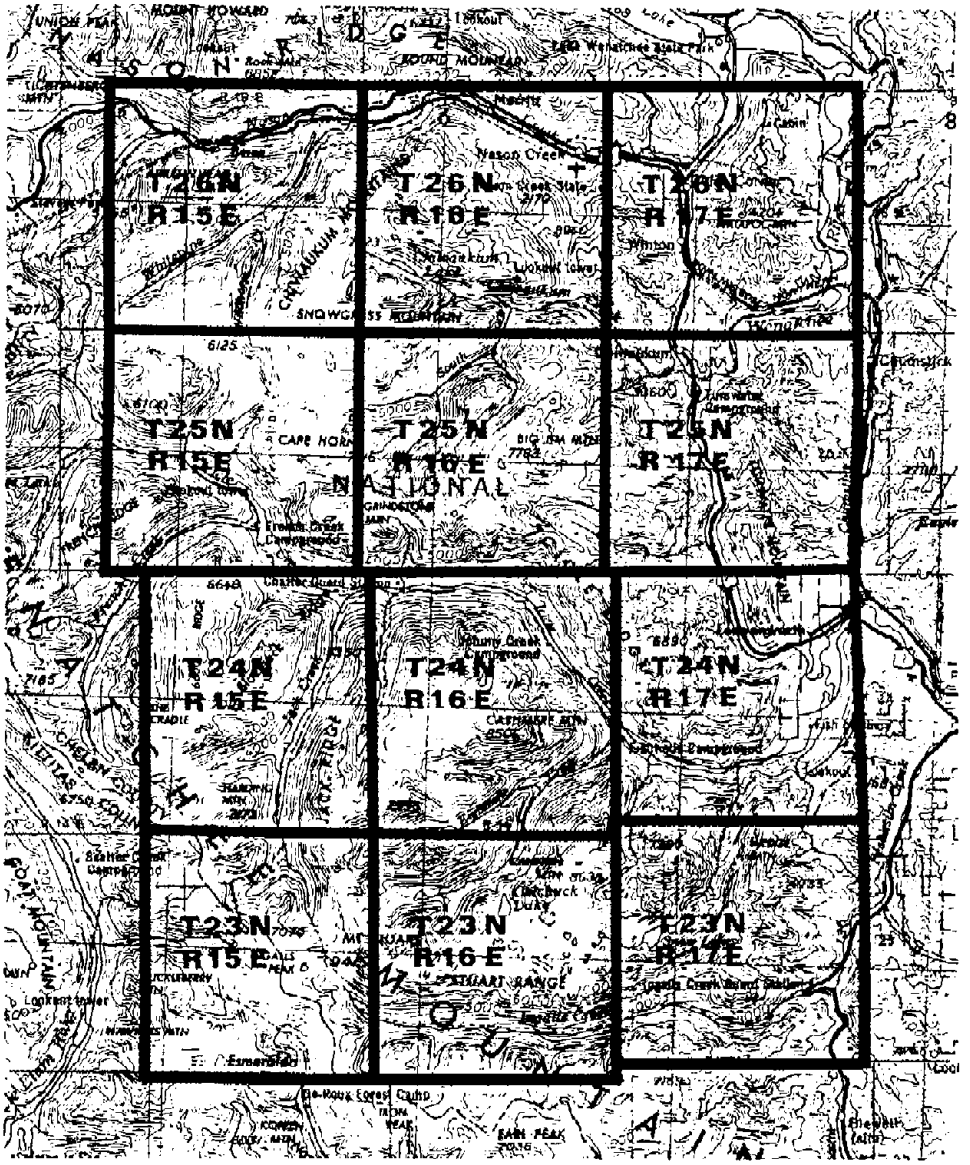


Data from Draft Environmental Statement, Alpine Lakes Area Acquisitions, Wenatchee and Mt. Baker–Snoqualmie National Forests, Pacific Northwest Region Forest Service, U.S. Department of Agriculture, 1978.

Data Representation

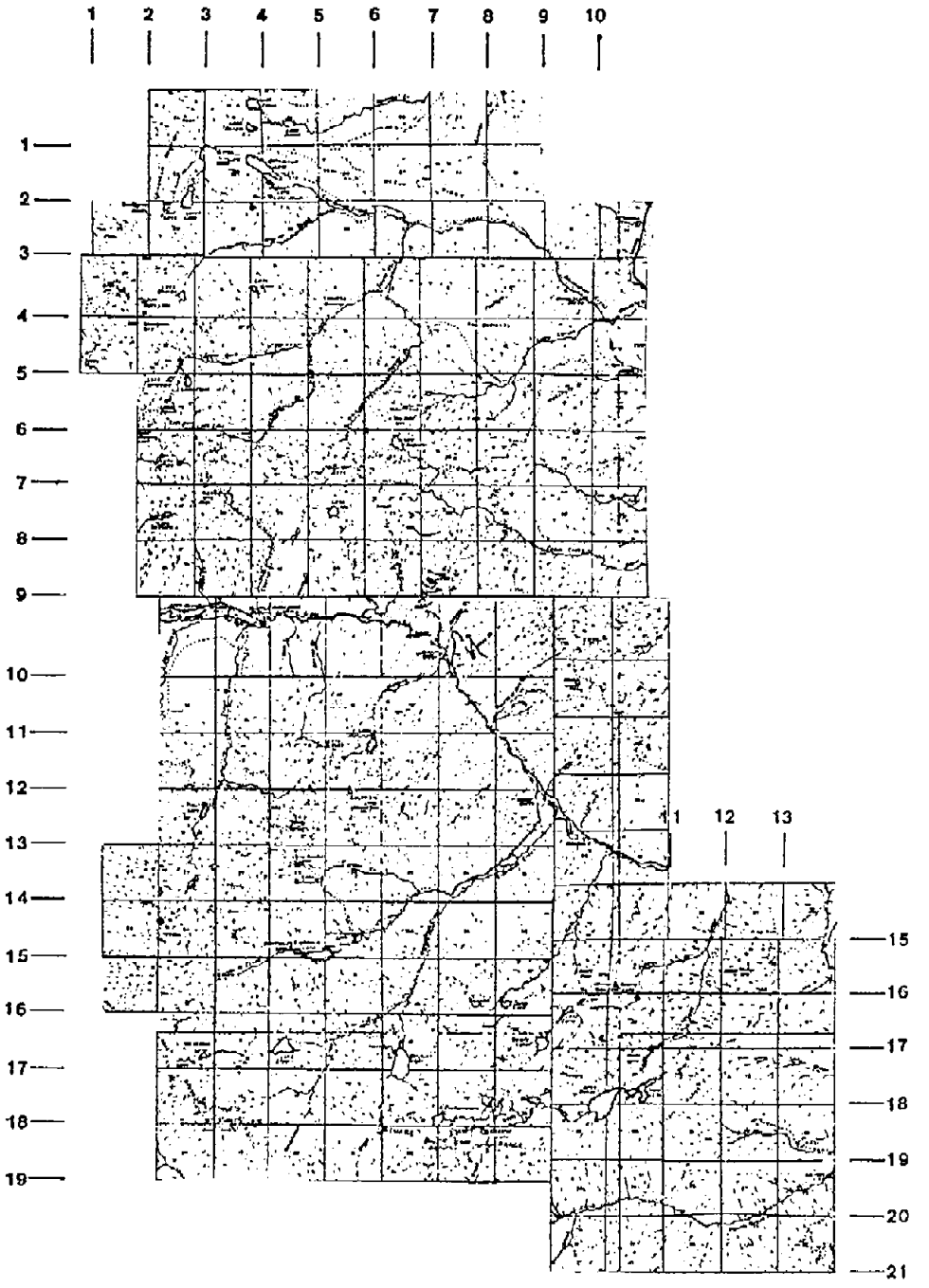
In most instances a predetermined numerical value, identifying a condition of the variable of interest, is coded into each cell of the coding form. For example, if the variable being coded is slope aspect, the value coded into each of the cells identifies the predominant direction that the slope is facing within the cell. For this variable, the numerical identification value utilizes integer values between 0 and 9 to denote the direction of the slope aspect; the value 1 denotes a

FIGURE 3
SUBJECT PROPERTY SPATIAL REFERENCE
(Township/Range Reference)



north-facing slope, the value 9 denotes a multidirectional slope, and the value 0 indicates the cell is mostly flat. The fact that the north-facing slope has a value of 1 and the multidirectional slope has a value of 9 does not imply that the multidirectional slope is 9 times better or worse than the north-facing slope. The

FIGURE 4
GENERAL SPATIAL REFERENCE SCHEME



numerical value is used for identification purposes only. The transformation from a numerical identification to a judgmental evaluation score is accomplished later (see Figure 5).

The data for the subject and comparable properties were then collected, coded, and stored in spatial databases, one for the subject property and one for each comparable property, where the resolution and content were kept constant. With these data so configured, it was then possible to implement systematic evaluation and analysis procedures.

A systematic or automated data processing model leading to valuation of the subject property was also necessitated by the fact that there were a number of legal issues to be resolved relative to establishing the date of taking, the definition of the larger parcel for possible severance damage compensation, and related matters as to the unities of use, ownership, and contiguity. As these issues would be negotiated in the future or determined by court action, the appraisal process would have to be updated to be consistent with such determination in a very short period of time to continue the trial or counsel the property owner during negotiations. Given detailed data on the properties, the only feasible methodology for revaluation with changing directives on key parameters was to build an automated or semiautomated system.

Market Comparison Approach to Value

The basic concept of the market comparison valuation method is to search for properties which might have served the same uses as that indicated as best use for the subject property to be appraised on the principle that buyers will tend to pay as top price only as much as they would have had to pay for reasonable substitutes—a presumption about behavior often referred to in the textbooks as the principle of substitution. For wilderness lands, there are three major conditions for executing this task:

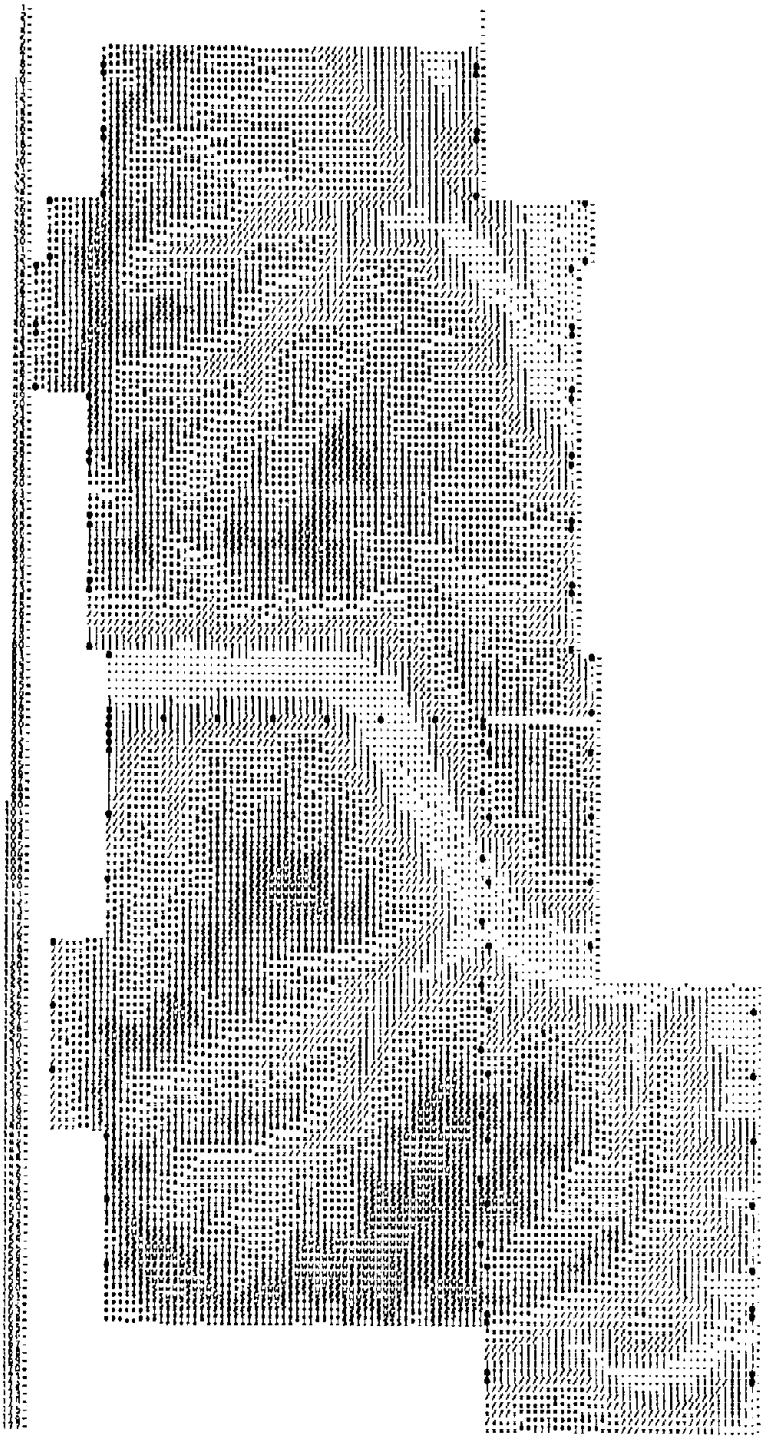
1. There is an orderly market for parcels of singular scenic quality and other wilderness attributes producing transactions at arm's length without recourse to eminent domain.
2. There is adequate information to adjust sale prices of transactions meeting the first condition for external factors such as time of sale, financial terms, and custom conditions short of a cash sale in fee simple, and the appraiser can exercise judgment in the application of reasonable adjustments for differences in location or imbalances in the market to the degree that these differences are unique to only some of the comparables.
3. There is a common denominator for comparison of sales once adjusted for condition 2 above that will overcome differences in both size and quality or suitability for the use presumed.

Steps in the Market Comparison Approach

In selecting market transactions, comparability should consider location, physical attributes, and motivation of buyer and seller. These issues may be addressed through application in the following five steps:

1. Research the market to identify similar properties for which data are available, such as pertinent sales, listings, offerings, etc.

FIGURE 5
ELEVATION IN RANK ORDER



2. Qualify the prices as to terms, motivating forces, and bona fide nature.
3. Compare each of the comparable properties' important attributes to the corresponding ones of the property being appraised, under the general categories of time, location, physical characteristics, and conditions of sale.
4. Consider all dissimilarities and their probable effect on the price of each sale property to derive individual market value indication for the property being appraised.
5. From the pattern developed, formulate an opinion of market value for the property being appraised.

The determination of the comparability of individual sales leads to the most general and difficult problems in the application of the market comparison method. Each parcel of real estate is distinctive as to the land on which it is situated. Land may vary in its locational features, topography, views, soil conditions, etc. Consequently, the appraiser employing the market comparison method must take all these factors into consideration in using market sales of differing parcels to estimate the value of the subject property.

Adjustment of Comparable Sales for Externalities

To equalize comparative sales for terms of sale, regional locale, improvements included with land, differences in development or market pressures, and price change over time due to dollar devaluation, it was necessary to set up rules for adjusting sales prices to a common date, a common bundle of rights, terms of sale, and market context.

The sales prices, adjusted for time and other externalities, became the basis with which to appraise the subject property. The adjusted sales represent prices paid for wilderness properties, generally purchased with the explicit buyer objective or implicit recognition that the property would largely remain wilderness and meet the second condition of the market comparison approach.

Establishing Comparative Wilderness Scores

The key to the market comparison approach is selecting a relevant unit for comparison, a unit that measures the kinds of utility that the buyers think they may be purchasing. A Mercedes-Benz and a Ford pickup cannot be compared on price per pound, but corn land is rated in bushels per acre of production, and grazing land is compared on animal unit months of carrying capacity rather than just acres. Bushels and animal unit months are simple point systems that reflect complex combinations of soil, water, climate, and farming methods. Farm appraisal provides another useful analogy. When comparing farm sales, it is necessary to reallocate the total purchase price to the different types of land, including tillable acres, meadowland, woodlot, bottomland, and so on in terms of their relative contribution to the farm as an economic enterprise. The principal component of this research was the development of a wilderness evaluation procedure that would enable the identification of an appraisal unit that could be used for comparison, on both the comparables and the subject, and allow for the implementation of the market comparison valuation method.

The Wilderness Evaluation System

The need to develop a systematic data analysis procedure resulted in establishing a data organization process defined as the Wilderness Evaluation System (WES). At the heart of the WES is a procedure of data organization and representation modeled after the Wilderness Attribute Rating System (WARS), which was developed as a component of the Roadless Area Review and Evaluation process (RARE-II) by the U.S. Forest Service, United States Department of Agriculture.

The WES was developed specifically to address the problem of representing the significant physical characteristics of the comparables and the subject property that wilderness buyers were most likely purchasing. The WES was designed to provide an inventory of ascertainable facts describing the physical characteristics of the land which are implied to be important to the buyers of wilderness land.

The WES is composed of the three requisite components included in the WES process: apparent naturalness, opportunity for solitude, and opportunity for primitive recreational experience. In addition, the WES includes a supplemental component for the evaluation of view quality. Each component contains several attributes related to recognized wilderness qualities.

For this project, the inventory of the wilderness attributes was compiled using a 10-acre cell as the basic unit for evaluation. The 10-acre cell was selected after diversity tests (tests designed to measure the frequency of change with individual attributes when measured at alternative resolutions) were done on 25 selected transacts of a mile in length each.

Attribute Weighting

The WES consists of 10 attributes scored on an ordinal basis in which each attribute has a minimum possible score of 0 and a maximum possible score of 10 (see Figure 6). The 10 attributes were grouped into four components of wilderness, modeled after the WARS section of the RARE-II procedure. It was determined that the most defensible weighting scheme, from a legal standpoint, would be to set up a weighting scheme in which each attribute would be weighted equally, relative to the component in which it was assigned, and that each component would be weighted equally to each other. (The Wilderness Act of 1964 identified the three primary wilderness components: wilderness quality, solitude, and primitive recreation experience. The 1964 act also permitted any of four supplemental attributes, including scenic quality, if present to a significant degree. Neither the Wilderness Act, the Alpine Lakes Act, nor the RARE-II analysis suggests one component is more important than another.) This type of weight distribution is consistent with contemporary appraisal theory in that the appraiser is attempting to remove any one-sidedness relative to one component compared to another.

The Wilderness Attribute Score (WAS) represents the composite score of all four wilderness components and is derived by summing the resultant weighted attributes constituting the Wilderness Evaluation System. The model was used to derive estimates for each of the attributes and components and combined to establish a measure of wilderness (WAS) for each 10-acre cell making up the subject property as well as the individual comparable properties.

FIGURE 6
ATTRIBUTE WEIGHTS

I.	Wilderness		.25
	Apparent Naturalness	.25	
II.	Solitude		.25
	Distance to Perimeter	.0625	
	View from—Rev.	.0625	
	View to—Rev.	.0625	
	Vegetation Screening	.0625	
III.	Primitive Recreational Experience		.25
	Challenge	.08334	
	Diversity—% Slope	.08333	
	Diversity—Terrain	.08333	
IV.	View Quality		.25
	Scenic Quality Est.	.20	
	View from	.05	
Wilderness Attribute Score			1.00

Determine Average Price Paid for WES Attribute

As appropriate for the market comparison approach, a broad search for properties purchased for conservation purposes as unique resources was instituted across the Northwest on the eastern side of the major mountain range in areas of similar climate, rainfall, and treeline levels so that vegetative growth rates were comparable. Comparables were ultimately found in the Cascades, Idaho primitive area, western Montana, and western Wyoming. Adjustments were made for payment terms, time of sale, and special background negotiations. Location had to recognize the density of tourism and proximity to urban centers, using highway traffic data as a measure of recreational consumer recognition of the wilderness area. The adjusted purchase price then represented the value placed on the physical characteristics of the total parcel.

Through the application of the WES to the comparable property, it was possible to estimate the total wilderness attributes present within the property's boundary. With this information, the average price paid per attribute could be estimated. For example, for the Phelps Creek comparable, the adjusted purchase price of the 357-acre property was $287,000. When the information was processed, the analysis indicated that the total attribute points scored were 265.66. By dividing the adjusted purchase price of $287,000 by the total attribute score of 265.66, the resulting average price per point of $1,080.32 was determined. This indicates that the buyer paid $1,080.32 for each wilderness attribute point inventoried in this comparable.

Distribution of Price Paid

Having determined the average price paid for each wilderness attribute, the next step was to use the information to indicate the price paid for individual 10-acre cells making up the comparable. The indicated price for each cell in the

comparable is determined by multiplying the number of attributes within the cell times the average price paid for each attribute. For Phelps Creek, the average attribute score per cell was 6.325; however, evaluation of detailed information shows that the attribute scores ranged from a high of 6.592 to a low of 2.946. Redistributing the adjusted purchase price by the number of attributes present within the cell indicates that the price paid for the maximum attribute cell is 6.592 times $1,080.32 or $7,121.46, and that the lowest cell is 2.946 times $1,080.32, or $3,182.62. The sum of all the cells' assigned prices is equal to the adjusted purchase price for the entire comparable ($287,000). The important point is that the better-quality cells (those with the greater number of attributes) receive a greater portion of the purchase price.

This process of allocating price to the cells with the greater amount of attributes is modeled after the process frequently used in the appraisal of farmland. The procedure, usually referred to as the allocation method, requires the appraiser to identify the major types of land making up the parcel and then distribute a portion of the price to each of the landscape units. The appraiser would then have to evaluate the market of farm sales and develop an evaluation procedure for valuing each of the composite parts to derive an overall price estimate.

The wilderness evaluation system operates on the same premise, except the spatial unit is fixed at 10 acres and the attributes evaluated are fixed at 10.

Attribute Matching—The Pricing Process

The implementation of the attribute-matching process utilizes a data processing technique designed specifically for automated market comparison, called MKTCOMP.[6] Over the years, MKTCOMP has been used intensively by such federal agencies as the National Park Service, in the acquisition of the southwest Everglades in Florida; the National Wildlife Service, in the evaluation of the border waters in Minnesota; and the Bureau of Indian Affairs, for pricing agricultural land. Private appraisers have used it for ranchland, single-family houses, and rental comparisons as well as automated community tax assessment.

The MKTCOMP process permits definition of an initial subset of sales data using Euclidian distance in terms of the sum of the squared dollar adjustments to rank a preliminary subset of specified dimension. A second refinement of the subset is then processed to rank the available comparables in order of "closeness" to the subject parcel. It should be noted that the appraisers anticipated a court fight on every step of the methodology, so the techniques selected were those that had been used at some point by the National Park Service for land analysis or valuation. Indeed, some of the techniques had been highly touted in a seminar for wilderness analysis sponsored by the Park Service. However, the sequence of techniques as they were relevant to the real estate appraisal process had never been recognized before. The appraisers were in the fortunate position of having tutored various federal agencies in the use of MKTCOMP and having some statistical evidence of the frequency with which it had been applied in other

federal compensation matters, so there was strong reason to believe that the automated models components could be upheld in the courtroom.

For the purpose of this project, a special version of the MKTCOMP program was developed. The change provided for the identification and selection of the landscape unit (cell) from the comparable that is most similar to the landscape unit of the subject being priced. In this way, the most similar representative from each comparable property is chosen.

To execute this process in a data processing mode without placing many constraints upon the manner in which the appraiser wishes to express judgment, experience, and insight, the MKTCOMP system has the following components:

1. A subject file, which provides the attributes' scores for the landscape units making up the subject property. This could be 10-, 40-, 160-, or 640-acre cells.
2. A comparable sale file, which consists of the landscape units, in the same sequence and scale as in the subject file, and an indication of the price paid to acquire the landscape unit.
3. A factor file, which identifies each attribute's adjustment amount, in dollars or percent of selling price, for a difference between the comparable's attributes and the subject's attributes.
4. A ranking procedure, which displays the comparable landscape units in order of their similarity to the subject landscape unit being evaluated. The degree of similarity between the subject landscape unit and the comparable landscape unit is generated from the combined adjustments for differences in wilderness attributes between the subject and comparables.

To illustrate how the pricing process works, two example cells will be processed—a subject cell and a comparable cell. Recall the third step in the market comparison approach to value to indicate the degree that the subject and comparable are similar. To the extent that the two property units are similar, no adjustment will be necessary. Figure 7 identifies the attribute scores for the subject and comparable cells.

In identifying the degree of difference between each wilderness attribute, by subtracting the attribute score of the comparable from the subject, two important steps have occurred. The first is the obvious, the indication of difference. The second step is the implicit indication of the degree of similarity. For example, the scores for apparent naturalness are 10.00 for the subject and 8.30 for the comparable. This indicates that the two parcels are different by 1.7 units but also shows that they are similar by 8.3 units. This implicit recognition of the level of similarity is an important component of the attribute-matching method of price estimating.

In the attribute-matching method, an adjustment is applied only to the difference between attributes; thus, for the units of similarity between the subject and comparable, no adjustment is made. To account for the price difference between attribute scores, the difference is multiplied by an adjustment factor. (This factor is generally determined by the appraiser through analysis of the comparable file.) The adjustments are then combined and added to the selling price of the comparable. If the net adjustments are negative, the comparable's selling price is reduced; if the net adjustments are positive, the selling price is increased. In this way the attributes of the comparable are adjusted to be

FIGURE 7
PRICING EXAMPLE CELLS

Attribute	Subject	Comparable
1. Apparent Naturalness	10.00	8.30
2. Distance	0.00	2.52
3. View from—Rev.	2.52	1.89
4. View to—Rev.	2.50	2.14
5. Vegetation Screening	1.58	1.26
6. Challenge	0.00	0.00
7. Diversity—% Slope	0.50	3.32
8. Diversity—Terrain	1.00	1.63
9. View to—Normal	0.00	0.50
10. Scenic Quality	3.20	3.20

similar to the subject, and any difference is used to adjust the selling price of the comparable.

If this process—determining the degree of difference between each attribute, followed by converting the difference into dollar adjustments and adding the adjustments to the purchase price—is continued for all comparables in the comparable file, the result is that each comparable in the data file is priced as if it had exactly the same attributes as the subject.

Identifying Similarity—Selecting Comparables

The key to unlocking the attribute-matching method is being able to identify similarity and selecting comparables. Having developed a pricing method which can be consistently applied to all comparables, which is robust and meets the objectives of the buyer profile, the last step is to extend the process to be compatible with the requirements of the market comparison method. Recall that the market comparison method requires a set of market transactions to be selected from the pool of all similar transactions. Also note that selection is based on those comparables most similar to the subject in physical characteristics.

The attribute-matching method just described gives the basis for selecting those properties most similar to the subject, from all the adjusted comparables. Note that the comparable properties most similar to the subject property (the 40-acre subject compared to the 40-acre comparables) will be the comparables with the least amount of adjustment made to their purchase prices. By identifying the 40-acre parcels that received the least amount of adjustment, it is possible to automatically find the best subset, from the total set, which is most similar to the subject.

The idea of similarity can be implemented in several ways. The first method would be to define similarity as being the net adjustment made to any comparable parcel. By searching through the data file of adjusted comparable properties, it would be possible to find the number of comparables that received the smallest net adjustment and call them most similar. However, the use of the net adjustment has some problems for selecting most similar parcels. It may be possible to have

two comparable parcels quite different in attribute scores but resulting in the same net adjustment. For example, if the first comparable parcel were exactly like the subject parcel, no adjustment would be necessary. If the second parcel had two negative adjustments of $500 and a single positive adjustment of $1,000, the parcel's net adjustment would be zero (0), exactly like the first parcel.

Euclidean distance is the method employed by the MKTCOMP program to measure similarity and thus choose comparable properties and overcome several problems in attempting to use either net adjustments or the absolute value of the adjustments. The Euclidean distance model states that the total distance in multidimensional space is equal to the square root of the sum of the squares of the individual attributes. In appraisal, this means that an index for selection can be determined for each comparable by summing the squares of the adjustments made for differences between the subject and the comparable and then taking the square root of the sum. The number (Euclidean distance) is referred to as the selection index and is the basis for determining the level of similarity between the subject and comparable, measured in dollars.

MKTCOMP Output

When the MKTCOMP program is run, a property report is printed for each cell of the subject property, and the report consists of the following six reports (see Figure 8):

1. Selection summary
2. Subject parcel identification
3. Adjustment summary
4. Comparable parcel identification
5. Adjustment detail
6. Selection index identification

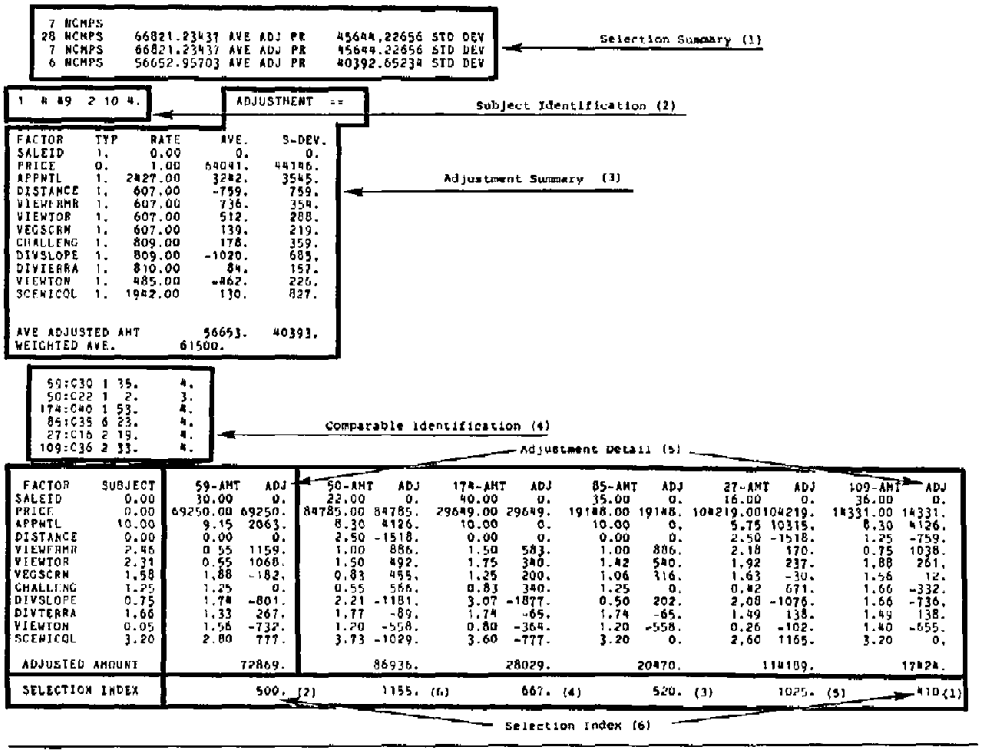
Selection Summary

The selection summary summarizes the impact of the first three decision rules imposed by the appraiser. Decision Rule #1 directed the selection process to consider the best 28 comparable subsales for each 40-acre subject parcel. This resulted in the 28 most similar parcels (of the 265 alternatives) being selected for each subject parcel.

Following the completion of Decision Rule #1, Decision Rule #2 was activated. Decision Rule #2 addressed the problem that some of the 15 original comparable sales contributed more subsales to the most similar 28 than others. To avoid one comparable sale dominating any particular set, the appraiser directed the system to accept only the first and best subsale from any specific sale, up to a maximum of 10 sales. Thus, the maximum number of subsales (chosen one each per comparable sale) to be used in estimating the price of the subject parcel would be 10. Figure 8 shows that after the 28 most similar subsales are selected, the number of subsales is reduced to seven and that the mean of the adjusted prices of these seven is $66,821.23, with a standard deviation of $45,644.23.

At this point Decision Rule #3 evaluated the distribution of the remaining seven subsales' adjusted prices. Decision Rule #3 discarded (from the subsales

FIGURE 8
MKTCOMP PROPERTY REPORT



```
 7 NCMPS
28 NCMPS    66821.23437 AVE ADJ PR    45644.22656 STD DEV
 7 NCMPS    66821.23437 AVE ADJ PR    45644.22656 STD DEV
 6 NCMPS    56652.95703 AVE ADJ PR    40392.65234 STD DEV
```

Selection Summary (1)

```
1  R 49  2 10 4.        ADJUSTMENT  ==
```

Subject Identification (2)

```
FACTOR    TYP    RATE      AVE.     S-DEV.
SALEID    1.     0.00        0.        0.
PRICE     0.     1.00    64041.    44146.
APPNTL    1.  2427.00     3242.     3545.
DISTANCE  1.   607.00     -759.      759.
VIEWFRMR  1.   607.00      736.      354.
VIEWTOR   1.   607.00      512.      288.
VEGSCRN   1.   607.00      139.      219.
CHALLENG  1.   809.00      178.      359.
DIVSLOPE  1.   809.00    -1020.      685.
DIVTERRA  1.   810.00       84.      157.
VIEWTON   1.   485.00     -462.      226.
SCENICOL  1.  1942.00      130.      827.

AVE ADJUSTED AMT          56653.    40393.
WEIGHTED AVE.          61500.
```

Adjustment Summary (3)

```
 59:C30 1 35.     4.
 50:C22 1  2.     3.
174:C40 1 53.     4.
 85:C35 6 23.     4.
 27:C16 2 19.     4.
109:C36 2 33.     4.
```

Comparable Identification (4)

Adjustment Detail (5)

FACTOR	SUBJECT	59-AMT	ADJ	50-AMT	ADJ	174-AMT	ADJ	85-AMT	ADJ	27-AMT	ADJ	109-AMT	ADJ
SALEID	0.00	30.00	0.	22.00	0.	40.00	0.	35.00	0.	16.00	0.	36.00	0.
PRICE	0.00	69250.00	69250.	84785.00	84785.	29649.00	29649.	19148.00	19148.	104219.00	104219.	14331.00	14331.
APPNTL	10.00	9.15	2063.	8.30	4126.	10.00	0.	10.00	0.	5.75	10315.	8.30	4126.
DISTANCE	0.00	0.00	0.	2.50	-1518.	0.00	0.	0.00	0.	2.50	-1518.	1.25	-759.
VIEWFRMR	2.46	0.55	1159.	1.00	886.	1.50	583.	1.00	886.	2.18	170.	0.75	1038.
VIEWTOR	2.31	0.55	1068.	1.50	492.	1.75	340.	1.42	540.	1.92	237.	1.88	261.
VEGSCRN	1.58	1.88	-182.	0.83	455.	1.25	200.	1.06	316.	1.63	-30.	1.56	12.
CHALLENG	1.25	1.25	0.	0.55	566.	0.83	340.	1.25	0.	0.42	671.	1.66	-332.
DIVSLOPE	0.75	1.74	-801.	2.21	-1181.	3.07	-1877.	0.50	202.	2.08	-1076.	1.66	-736.
DIVTERRA	1.66	1.33	267.	1.77	-89.	1.74	-65.	1.74	-65.	1.49	138.	1.49	138.
VIEWTON	0.05	1.56	-732.	1.20	-558.	0.80	-364.	1.20	-558.	0.26	-102.	1.40	-655.
SCENICOL	3.20	2.80	777.	3.73	-1029.	3.60	-777.	3.20	0.	2.60	1165.	3.20	0.
ADJUSTED AMOUNT			72869.		86936.		28029.		20470.		114189.		17424.
SELECTION INDEX			500. (2)		1155. (6)		667. (4)		520. (3)		1025. (5)		410 (1)

Selection Index (6)

surviving Decision Rule #2) any subsales having an adjusted price of more than plus or minus two standard deviations from the mean of the cluster of Rule #2. This prevented outliers from having a major impact on the price estimate. Figure 8 indicates that Rule #3 reduced the number of subsales from seven to six, which in turn changed the mean price from $66,821 to $56,653 and reduced the standard deviation by $5,200 to $40,393.

Subject Parcel Identification

The subject parcel identification report (Figure 8) displays the spatial information data of the subject parcel being priced. This information is processed and is used to develop the summary reports by ownership.

Adjustment Summary

The adjustment summary report (Figure 8) summarizes the adjustments by wilderness attribute, which were applied to the chosen subsales (those remaining after Decision Rule #3). The last line of the report shows the third price estimate derived by the MKTCOMP process, i.e., WEIGHTED AVE. This estimate is determined by applying the sum of digits weighting formula *(N*(N+1)/2)* to

the rank-order adjusted prices. Note that this is consistent with contemporary appraisal methods which indicate that the comparables most similar to the subject property should be given the greatest amount of weight.

Comparable Identification

The comparable identification report (Figure 8) displays the selected comparables in rank order according to their similarity to the subject parcel. The basis for determining similarity is the Euclidean distance measure derived when the comparable subsales are matched to the subject and adjusted, using the price adjustment rates from the factor file.

Adjustment Detail Report

The adjustment detail report (Figure 8) displays the adjustments made to each attribute. The subsales are listed beginning with the most similar and moving to the least similar.

Conclusion

Contemporary appraisal theory recognizes that an appraisal is an opinion of value for an adequately described property, as of a specified date, supported by the analysis of relevant data. Furthermore, contemporary appraisal theory recognizes that the appraisal opinion is a conviction founded on acceptable evidence but with less than perfect knowledge; thus, the determined value estimate will be subject to variance, leading to the determination of most probable price.

This project did not attempt to remove any decision-making or rule-setting control from the appraiser. The goal of this project was to address the issue of adequately describing the subject and comparable properties and providing the property descriptions to the appraiser in a usable and easily understood format. A usable and easy-to-understand format is important so that the appraiser can readily simulate the reactions of real-life users in the market in response to particular combinations of attributes and to the net benefits which these attributes are capable of generating.

The need to adequately describe a sample of competitive properties is to suggest that if the comparable properties were offered for sale at the same time as the subject property, buyers would consider them as reasonable alternatives. Clearly, the comparables need not be identical to the subject property, for buyers will consider different combinations or packages of attributes as substitutable. The degree of attribute variation tolerable for a buyer group will depend upon the weights which they, the buyers, attach to the various attribute groups.

The implementation of a market comparison pricing model, driven by procedures for selecting similar comparable subsales, was an explicit recognition that buyers and sellers weigh similar attributes differently, even when the intended use is the same. By selecting the single most similar subsale from individual comparable properties, the price/weight difference within individual comparable properties is recognized and utilized in ascertaining the price estimate of individual subject subunits.

This project has demonstrated that through the use of spatial database concepts, the descriptions of the subject and comparable properties are im-

proved because the spatial database can be sensitive to variation over short distances. With the improved property description, in combination with the attribute-matching pricing method, a more reliable and acceptable appraisal model has been developed.

The appraisers always anticipated a courtroom battle as federal attitudes reflected an early era of $50 an acre for snow and rock plus timber values for commercial timberlands only, suggesting a value of $8 to $12 million for this subject property, depending where the date of taking was set relative to stumpage price cycles in the northwestern United States. On the other hand, scenic quality suggested values in the neighborhood of $30 to $34 million for the acreage in question. A preliminary presentation was made to an assistant U.S. attorney general and a number of knowledgeable land specialists with federal agencies, but the Park Service continued to postpone making a jurisdictional offer long after the time for acquisition had expired as defined by the Wilderness Act.

The property owners went into court requesting an effort at negotiation and purchase or condemnation as required under law. A summer was spent defining legal positions and preparing a visual series of 4 feet × 8 feet display boards with which to teach a jury the appraisal process. Suddenly, there was a settlement on the steps of the courthouse in the fall of 1983 providing approximately $28 million for the taking, to the satisfaction of the property owners and the disappointment of researchers hoping for a court review of the process. The size of the federal agency move from its own initial appraised values to the actual settlement may represent tacit recognition of the methodology and the concept that scenic quality, which can be a public good, is also, in fact, a commodity in the private land market.

Notes

1. American Institute of Real Estate Appraisers, *The Appraisal of Real Estate*, 8th edition (Chicago: Author, 1983), p. 33.

2. Michael L. Robbins, *Methodology for Evaluating, Ranking, and Pricing Mountainous Wilderness Lands* (Madison, Wis.: Unpublished PhD Thesis, University of Wisconsin, 1983), pp. 3–7.

3. Public Law 88-577, *Wilderness Act*, 88th Congress, September 3, 1964 (78 Stat. 890, 16 U.S.C. 1131–1136).

4. Report of the Controller General of the United States, Federal Land Acquisitions by Condemnation—Opportunities to Reduce Delays and Costs (Washington, D.C.: General Accounting Office, May 14, 1980), p. i.

5. James A. Graaskamp, *The Appraisal of 25 N. Pinckney: A Demonstration Case for Contemporary Appraisal Methods* (Madison, Wis.: Landmark Research Inc., 1977), pp. 11–12.

6. MKTCOMP is an automated market comparison program specifically designed to implement the market comparison procedure. The system was developed at the University of Wisconsin by H. Robert Knitter with the cooperation of a joint project of the appraisal professional groups called EDUCARE (The Educational Foundation for Computer Applications to Real Estate).

Section Two
Appraisal Reform

The Need for Redefinition And Reform of the Appraisal Process

James A. Graaskamp

The appraisal function and methodology are pivotal to decisions involving social equity and efficient allocation of capital on a vast scale. The first imperative is the necessity of ethical institutions that are sensitive to the responsibility of their social functions. Social equity is becoming more complex, and therefore valuation models require continual redefinition to allocate real estate taxes, income taxes, available mortgage capital, and eminent domain compensation. Land ownership is a trusteeship, and as the public reasserts its control over historical private rights financial reimbursement depends on sound valuation procedures.

Capital is also a trusteeship, and the malfunction of appraisal in defining collateral values and real estate feasibility can result in great economic losses to existing financial institutions. These institutions are really congregations of individuals with whom the appraisal profession has a social compact to do the best professional work possible. In addition to validation of institutional collateral, appraisal serves to benchmark the performance of assets and asset managers. To the degree that its methods fail to use the best forecasting techniques available, appraisal contributes to the misallocation of capital and the short-changing of those enterprises that might otherwise have been financed to the social benefit of all.

The failure of the professional appraisal organizations to advance standards or even issue position papers on innovative techniques or issues raised by

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contemporary appraisal assignments is first a crisis in business ethics and secondly a frustration that drains the best talent and most creative energies away from further contributions to a professional appraisal group.

Appraisal functions and methodology are a specialty in the larger discipline of information processing and decision making, a field which has been moving forward at an accelerating and exhilarating pace. Information processing and therefore appraisal procedure always require some structure or model with which to qualify, edit, format, and focus data with relevance to a problem or decision. Such models have six constraints, and current appraisal thinking is failing to accommodate any of the six:

1. *Definition of the issue or question* for which value is required as a benchmark is seldom correlated to the definition of value or legitimate conditions to the value conclusion. The market value required to define liquidating value of a pension fund is not the same as market value required for eminent domain or market value required to collateralize mortgage loans, assess taxes, or compare asset managers.
2. *Recognition of data with relevance* to the issue is continually shifting as the market comparison method suffers from engineered prices, data processing permits cash flow forecasting and physical replacement costs shrink as a proportion of project loss. Nonetheless, appraisal organizations have not issued a single white paper as to their position on emerging methodology and disavow their own textbooks as statements of policy.
3. *Identification of hypotheses* which focus data on the issue is regarded as suspect when practiced by the appraiser using statistical inference, simulation models, or even financial instincts developed in non–real estate fields.
4. *Credibility and skill levels of the analyst* limit the choice of models. The appraisal organizations have failed to disseminate the brilliant innovations of the best members for simulation by the typical analyst. Professional discipline and incentive to acquire new skills are weak due to the institutional economics of the field.
5. *Acceptability and credibility of the model* with a decision maker greatly affect his perception of the analyst. Sophisticated decision makers perceive simplistic appraisal models and deductive formats of the 1930s as characteristic of the mind-set of the appraiser and therefore the minimal use value which can be accorded the appraisal product.
6. *Use of a model for information processing to be cost-effective* in terms of focusing data in a timely fashion without significant bias toward an error of economic significance. Given the explosion of urban land data and the falling costs of data processing, how does one explain the rigidity of appraisal models developed for simple questions, a shortage of data, and some questionable hypotheses as to how those data should be adjusted to fit the problem at hand?

The traditional real estate appraisal model using the three approaches to value and the format prescribed for a narrative appraisal report has been so firmly implanted in the minds of both appraisers and consumers that it has been easily formatted for word processor and printed forms for repetitive application to all types of property. As a result, appraisal form does as much for credibility as the substance of the report content. More often than not, the relevance of form is not matched to the issues for which appraisal is sought, and appraisal consum-

ers speed-read the letter of transmittal with a value conclusion and the picture pages of comparable sales.

The conditioning of the appraisal market to format and terminology by rote have made the appraisal process a prime tool in the art of disinformation. Disinformation is a technique from military intelligence which attempts to mislead the enemy by communicating information in a media format which gives it credibility or inferences which are not appropriate. The fair market value appraisal has become the tool of the borrower, syndicator, or dealmaker for misleading the investor or those who regulate the financial enterprise. Indeed, there is an implicit conspiracy between the appraiser and his client which tends to polish the appraisal art form as a device for disinformation.

The bar association has found it necessary to create a special canon of ethics which prohibits lawyers from using appraisals where the appraisers lack proper qualifications and the conclusions fail the test of reasonableness. One legal writer stated, relative to appraisal, that "purposeful naivete" on the contents of appraisal is tantamount to constructive fraud. The 1984 tax law provides sanctions against appraisers whose values are considered "aggressive" under IRS court challenge, and these sanctions are to be 30 percent of the income tax savings which would have resulted from the appraisal distortion. Needless to say, this tendency of appraisal to be used for disinformation purposes seriously undermines the credibility of the process and the ability of legitimate appraisers to charge fees appropriate to the cost of professional and objective work.

Given the fact that appraisers have been implanted with a given format by their professional training, the cost of redefinition and reform of techniques and communication methods falls on the individual appraiser. Costs include reeducation fees, the opportunity costs of time dedicated to continuing education, the inefficiency of changing work patterns, and the costs of reeducating the customers. Moreover, there are many customers who can exploit the current format and would boycott objective, analytical appraisers. For the established appraiser there are many disincentives for changing his modus operandi, while the young appraiser lacks the credibility required to introduce innovation via the appraisal report.

The ultimate cost of appraisal reports as media for disinformation is shifted to all of those who pay their debts in the form of higher interest costs, higher guaranty fees, and the failure of lending institutions at the expense of the FDIC and FSLIC. The losses are not specifically pinpointed to the appraisal malfeasance, nor do they fall on an identifiable political constituency. As a result, the cost/benefit ratio to the public is kept vague and insufficient to cause a public investment in the appraisal reform for which individual appraisers have no economic incentive. IRS sanctions in the 1984 law do not place the full cost of disinformation on the appraiser and may only receive court support if the appraisal is 200 percent of what is determined to be market value. A tacit implication that error of less than 100 percent can be expected in an appraisal should be an embarrassment to current standards.

The ethics of disinformation are also hazy, since American business condones the use of misinformation where it is provided by a third party to frustrate the objectives of public regulation. The ability to follow regulations in form rather than spirit is a part of American business know-how so that most appraisers receive peer group approval for shoddy or superficial appraisal work.

The increasing exposure of American financial institutions to the risk of commercial real estate investment is the subject of much publication. These sources of expensive funds generate an oversupply of space and accelerated obsolescence on older locations and structures. Collateral values on new properties are suspect and are diluted on older properties. Tremendous losses accumulating at FDIC, FSLIC, ERISA, and SBIC will generate several alternative scenarios to reform and redefine the appraisal process:

1. Federal regulators of financial institutions will retake direct control and responsibility for the appraisal function of income property, such as reemphasis on R-41(b) or IRS sanctions and rules.
2. Customers for critical appraisal services, such as asset managers of pension funds, will take explicit action by developing a standardized letter of engagement controlling appraisal methodology for their members. The Pension Real Estate Association (PREA), attorneys who provide tax counsel, and others are moving toward the detailed engagement letters developed in Europe with input from the Royal Institute of Chartered Surveyors.
3. The appraisal process will become a specialty within larger information processing fields like accounting, investment banking, or physical design where professional credibility already exists. Firms in each of these fields already have appraisal divisions, some of which avoid professional appraisal designations as a matter of policy.
4. Appraisal standards and definitions will be imposed by a federation of existing financial monitoring groups controlling acceptable methods and definitions for both collateral values and investment performance measurement. National residential brokerage chains have their own definition of market value, which deducts for costs of redecorating, a value they call fair market value with impunity.
5. Existing appraisal organizations which are generic and nonspecialized will reorganize as a single federation of appraiser/customer groups of common interests in a private/public consortium to negotiate appraisal redefinition in the immediate future.

It is our position that the last scenario is the most desirable resolution but the most difficult to accomplish with speed, objectivity, and imagination. It offers the hope that professional control of appraisal will survive outside a federal bureaucracy or the control of accountants and investment bankers where advocacy of client and consultant self-interest has its own history of ethical failure. Scenario 5 should permit valuation to survive as an economic function, an independent thought process, and a profession, although it will come at the cost of the evolutionary demise of generic appraisal organization and generic formats.

Underlying these comments is the hope, nay, the position, of the speaker that it is best for the social and business ethics of our society, as well as the remaining vestiges of a price economy, that appraisal survive as an independent field of expertise, practiced by generalists who maintain empirical objectivity in the process of valuing the facts and assumptions provided by specialists. However, the time remaining for redefinition, reform, and reenergizing thoughtful, independent appraisal is rapidly disappearing.

The trend for high-volume, low-unit-price appraisal work for residential properties is becoming automated, perfunctory, and in the nature of a physical

audit. There is a growing suspicion that single-family residential appraisal is less cost-effective than statistical toleration of variance in a mortgage portfolio, with the result that a significant component of the appraisal business will be reduced to spot-checking of values and of properties falling outside some standard classification. At the same time, high-fee appraisals, with lower unit volumes, are shifting toward execution by nationally known accounting firms, investment banking subsidiaries that have inside information on market comparables, and real estate research firms who have proven their willingness to collect market data.

Much of the remaining volume of appraisal work in traditional form is required only to satisfy regulatory audits and fiduciary liability. Obsolete court perceptions and precedents relative to appraisal cause old appraisal definitions and format to survive well past their useful life. These negative incentives for appraisal and the boredom most judges show for valuation testimony are a precursor to society dispensing with independent appraisal altogether in order to find pricing agencies which will better serve social equity, efficient capital allocation, not to mention more straightforward presentation of evidence in court.

All of the forces for redefinition and reform of the appraisal process and its role in decision making are already at work to overcome deficiencies of the traditional appraisal process. The problem is these agents of change are principally external to the appraisal profession, and the urgency of this colloquium is for the appraisal profession itself to regain control of its modus operandi and its historical evolution.

Institutional Constraints on, And Forces for, Evaluation Of Appraisal Precepts And Practices

James A. Graaskamp

Introduction

The appraisal process is pivotal in our society relative to decisions involving social equities, efficient capital allocation, land use, and management of real estate wealth. Issues or questions for which appraisal serves as an important benchmark are becoming continually more complex. Often those requiring valuation mistakenly presume a universal relevancy in the appraisal process to meet their specific needs. A suggestion of the multiple roles where appraisal value shifts in definition and scope as a part of an institutional ethic is provided by Figure 1. Institutional ethics may, however, be undermined by the institutional economics governing appraisal innovation. A grass-roots response, sometimes characterized as a guerrilla movement by leading appraisal professionals, adapts and applies the best of current pricing theory and information processing technology to appraisal problems. These efforts are consistent with the assertion that America is a grass-roots society.[1] It is odd then that there has been no effort to incorporate grass-roots redefinition, restructuring, and standardized guidelines within the specialized area of information management called professional appraisal. Professional appraisal societies have yet to produce a single white paper in response to current appraisal issues, let alone a response parallel to the accountants' Financial Accounting Standards Board's (FASB) belated response[2] to government's meddling in accounting via the Securities and Exchange Com-

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FIGURE 1

Purpose	Economic Interests to Be Valued	Definition of Value
A. Social Equity		
1. Real estate taxes	Economic surplus attributable to land and buildings	Highest cash market value before income tax
2. Legal compensation	Compensable real estate elements taken	Cash market value reasonable for both seller and buyer
B. Validation		
1. Regulation of lending	Exit value of asset in liquidation	Cash market price under duress
2. Auditing of assets	Historical value of asset acquisition	Confirmation of book value or equated value
3. Income taxation	Financial surplus allocated to reflect economic substance	Capital asset pricing limited by market behavior and tax code definitions
4. Insurance	Insurable interest in burnable components of real estate	Cost to replace or defined cash value
C. Benchmarking Performance		
1. Pension fund adequacy	Exit value of asset in liquidation (involuntary conversion value)	Market price under duress
2. Comparative management adequacy	Entry value of asset in normal course of business cycle for next investor	Most probable sales price at terms characteristic of market for combined real estate and personalty
3. Management composition	Marginal value added attributable to management after deductions for cost of capital from economic surplus	Most probable cash sales price
D. Counseling Changes in Real Estate Commitments		
1. Setting market prices	Future economic surplus, income, and positioning to control tax shelter appreciation, and related profit centers	Most probable price and terms
2. Forecasting purchase prices	Marketing perception of future surplus and positioning for control of other profit centers	Most probable price and terms
3. Life-cycle costing of alternatives	Present value of net outlays for public buildings Present value of all future outlays	Cost to create and operate
4. Constructing risks/payoff matrices under uncertainty	Present value sensitivity arrays of combined land, building, and management contributions	

mission's (SEC) Accounting Report 190.[3] The appraisal principles textbook,[4] much quoted as an authority in the courtroom and other argumentative prose, carries a disclaimer that the appraisal institute has any intent to suggest a standard. The laissez-faire of appraisal organizations relative to matters of theory and methodology is in sharp contrast to the voluminous pronouncements of accounting standards by FASB, particularly so when the appraisal of income property and pools of real estate investment are accelerating a merger of interests between accounting and appraisal in some aspects of income forecasting and operations monitoring.

The observable lack of effort by professional appraisal groups to provide a continuous and vigorous review of methods and concepts to control a dynamic appraisal process responding to current issues and competitive encroachments by other professions must have an explanation. Leadership is dedicated and intense, but energy is squandered on organizational matters, and issues of substance are delegated to inbred, part-time committees of elders. The brilliance of individual appraisers is seldom reflected in the professional standards of the group. The general argument of this essay is that the static public posture of appraisal theory is a classic demonstration of institutional economics at work.[5] Despite the general recognition that the appraisal business will be swept along as a part of the revolution of information systems and decision-modeling disciplines, this essay argues that reform and redefinition are frustrated because they both are counterproductive in the short run for established appraisal institutions and adverse to the short-term institutional economic interests of their major customer groups. Of course, in the long run, the failure to act as professionals by addressing change will be fatal to both appraisal and financial institutions.

The structural weakness of appraisal organizations in the United States has permitted the consumer of appraisal services to perceive the process of defining appraisal procedure as de facto conspiracy to dilute regulatory constraints on business activity. Since the 1900s the rise and fall of real estate finance institutions have always been aided and abetted by the corrosion of the appraisal process caused by their customers in banking and finance. The only meaningful reforms of the appraisal process have depended on the fact that cost/benefit ratios to the public welfare favor government agencies pressing hard for upgrading of appraisal techniques and concept.[6] At the least, implementation of contemporary appraisal procedures will be initiated by federal agencies concerned with social equity and institutional solvency of banking and pension institutions. At best, such strong interference in the domain of professional appraisal societies will enervate these groups to a professional response and review. At worst, major regulatory groups will usurp the profession function of redefinition.

Appraisal Process as a Decision Model

Appraisal methodology is a model for information processing with which to edit and structure information so as to focus on topical questions involving the elusive and evolving concept of real estate value. Value is a dynamic element, sometimes reflecting the value of the utility contribution of real estate to the establishment housed, sometimes the financial value of claims on the asset,

sometimes the going concern value of real estate as a captive customer for services, and other times its commodity value as a long-term speculation in fungible space-time units. Continual redefinition and reform of appraisal methodology is a requirement for the dynamics of any information processing model when the technology of information, techniques of systematic interpretation, and complexity of issues are evolving quickly in matters related to land. Market value today as an objective need not be any more static in character than the substance of rights implied by the aging term, fee-simple title.

The model for information processing for any topic of inquiry has certain opportunities within six basic constraints on any modeling effort, sketched as follows:

A. The question or issue for which the appraisal is required as a benchmark must be clearly and precisely stated. Reference to Figure 2 suggests how each change in question alters the property interests and the most appropriate valuation methodology. While accountants debate proper application of entry value, exit values, historical costs, replacement costs, or remaining productivity values, appraisers seem to believe that fair market value measures cash

FIGURE 2
CRITICAL ISSUES THAT DEFINE APPRAISAL PROCESS

Function of The Appraisal	Property Rights	Relevant Definition of Value	Allocation of Productivity	Buyer Motivation Presumed
Tax assessment	Fee-simple private rights unencumbered	Cash-market present value (as opposed to most probable selling price)	Present value income attributable to land and structures only	Purchase of economic productivity
Mortgage loan (nonparticipatory)	Encumbered fee-simple private rights plus additional rights pledged	Regulations—market value Underwriting—solvency price or liquidating value	Fixed income pledged from all sources less costs of creative management	Share of economic productivity contributed by capital
Mortgage loan (participatory)	Encumbered title plus nonvested interest in selected future revenues	Present value of all future cash flows	Variable income pledged plus share of reversionary interest	Share of economic productivity contributed by capital plus share in selected management returns plus positioning against devaluation due to changing conditions

➔

FIGURE 2 (Continued)

Function of The Appraisal	Property Rights	Relevant Definition of Value	Allocation of Productivity	Buyer Motivation Presumed
Sale of an investment	Encumbered title plus vested entitlements plus going concern profit center opportunities	Most probable price above minimum acceptable alternative opportunity	Returns from land, structures, personalty, and selected entitlements	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Purchase of investments	Encumbered title plus positioning for access to entitlements	Most probable price within perceived peril point limit	Land, structure, personalty, and intangible assets less profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions
Going concern purchase of a business	Encumbered title plus positioning for access to entitlements plus reduction in risk for business startup plus control of monopolistic market-position controls	Most probable sales price within perceived costs of creating an alternative	Land, structure, personalty, and intangible assets and good will plus artifactual profit centers for management	Increase in spendable cash Increase in liquidity value of estate Positioning to maximize probability of survival of benefits despite changing conditions

solvency values for the pension fund, most probable price with seller financing and with proper timing, or justified purchase value with seller financing or assumptions about nonvested interests in inflation, as the same value applicable to all questions.

B. Data with a plausible tie to the question must exist, and certainly there has been an explosion of information and data systems for retrieval that can be assimilated into the appraisal process with sorting concepts that go beyond intuitive, subjective manual procedures.
C. There must be a proven, reliable hypothesis to focus data into a decision format. The gross rent multiplier is such a hypothesis about the relationship of market price to gross rent when those are the only data points available for comparative purposes. But today, investors buy cash flow with complex twists and turns, or environmental diversity and unique physical resources, or business opportunities that involve a large piece of real estate.
D. The hypothesis about the data must be applicable in a way that is cost-effective for both the client, in terms of the dollar significance of the decision to be made, and the consultant, in terms of his time and overhead.
E. The model chosen must have credibility with the client who will make the decision and who in most cases has simply required the appraisal for the peace of mind that comes with believing in the certainty of the value.
F. Compatibility of modeling techniques with the abilities of the appraiser are the final constraints. The Ellwood model not only lacked credibility with the lenders but was limited in part to those appraisers who could use decimals and long division, not to mention understanding the abstract implications of compound interest.

Because the profession is not careful in working with clients to delineate the issue for which the appraisal is sought as a benchmark, the appraisal model has become stereotyped. Clients are more sophisticated than appraisers in many aspects of investment and engineering and are disappointed with traditional models. The explosion of data, progressive declines in the cost of data processing, advances in investment theory and decision theory all suggest the real constraint on appraisal models is the commitment of those who implement the models, such as appraisers and their professional organizations that advance the credibility of innovative models. However, even the traditional three standard approaches to value have their historical origins in a confusion of purposes, modeling assumptions, and emphasis on the normative.

Historical Appraisal Models

No hint of the need or desirability of synthesizing three approaches to value appears in appraisal literature[7] until the disarray of real estate markets and financial institutions in the 1930s required a new consensus on the substance and methodology of appraisal for the public good and for renewed trust in financial institutions. The synthesis of three approaches which dominates appraisal form is a pragmatic political accommodation to co-opt the three major powers needed to endorse national efforts to legitimatize the appraisal process and a national appraisal organization. Major consumers of appraisal services were insurance companies and banks, who were biased toward the cost approach in order to feel assured that borrowers would have substantial amounts of their own money spent on development before institutional dollars were laid out. At the same time, the income approach was advocated by Frederick Babcock, the academic, who

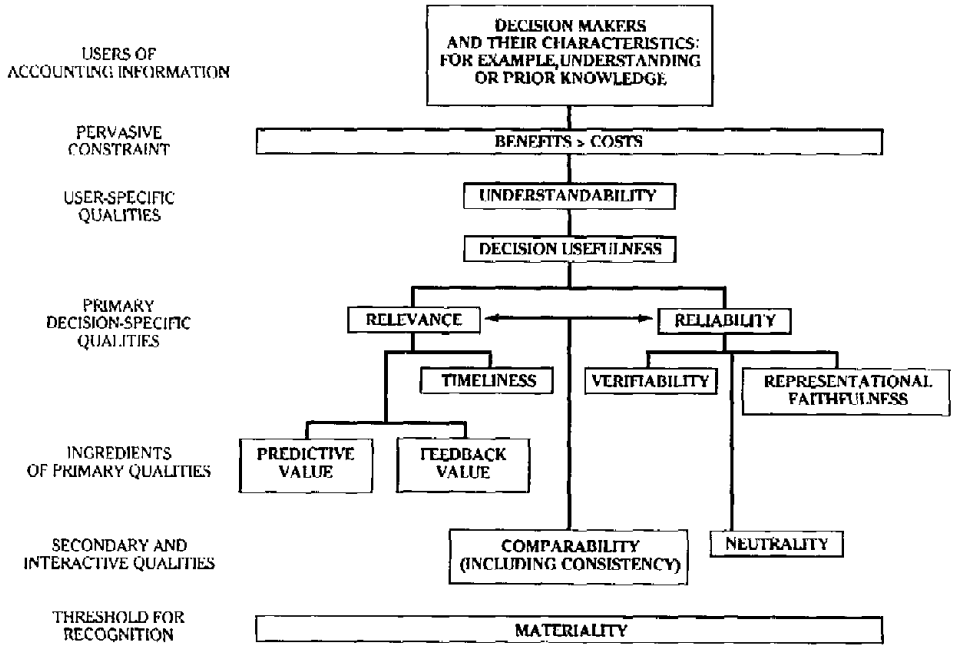
was then forming the appraisal thinking of the Federal Housing Administration, so that his text and theory had unusual leverage for an academic. The market comparison approach was advocated by the Realtors who controlled the National Association of Real Estate Boards (NAREB), under whose umbrella an appraisal group was to be formed. The Realtors not only controlled market data sources and had need of appraisal fees to sustain business income, but the Realtors also represented the conventional wisdom that "the value of a thing was the price it would bring." A consensus to create a unified front of these major market forces on matters of appraisal could be neatly served in the time-honored American way of synthesizing the protagonists into a three-approaches model. The model could be conveniently legitimized by reference to Marshallian economics with its premise that short-, intermediate-, and long-term prices tend to converge toward cost to replace. The result was a single-answer fair market value intended to serve most questions in a general way, just as GAP accounting was intended to provide a generalized format for balance sheets and income statements. The generalized format did not stress cash flow or current investment prices or futures—just standardization for purposes of comparison at a specific point in time. But accounting had continued to grow in terms of definitions and formats for specific purposes, while appraisal metaphysics has remained officially static.

Comparison with Models of Accounting Process

Although appraisal is concerned with future events and behavioral economics and accounting is primarily tied to reporting of historical business transactions, accountants provide some useful analogues as to what should be expected of an economic value reporting model. A hierarchy of standards in accounting is provided in Figure 3. These guidelines address the very issues that militate for redefinition and reform of the appraisal process:

1. Relevance of the accounting product[8] to the purposes for which the data were assembled requires flexibility from cash to accrual accounting, entry or exit value under normal or liquidation modes, and more or less precision in allocation among tangible and intangible assets. Appraisers have only recently made value explicitly sensitive to terms of sale and cash to the seller.[9]
2. Verifiability makes it possible for accountants to replicate their conclusions following general principles, while appraisers have grown into the practice of concealing their adjustments and data sources and insisting that the user trust the appraiser's black box.
3. Freedom from bias has to do with matching of revenues and expenses or mismatches of asset values and salvage values, for example. Appraisal bias is well illustrated by the difference between the British technique for rolling future leases at current market rates, while Americans roll future leases at an inflation-indexed market rate, which tends to bias values upward with nonvested interests in future inflation made explicit in the rent schedules, rather than operating implicitly through the discount factors.

FIGURE 3
A HIERARCHY OF ACCOUNTING QUALITIES

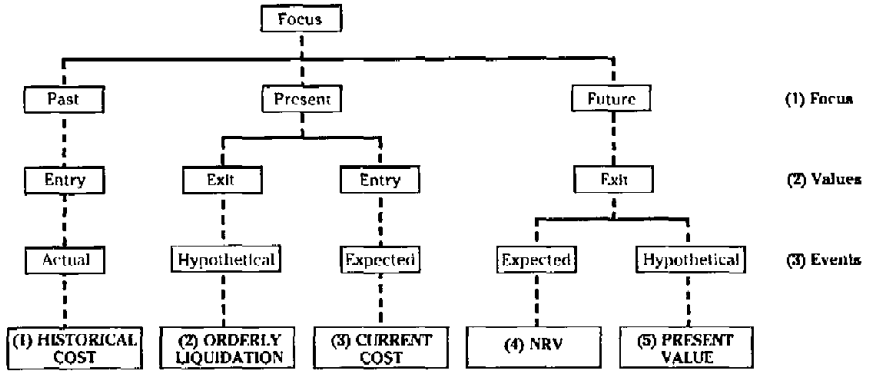


Source: Financial Accounting Standards Board, *Qualitative Characteristics of Accounting Information*, State of Financial Concepts No. 2 (Stamford, Conn.: Author, May 1980), p. 15, Figure 1.

4. Independence of the accountant is critical in the monitoring and auditing of financial activity.
5. Quantifiability of assumptions means that each financial product has a mathematical algorithm with an explicit set of assumptions for which there is a recognized logic. Many appraisal reports appear to be poetically whimsical in terms of quantities assigned.
6. Accountants match the issue or focus of accounting rules to both the relevant definition of value and the nature of the event required to realize value, as illustrated in Figure 4. The adequacy of pension funding is a function of expected net realizable exit values, while investment performance may involve the present value of hypothetical expectations. Similarly, insurance regulators and bank regulators should be interested in liquidating values of home offices or mortgage collateral properties. Since appraisers are permitted to fudge exit values for liquidation and fair market value assuming most favorable ongoing business scenarios, many corporate assets of financial institutions are overstated.

Certainly, the appraisal process needs to examine the role of the Financial Accounting Standards Board, the accounting protocols for fees and client rela-

FIGURE 4
COMPARISON OF ATTRIBUTES



tionships, and the tight affiliation of those developing theoretical standards with universities. Indeed, in many business schools, accounting dominates the curriculum and resources. Structuring of accounting partnerships to incorporate a group of professionals with various specialties around a field force that is continually trained in data collection and assembly cannot be shrugged off by an appraisal industry that has romanced itself on the one-man, jack-of-all-trades professional who cannot afford to hire a college graduate assistant.

Accounting firms are moving quickly into the related field of appraisal and are held in check by accounting standards of performance without conflict of interest. Conflicts of interest have no explicit checks where financial institutions do their appraisals inhouse, where investment bankers employ designated appraisers on salary for the creation of investment product, or where the appraiser contaminates his objectivity with the euphoria of his brokerage assignments. Accountants as a group are much more nervous than appraisers about cash flow forecasting techniques and representations. Appraisers as a group are not even uneasy about their homespun accounting analysis of income properties and their general account ledgers.

In short, appraisal education lacks the detail of accountants' hopes for its membership standards and the acute sensibilities of the accounting organization about their need for independence. Accountants feel the pressure of liability to those who rely on accounting judgments, even where there is no privity of contract between the accountant and those who rely on his work. Few believe that the accounting process has met all of its standards and, indeed, unrecognized bias in accounting has led to many excesses, such as manipulation of earnings through merger in the early 1970s. Prompted by the SEC, accountants modified merger accounting and introduced replacement value alternatives to correct for distortions of previous practices. But the potential bias in appraisal, manifested by current syndications, reported appreciation in pooled funds, and excessive lending by those in mortgage credit, has precipitated no similar reform action on the part of appraisers. Nor do appraisers have such a mechanism for reform. The lethargy of appraisal organizations to treat methodology as a dy-

namic evolutionary process of data management and communications could be explained by four major propositions or hypotheses:

1. Suppliers of appraisal services are represented by organizations in which the institutional economics are counter to reform.
2. Consumers of appraisal services may already perceive appraisal models as irrelevant or no longer cost-effective in decision procedures.
3. Consumers of appraisal services may have a vested interest in exploiting the potential sophistry of historical appraisal models to arbitrage between models of value for lenders and decision models of value for investors.
4. Appraisers have proven invulnerable to damages caused by their malfeasance and have avoided sanctions instituted by those who regulate financial institutions or administer taxes, so that negative incentives are ineffective prods to improvement.

Institutional Economics of Appraisal Organizations

The success of appraisal organizations in proselytizing the model that synthesizes the three approaches to value into fair market value has itself created institutional economic barriers to change. Indeed, the economic self-interest in the status quo of the members in the short run is an underlying cause in appraisal organizational reluctance to research or to advocate significant redefinition, refinement, or endorsement of newer methods. Without heavy pressure from important customer groups to adapt alternative methods, there is a natural inertia of appraisers because

A. The burden of the financial cost of change inherent in continual reeducation, reprogramming and updating task patterns, and the costs of error inherent in exercising discretion dictate the choice of method, format, and data collection. Certified appraisers fear the effort to reeducate the public will detract from the mystique and status of the designation.
B. Change accelerates the shift of earning capacity from the old to the young, from the intuitive to the systematic, from the experienced to recently trained, and from those who value the profit margins of old methods to those who defer profits for new learning experiences.
C. Marketing appraisal service is more difficult when generic certifications with implicit levels of competence are replaced with a hierarchy of explicit specialties.
D. Costs of malfeasance and malpractice rise with the loss of political collectivization, ambiguity of methodology, and the advent of contracts of engagement that specify elements of performance.
E. Administrators of appraisal organizations lack intensive understanding of appraisal and/or commitment to sustained theoretical development. Given short-term committee leadership of the membership, factionalism by region and specialties, and confusion of appraisal with brokerage and lobbying objectives, natural vested interests of administrators are in noncontroversial business as usual.

Certainly, institutional economic incentives are negative in the short run, although the long-term economic justification for independent appraisal is being challenged by encroachments of other specialists in information processing such as accountants, investment management consultants, consulting engineers, and even physical planners. As will be discussed in the next section, there is also lack of recognition among appraisal clientele of the potential relevance and decision value of contemporary appraisal which justifies the learning cost curve and more expensive data models with higher levels of reliability, relevance, and representativeness of real economic behavior.

In any event, the appraisal organizations have failed to issue a single position paper on appraisal standards, acceptable alternative methodologies, or caveats when performing appraisals on topical issues of broad concern. Curiously, the recent clarification of market value[10] to require a statement of cash equivalency value, followed by price subject to explicit terms of financing and the increment in value created by financing, has prompted efforts by some appraisers to squash the clarification. They believe the ambiguity of earlier language was important to the arbitrating of property values through sale of interest by means of syndication. In short, appraisers are not pressed to innovate in the marketplace because consumers of appraisal services have an institutional vested interest in appraisal ambiguity. Of course, those who employ accountants consistently pressure for ambiguity as well, but independent professional guardians of accounting standards have brought to the surface such factors as long-term leases, replacement values of submerged assets, and pension fund liabilities. Accounting, like appraisal, can be undercut by financial institutions. For example, loss reserves for real estate acquired by foreclosure by REITs were to include discounting of future proceeds and outlays at the cost of capital, whereupon the Federal Reserve Board consented implicitly to contingent discount rates of 1 percent to frustrate accounting reforms intended to remove the water from real estate balance sheet assets.

Institutional Economics among Users Of Appraisal Services

Consumers of appraisal services, specifically those who hire and pay for those services but not necessarily those who integrate the appraisal into their decision process, have always been a force defining appraisal methodology or impeding redefinition and refinement when it suited their short-term interests. Creative contributions to the appraisal process by consumers include not only the origins of the three approaches noted earlier, but standard forms of the secondary mortgage market and private mortgage guarantors, farm appraisal innovations of the farm banking system, and statistical work of the equalization boards and assessment organizations. The federal government has made imaginative, sometimes lyrical, contributions when redefining fair market value to serve its legislative need of the moment (Remember urban renewal and fair market value rents in Section 8?) so that the word "value" means no more and no less than government chooses it to mean in the Wonderland-on-the-Potomac. However, it is generally more expedient for private parties to exploit existing

ambiguities than to legislate and then promulgate self-serving interpretations, pushing them upstream against the institutional inertia of established practice.

Those who purchase appraisal services knowledgeably have generally found it useful to exploit the semantics of appraisals to achieve values supportive of their peripheral objectives. The American business ethic finds it acceptable behavior to shop among appraisers for price and a predetermined bias toward a high or low value conclusion, not to mention editing the final report indirectly by withholding payment for services. The borrower, his appraiser, and the lender—in order to confuse regulatory auditors and income tax collectors—play out an implicit conspiracy that will capitalize income from management or intangible assets, such as franchises, as though it were attributed to land and building collateral. The understandable bias of citizens to shift short-term real estate tax burdens toward those with the largest acreage and the tallest buildings is supportive of the assessor's unwillingness to delineate relative contributions to going concern value of land, buildings, tangible personalty, managerial efficiency, financial packages, or other intangible assets that are part of a commercial enterprise utilizing real estate.

In short, appraisal has become a significant tool in developing disinformation in communication of value to others. Disinformation is a technique of military intelligence for planting the wrong idea in the enemy decision process by transmitting misleading facts in a format which seems to legitimatize the source and contents. The game of disinformation works best when the stylized codes of the appraisal process are taken for granted as indications of relevance and accuracy by those to whom one is communicating.

Customers for appraisal can be divided among those who have occasional, expensive appraisal requirements and those who can offer a large volume of repetitive, low-fee work. The latter customer can control services through a letter of engagement which prescribes a specified form and procedure. Not only does this apply to class properties like single-family homes but to custom properties like apartments and income properties such as controlled by R41(b).[11] The alternate method of control of appraisal methodology is through purchasing power and occurs in such areas as the appraisal of large-income properties for pension fund real estate pools. Forty or 50 asset managers control placement of the appraisal business and are organized through the National Council of Real Estate Investment Fiduciaries (NCREIF), the Pension Real Estate Association (PREA), or the National Association of Real Estate Investment Trusts (NAREIT). Asset managers estimate there are not more than 100 appraisal firms throughout the country on whom they rely. Such buying power permits significant definition of appraisal methodology by means of a standardized letter of engagement. Purchasing power concentrated in the hands of such a small trade group can be far more significant then the indirect power of those who regulate and audit financial institutions.

The Federal Deposit Insurance Corporation (FDIC), the Federal Savings and Loan Insurance Corporation (FSLIC), and those who regulate pensions face a variety of subtle political and cost limitations on their ability to impose reform and redefinition of appraisal practice on thousands of institutions as a result of failure by a minority of lenders to use appraisal wisely. FDIC and FSLIC are accumulating hundreds of millions of dollars of real estate which represented

collateral overvalued by an appraisal process which leaves little opportunity to assess damages on the incompetent appraiser. Even the effort to require designated appraisers on farm and home loans has faltered since there are no designated appraisers in many small town areas of the United States. Nevertheless, the huge sums of money and critical dependence on appraisal to measure yield and management performance of the private pension asset field will soon lead pension organizations to co-opt control of the appraisal product relative to their area of special interest, just as FHA co-opted residential appraisals for its purposes in the 1930s.

Appraisal as an element of courtroom presentation and social compensation must serve two masters, legal precedent and the practical pressures of justice through advocacy of a viewpoint. Judges are a dominant influence on consumers of appraisal services and have had occasion to see the art of disinformation by the appraisal process practiced in its highest form. Judges prefer to believe that there is a fixed-point certainty in values in order that the appraisal become the fulcrum for certainty in values and that the appraisal become the fulcrum for the scales of justice in a way that contributes to an image of decisiveness with equity. Judges are conditioned to accept the ponderous pace of legal precedent and real estate philosophy at the same time they have reason to fear the sophistry of new appraisal techniques which may be introduced to advocate one viewpoint at the expense of another.

Nonetheless, better methods of information processing, of forecasting future returns with more than replication of historical evidence, and statistical probabilities of a social process are a threat to judges and property courts. Significant changes in the rules of evidence, the aging, intuitive definitions of value, or the previous precedents are intimidated by the appeal process. Courtroom complexity is squashed by the increasing ability of lawyers to select juries most likely to decide on emotion rather than intellect. The appraisal is sold as a product in which the package has received more thought than the content. The courts, in turn, condition the lawyers, and the lawyers, in turn, edit the appraisal process and the admissibility of new techniques. Only a few attorneys can accept the spookiness of an innovative, independent appraisal intellect, and at the same time a majority of appraisers advocate that the less the appraiser knows about the legal issues, the better the appraiser can be in his execution of fair market value. Major textbooks argue12 that the appraiser should not become informed on the law even though the appropriate appraisal model must be chosen to relate to the issue under litigation. Lawyers perceive an appraisal to be cost-effective when it is an advocate or do not believe the appraisers can be cost-effective in defining the information to be communicated in the litigation. The costs of stereotyped courtroom appraisals, missed opportunities to use cross-examination of the charlatan appraiser to achieve equity, and unnecessary litigation occasioned by erroneous appraisal viewpoints and precedents must be staggering. Ironically, lawyers remember the cases they won by exploiting the weaknesses of the appraisal process, and judges recall with favor those cases in which the appraisals were stereotyped by precedent and sterile in terms of technique.

The ability of consumer groups to impose the economics of their self-interest on appraisal doctrine and technique and on the many well-intentioned appraisers who have eschewed court work, mortgage loan appraisals, or

syndication work is the direct result of impotent professional organizations. Independent arbiters of appraisal practice do not exist to function in a manner parallel to the partially successful models of the accountants, the engineers, and the doctors.

Institutional Vacuum: Appraisal Organizations

The inherent weakness of appraisal organizations historically has permitted the consumer of appraisal services to co-opt the process of defining appraisal procedure to the long-term disadvantage of social equity. Purchasers of appraisals which are required by lenders, prospective purchasers, or regulatory agencies have the ability to intervene in the control of appraisal information because they select and pay the appraiser. There is seldom any blatant subordination of the appraiser, and the audience for the appraisal report reserves the right to reject or limit selection to an approved list. Nevertheless, those who sign the check maintain the subtle ties of reciprocity in the American business scene which influence the appraisal process through Veblen's "insensible bias of position." There is virtually an identity of interest between the appraisal, financial, and real estate brokerage fraternities to oversimplify appraisal concepts in order to frustrate regulatory objectives. Loss of economic independence and responsiveness to economic pressure from those who are repeat customers for services has diluted appraisal objectivity and undermined perceived cost/benefit ratio of rigorous appraisal among consumers of appraisal service.

Failure to advance recognized appraisal procedures by encompassing contemporary techniques and problems and failure to retain control of standards have resulted in the perception by some appraisal consumer groups that better appraisals, perhaps at higher cost, are irrelevant to their decision procedures. Weak appraisal organizations make it impossible, for those with reason to doubt appraisal performance, to secure efficient and effective sanctions against the incompetent. Weak appraisal organizations are neither effective conduits for public auditing, nor are they effective monitoring agencies to advance appraisal standards to serve the ultimate user who must rely on appraisals paid for by the regulated.

A variation of Gresham's Law is operating so that superficial and cheap appraisal products are supplanting intellectually intensive and more expensive report models. Weak appraisal organizations which are unable to apply strict standards on their membership lose public respect for the appraisal process so that

1. University faculties ignore appraisal as an important area for research of cost-effective methodologies.
2. Monitors of financial failure believe it futile to catalog the costs of appraisal failure, leading to investment errors.
3. Voters seek alternatives to taxation based upon real estate values rather than increased public expenditure for improved methods of mass appraisal.

The individual appraisers who represent the best in technique, personal skills, and contemporary thought are frustrated by the committee process of the

appraisal organization, the compensation pressure of the consumer, and the absence of promulgated methodologies from those who audit or monitor the public interest. The aggregate consequence of the discouragement of the earnest and the cynicism of those who benefit from the current state of affairs is that the subject of appraisal lacks sufficient status to attract research funds of sufficient scale so that the cost/benefit advantages of redefinition, reform, or even strict policing of present processes could be demonstrated. Such a demonstration of public benefit must precede effective action by the quasi-public agencies which have positive economic incentives to intervene in the evolutionary development of the appraisal process.

Institutional Economics Favoring Change

It has been argued that economic motivations for broader concepts of valuation in the style of Ratcliffian contemporary appraisal are negative in terms of both traditional appraisal organizations and the majority of financial and tax institutions which generate effective demand for appraisal services. However, there are two institutional forces at work which could bring about recognition of more sophisticated, contemporary appraisal assignments and techniques. First, there is the national tendency to disaggregate from monolithic organizations, spotlighted by John Naisbitt in his book *Megatrends* (1988), a trend manifested by participatory rather than representative government, specialization of media in terms of topic and reader profile, federation of business departments rather than monolithic conglomerates, and a variety of other manifestations of clubbiness at the local level.

At the very time that the major appraisal groups are once again considering merger with only lukewarm enthusiasm among the membership, the institutional trend suggests that what is needed is a federation of appraisal interests grouped or structured by specialties. Just as the Urban Land Institute is organized around nine councils of special development topics, perhaps a single national federation of appraisers should be organized in councils which focus on specific interests such as these found in the left-hand column of Figure 5. A federation of councils on valuation specialties like those in Figure 5 would provide a common base of principles, enforcement of ethical codes, representation in legislative halls, and administrative support. Each council could focus on appraisal techniques and standards germane to their interests without the impediment of educating the other 90 percent of generic appraisers as to the technical justification for departure from normative formats.

Each such council would interface with a regulating framework where social equity and institutional security would be a positive economic incentive to implement improvements, redefinitions, and more far-reaching reforms for the appraisal process. A representative identification of those representing the public sector is provided in the right-hand column of Figure 5, and in some cases these agencies are already beginning to operate with a de facto set of councils or specialties.

FIGURE 5

A PRELIMINARY SUGGESTED SET OF APPRAISAL COUNCILS REPRESENTING FEDERATION OF APPRAISAL USERS WITH POSITIVE ECONOMIC INCENTIVES FOR APPRAISAL REFORM

Appraisal Council Specialties On the Supply Side	**Agents of Appraisal Reform On the Demand Side**
(1) Residential for finance and tax assessment, SRA, RM, IAAO	HUD, FHLMC, FNMA, FSLIC, PMI, and state housing agencies
(2) Appraisal of income properties as collateral for mortgage loans and security financing	SEC, CPA, MBA, ABA, and FSLIC, plus IRS
(3) Appraisal of industrial process properties	Council of Economic Development, SEC, GSA
(4) Tax assessment appraisal of commercial properties	IAAO, American Institute of Planners, state boards of equalization
(5) Appraisal of land and mineral resources	Department of the Interior, the National Park Service, the National Fish and Wildlife Service, and GSA
(6) Appraisal for planning and eminent domain	The ARA, HUD, and the National Board of Transportation
(7) Appraisal of real estate equity pools	ERISA, PREA, NCREIF, and NAREIT
(8) Appraisal of personal property, including arts, jewelry, and intangibles	IRS, National Board of Fire Underwriters (NBFU)
(9) Appraisal of machinery, transportation equipment, inventories, etc.	IRS, NBFU

Early in the essay, institutional economics was defined as studying how associations of persons operated collectively so that their behavior could be modified collectively. An illustration is the area of real estate for investment purposes of private pension funds where appraised value plays a major role in measuring the adequacy of funds provided, as well as the performance of asset managers, in terms of yield on capital employed. On the one hand, government is represented by both the IRS and those administering the Employee Retirement Income Security Act (ERISA). Both are introducing sanctions and financial penalties for gross appraisal error or "aggressiveness" in advancing client interests. The dominating pension asset management teams are represented by the Pension Real Estate Association (PREA) and the National Council of Real Estate Investment Fiduciaries (NCREIF), both of which are investigating use of a standard letter of engagement controlling definition of appraisal methods, assumptions, and responsibilities to the fund managers.

There is an obvious common interest between those who would apply government sanctions and those who would apply consumer standards on the practice of appraisal for pensions. Both of these latter organizations agree that there are a limited number of appraisal firms which are considered qualified to set pension asset values, a number too small for a generic organization to police. The appraiser, in turn, needs support from the accountant in defining acceptable income-forecasting methodology. The accountants have already begun, through the FASB, to review and to standardize generally accepted principles for real estate accounting that could impact appraisal at every level.[13] At this point appraisers do not agree whether the income approach to valuation should reflect cash or accrual accounting, stabilized or inflationary rollover rents, and current or existing financing on the property.

Nevertheless, the institutional self-interest for establishing standardization of the appraisal process exists both on the public side in terms of the ERISA guarantees of funding, much like FDIC-guaranteed bank deposits, and on the private side where asset managers must maintain credibility as well as a basis for comparative competitive performance. The result will be a council of appraisers with special accreditation procedures who are acceptable to both the public and private sides of the pooled equity fund industry.

At the opposite end of the spectrum from large-income investment properties is the accelerating movement to adapt the minicomputer to processing of residential mortgage loan appraisal and assessment valuations. As in the pension scene, there are monolithic federal agencies with an immense interest in the reliability of asset value estimates, including FNMA, FHLMC, GNMA, and FSLIC, who are moving toward a consensus on appraisal content, format, and reliability. Standardization and computerization of the appraisal product also serve their actuarial approach to investment and underwriting risk.

At the same time, there are pressures at the state level to automate residential tax assessment, reducing the vagaries of the local art form of assessment and the statistical crudities of equalization. Both investment stability and social equity are leading to some sort of accreditation of appraisal firms which understand the opportunities and pitfalls of set theory and statistics in the valuation of small residential property.

As much as academics would like to believe that intellectual elegance and work quality are sufficient motivation to move a professional group forward, the fact is that improvements in technique occur only when social institutions become self-conscious about the inadequacy of a procedure, because dissatisfaction makes the benefits of improvement apparently greater than the costs of implementation. We believe the route to significant updating of the appraisal process and broadening of the official metaphysical base will occur if academics and public regulators educate and coerce the users and consumers of appraisal services to demand more of appraisers. Indeed, one could hope that by provoking ERISA and PREA to introduce a standardized appraisal methodology for income properties enforced with a letter of engagement, we would eventually goad the appraisal organizations into a creative flurry of more far-reaching reforms in order to reassert their domain of authority. A similar drama has already been written in the effort by the SEC in 1974 to reform inflation accounting via ASR 190,[14] which provoked the much-needed, long-delayed response by FASB and

accounting academics, the FAS 33 as amended by FAS 41, and continuing waves of research on how to report value of business real estate assets. This colloquium is reaching the wrong audience, and the next effort should focus on pension fund real estate or automated residential appraisal, theory, and practice in order that contemporary appraisal proponents or gadflys can convert a sting on the rump of the appraisal herd of content bovines to a painful spur causing a stampede of ERISA bulls.

Notes

1. John Naisbitt, *Megatrends* (New York: Warner Books, 1982).
2. Financial Accounting Standards Board Report 33, in response to SEC Accounting Report 190.
3. SEC Accounting Report 190.
4. American Institute of Real Estate Appraisers, *The Appraisal of Real Estate*, 8th edition (Chicago: Author, 1983). The flyleaf of the 8th edition says: "FOR EDUCATIONAL PURPOSES ONLY. The opinions and statements set forth herein are those of the individual members of the Institute's editorial staff and do not necessarily reflect the viewpoint of the American Institute of Real Estate Appraisers or its individual members."
5. The following was quoted from "Institutionalism and Urban Land Economics," in *Recent Perspectives in Urban Land Economics*, edited by Richard U. Ratcliff (Vancouver, B.C.: University of British Columbia, 1976). "Professor Edwin Witte was a labor economist trained by Dr. Richard R. Ely. He was a Wisconsin institutionalist, one-time president of the American Economic Association, and expressed the essence of institutionalism so reasonably and so lucidly that since his essay was published in 1954, his has been my final authority. Here is my interpretation of Witte's view on institutional economics:
"1. It is not a complete, self-contained, and connected body of thought, but a method of approaching particular economic problems.
"2. It is problem-oriented economics.
"3. Its concerns are more than solely economic motives and thus include whatever leads man to act in economic matters.
"4. It is interdisciplinary in recognition of the broad range of interacting social and technical factors which affect economic affairs.
"5. It recognizes that the institutions which are active or which are restraints in our economy are manmade and changeable. In problem solving, it is the present form of the institution and its evolutionary origins which are the materials of analysis.
"6. The method is heavily inductive, based on a direct observation of all the facts.
"7. It comprehends the associational aspects of our society which lead to group patterns of thinking and action."
6. The FHA was responsible for creating a more rigorous single family–home appraisal process; the Home Loan Bank took a firm stand against the excesses of the Ellwood approach when appraising income properties for loan collateral value; the California Board of Securities first established controls on computerized cash flow forecasting to estimate investment value of real estate in a prospectus. Watch the SEC and ERISA as they bring real estate value determination under control in their respective fields of interest.
7. See Chapter 3, "Analysis of the Appraisal Process as Applied to Land Corridors," by Terry V. Grissom, an unpublished PhD dissertation at the University of Wisconsin–Madison in January 1981.
8. Statement of Financial Concepts, No. 2, *Qualitative Characteristics of Accounting Information*, p. xxi.
9. See the definition of the implicit condition in fair market value on p. 33 of *The Appraisal of Real Estate*, 8th edition (Chicago: American Institute of Real Estate Appraisers, 1983).
10. Ibid.
11. The Federal Home Loan Bank has developed a very explicit set of auditing rules, R41(b), "Appraisal Policies & Practices of Insured Institutions & Service Corporations."
12. See J. D. Eaton, *Real Estate Valuation by Litigation* (Chicago: American Institute of Real Estate Appraisers, 1982), Chapter 1.

13. The FASB began to address certain parts of the real estate value problem in 1979 by means of the requirements of SFAS 33, later amended by SFAS 41. Currently, the AICRA's real estate accounting committee is undertaking an experiment on the application of current-value accounting to the financial statements of real estate companies, as reported in Michael J. Brenner, "Real Estate Financial Reporting: User's Perspectives," *The CPA Journal*, Spring 1984, pp. 32–35.

14. The SEC was the first policy-making body to require disclosure of inflation-adjusted financial information with Regulation S-X, amended by Rule 3-17, with the disclosure requirements set forth in Accounting Series Release 190 (ASR 190) on March 23, 1976. In September 1979 the Financial Accounting Standards Board issued a counterstatement on "Financial Reporting and Changing Prices" (FAS 33) which essentially replaced SEC requirements and reestablished FASB turf after a long period of dilatory delay on reforms required.

Impact of Changing Appraisal Regulation On the Developer

(Speech Notes)

I. *Fallout from looting of the savings and loan in commercial lending*

   A. *The Barnard report*
      1. *Need for appraisal standards and enforcement of practice*
      2. *Appraiser must be hired by the lender for the lender*
      3. *Loan officer must sign his concurrence with the appraisal*
      4. *Officers and directors must have an appraisal policy, approved appraisers, and a review process or become personally liable*

   B. *Barnard legislation*
      1. *Before being introduced, it has forced eight major appraisal societies to create a foundation which will fund and organize an appraisal standards board and an appraisal certification board. Certification will be implemented by the state.*
      2. *Representative Barnard's legislation would extend something of our R41(c) to all federally insured institutions, possibly including pensions.*
      3. *Appraisers are in favor of federal participation because enforcing sanctions against cheating appraisers is too expensive and too dangerous in terms of slander and libel.*
      4. *Major opposition from NAR because brokers would no longer be able to appraise if they weren't competent to be certified.*

These notes were prepared for delivery at the National Association of Industrial and Office Parks' Milwaukee Chapter organizational meeting, September 29, 1987.

II. Federal savings institutions

A. The FSLIC has put in force R41(c), which has very stringent regulations on appraisals for construction and development loans, which include requirements for full market study, basic environmental and feasibility studies, and progressive measures of value from raw land to the development process indicating value at certain stages of development. The loan officer and management are held personally accountable for accepting faulty appraisals. Provision is made for creating a blacklist of appraisers no longer acceptable. Cash equivalency is the theme for real estate interests only, and other elements of value must be reported separately.

1. Value added or subtracted for financing terms
2. Value added for personal physical property
3. Value added by intangible property (such as a franchise)
4. Difference between real estate value and going concern value

B. The Federal National Mortgage Association and Federal Home Loan Bank Mortgage Corporation have redefined market value, best use, and the relevance of sales data to control the underwriting of apartment projects and condominiums. These controls emphasize cash equivalency of collateral value.

III. Professional appraisal societies

A. The American Institute of Real Estate Appraisers and the International Society of Real Estate Appraisers have been stung into reaffirming their codes of professional conduct and removing possible ambiguities from their terminology.

1. Market value has been clearly defined as the most probable price at which a property would sell for cash to the seller, assuming knowledgeable buyers and sellers are under no special duress, including time on the market. This benchmark value must then be adjusted for financing, other entitlements, or encumbrances which would modify the cash value upward or downward.
2. The appraiser is expected to exercise due diligence in the selection and the utilization of all relative data and concur in the data used rather than deny responsibility by means of limiting conditions and assumptions. The basic standard is that the appraiser must report all the data and procedures used so that his work can be replicated and validated so that no miscommunication, disinformation, or sophistry can occur to mislead the reader of the report.
3. As these groups receive legislative help in terms of protecting the appraiser against economic intimidation from the client, they will exploit the wave of reform to establish significant controls on their membership and their methods.
4. Credibility will mean higher fees, longer apprenticeships, and more reliance on college training, specifically in land economics and land valuation, a professional characteristic already found in Europe and in the English traditions of value surveyors.

B. *Financial Accounting Standards Board (FASB) has issued a discussion paper on the appropriate use of cash or accrual accounting which will conflict with traditional appraisal and pension fund practices.*

C. *Several of the Big Eight accounting firms have set up special appraisal review departments since accounting practice no longer permits the auditor to sign off on appraised asset values without a judgment on the adequacy of the appraisals.*

D. *The European Common Market Accounting Fraternity, aided and abetted by the Royal Institute of Chartered Surveyors, has implemented a 250-page set of standards for the appraisal of fixed assets, including real estate for various financial reporting services, with a special section devoted to pension fund real estate. These standards are incorporated by reference into appraisal letters of engagement. There is continuing review and improvement by the International Assets Valuation Standards Committee.*

IV. *Impact on developers' relationship to appraisers*

A. *The lender will pick the appraisers, specify the product, and pass through the cost to the borrower in loan fees.*

B. *The loan submission will contain a clause that requires full disclosure by the developer of all engineering studies, hazardous waste problems real or imagined, and other relevant data.*

C. *The number of qualified certified appraisers will be minimal so there will be a long wait for the product and the price will be three to five times higher than you have been used to paying.*

D. *Many of your favorite appraisers in the past found it expedient to give up their designations rather than face professional conduct investigations instigated by lenders who are stung.*

E. *In major communities much of the appraisal talent and marketing research will be found at the Big Eight accounting firms who are acquiring the local stars by making them partners and teaching them to charge in the same way.*

F. *Appraisal societies now insist on cash equivalent value followed by value-added items in the deal; appraisers cannot incorporate other studies by reference unless they concur, and they are required by due diligence to show the basis for concurrence. Definition of value is not negotiable and encroachment on appraisal independence is securities fraud. A prospectus indicates values reported are those of an independent appraiser.*

G. *Appraisal societies have been embarrassed by the revelation of professional standards and the explosive growth of accounting firms which see appraisal as part of the business of financial information. The survivors have greatly improved their professional standards and tolerance for modern methods and are coming out from under intimidation by their clients.*

H. *Notice that in the pension area, the tendency to hide from appraisal Pollyannas has been shattered by RREEF [Rosenberg Real Estate Equity Fund] and others who are rolling back values. Prudential has launched a*

reevaluation of every property in its portfolio as an audit on its outside appraisers.

I. *The hottest topic in appraisal is developing letters of engagement which detail a respective obligation of the client and the appraiser and the procedures which are acceptable or unacceptable.*

J. *Honest objective appraisal will scuttle many speculative projects or force you to find less efficient capital sources. It may also control some overbuilding.*

Appraisal Reform and Commercial Real Estate Investment for Pension Funds

James A. Graaskamp

Summary and Conclusions

The integrity of the appraisal process has always been critical to social equity in terms of eminent domain, real estate taxation, legal disputes, and contract administration. However, the credibility of appraisal for income properties has been undermined over the past 25 years by an implicit conspiracy between financial institutions and the real estate development fraternity for appraisal *form*, rather than substance. Traditional appraisal formats might have upset a profitable deal at a time when Regulation Q guaranteed infinite spread, and lending officers were driven by fees, arbitrage, and fear of inflation. Credit and interest risk smothered concern for property risk.

- The impact of faulty appraisal on fiduciary institutions has been examined in a recent congressional study that blames the attitudes and policies of the Federal Deposit Insurance Corporation (FDIC), the Office of the Comptroller of the Currency (OCC), the Federal Savings and Loan Insurance Corporation (FSLIC), and other regulators. The study proposes legislation (H.R. 4956) that would place direct federal sanctions on appraisers, investment officers, and others, as well as tight procurement controls intended to protect appraisal independence.

This report is reprinted with permission from Salomon Brothers Inc., January 1987. Dr. Graaskamp was a consultant member of the Salomon Brothers real estate advisory board. The views in this paper, however, are solely those of the author and not necessarily those of Salomon Brothers Inc. The author specifically thanked Robert Gibson for doctoral dissertation empirical research and Andrea Lepcio for her assistance in the preparation of the report.

- The FSLIC was recognized for efforts to define appraisal procurement through Memorandum R41(b) and the newly defined R41(c). These standards are enforced by an engagement letter with the appraiser and the placement of fiduciary liability for obtaining the required appraisal on the lending officer. This precedent will shape legislation and dramatically modify the power of the appraiser to protect his professional independence.
- Pension fund real estate investors need reliable real estate values to bring unit values of commingled funds and owned real estate to market value at least quarterly, to measure asset performance in terms of cash income and realizable appreciation, and to evaluate the relative performance of the asset manager. This creates an urgency for greater quality control in the procurement of appraisal services. Those responsible for guarantees under the Employee Retirement Income Security Act (ERISA) might find it useful to be included in H.R. 4956.
- The appraisal process is a key part of the larger business of providing objective financial information and, like the accounting profession, needs to enhance the appearance (and the reality) of its own independence in execution of the appraisal function, either through outside appraisers or inside fund management committees.

Intensive research of appraisal procurement procedures for pension real estate investments has identified joint but divided responsibility for improved appraisal practice.[1] Pension fund trustees must have an explicit statement of appraisal policy that will produce timely market prices, standard price communications formats, and preservation of appraisal independence. Pension sponsor rules on in-house quarterly appraisals must be contained in its contract with the asset manager, while its goals for the outside appraisal must be spelled out in a letter of engagement between the asset manager and independent appraiser—and reflected in more realistic compensation. However, the independent appraiser must protect his independence through his professional society, which will determine the protocols of independent information processing. Thus, appraisal reform depends on greater sophistication and effort by the pension trustee, the asset manager, the appraiser, and the professional appraisal societies, which are the arbiters of ethics and practice.

The board of directors or trustees of pension real estate assets should require certain standardized output from the appraisal report, including probable price of the property sold as encumbered for cash, premiums or discounts to price for assumable financing or other entitlements not in the real estate fee, and probable value of leasehold interests.

- Appraisers should also take total probable price and, in some basic way, allocate total price among present value of cash flow under contract, additional cash flow assumed to be contracted for, present value of debt reduction during ownership, present value of reversion of original equity and additional equity investments recovered from resale, and present value in any growth in equity assumed to be realized upon resale. Unbundling the sources of return will pinpoint the forecasting risks in total value and also provide a benchmark for measuring asset enhancement over time.[2]
- The appraiser should test his probable price conclusion for reasonableness with a pattern of financial ratios, yields, and tests of investment returns to the next buyer based on assumed resale price.

- To avoid the risk of sophistry, the appraisal profession has defined market value as cash to the seller for real estate interests. The appraiser must report separately value premiums or discounts for financing, entitlements, or other business benefits included in the sale.
- Probable value of leaseholds is the best indicator of the upside potential value that can be recovered by aggressive property management, compared with value increases that depend on general market conditions beyond the control of the asset manager.

The appraiser should be the economic interpreter of the relevant facts about the property and its economic context. However, the impact of accounting procedures, engineering obsolescences, potential liability for environmental impact and toxic material, and anticipated revenues and outlays are part of an information explosion and exchange that modify the traditional independence of the appraiser and his use of declarations of nonresponsibility.

- Explicit professional protocols are needed to define when the appraiser can accept at face value data processing media on future leases and operating expenses, engineering reports, or property management programs. Replication and auditing by the appraiser might be expected, but cost-effective reports will lead the appraiser to rethink his relationships with other designated professionals and to take advantage of their expertise.
- Must the appraiser concur, validate, or simply assume that other designated professionals are providing independent information? Restrictions on the use of limited conditions and assumptions should also be spelled out, lest appraisers abuse the credibility by indiscriminate hold-harmless declarations.
- Should the pension sponsor or asset manager provide express permission to use or to omit certain data sources without independent due diligence by the appraiser? The protocols of information sources and completeness require a policy statement by professional appraisal societies.

The general objectives of value, benchmarks for measurement of performance, and communication of critical risk factors in the appraisal forecast assumptions desired by the investment trustees should be implemented by means of a standard letter of engagement between the asset manager and his independent appraiser, by contract between the trustees and the asset manager, and by an occasional spot check of appraisals on file with asset managers by independent valuation consultants hired by the investment trustees.

Clearly, a better production from both in-house appraisal committees and independent appraisers will cost more money—at least three times as much as is currently spent.

- However, most of the unsystematic risk in real estate investment stems from the poor quality of information with which decisions are made or the skepticism with which investors discount performance records based heavily on the appraisal process.
- Sincere efforts to establish the appearance (and reality) of reliable appraisal estimates of probable price must presume that the additional expense will be offset by lower-risk premiums within expected investment yields, as well as by increased investment in real estate and in asset managers' fee income.

Responsibility of Pension Fund Sponsors and Asset Managers

A survey of pension fund sponsors and asset managers found that trustees and directors provided detailed policy statements on the procurement of insurance or the selection of asset managers but had little to say in terms of written policy controlling the procurement of appraisals or, in the case of asset managers, the reporting of appraised values. For open funds, an independent appraisal is generally required once a year, but quarterly adjustments of value are provided by the in-house committee. Most committees could roll values forward on their own judgment, so there is little "independence" left in reported values other than the threat of a rollback of an in-house value by the next independent appraisal. However, most in-house committees were not required to abide by the independent appraisal. Asset managers would argue that appraisals tended to be more volatile than the market and were often so far from the mark that they injected an element of unfairness in setting unit prices.[3] On the other hand, smoothing of erratic appraisal results may tend to suggest that the real estate market is less volatile than the stock market, leading to overinvestment in real estate as a way of stabilizing portfolio values.[4]

One apparent reason for the cautious acceptance of independent appraisers seems to be the budget or average price per appraisal of a major income property. The average price (including both original and updated appraisal) was $3,000 to $4,000, when well-trained commercial appraisers should bill out at $750 to $1,000 per day. Even allowing for efficiencies of scale for an appraiser frequently operating in the same market, a $25 million building or shopping center cannot be fully inspected, comprehended, researched, and written up in three or four days without the risk of a significant oversight and misvaluation. An appraiser under these time constraints must take information provided by others at face value and not exercise the due diligence required of an independent observer. In addition, such a budget does not allow any time to present value conclusions in several formats, which convert the data into appropriate measurements, information about the asset opportunity, comparative performance, or risk implicit in the appraiser's assumptions.

The small number of funds eager to maintain the dominance of the independent appraisal were also concerned about maintaining the economic independence of the outside appraiser and occasionally controlling systematic bias as a check and balance on innocent or malicious bias in the appraisal process. These funds limited the number of annual reviews of a specific property by a given appraisal company, as well as the dollar volume of business done with a specific appraisal company. Appraisal has much to learn from the accounting profession in terms of protecting its members against unacceptable pressures from clients. At the same time, the appraiser and the accountant must work together to define the accounting rules for measuring income defined on an accrual accounting basis.

These concerns have led to a proposed statement of appraisal procurement policies, which can be used by pension sponsors and their real estate asset managers (see Figure 1).

FIGURE 1

PENSION FUND MANAGERS' APPRAISAL POLICY STATEMENT TO INFORM INVESTORS OF A REAL ESTATE APPRAISAL POLICY

A. Definition of real estate investment categories and appraisal value relevant to the following:

Investment-grade properties (operational and 80 percent occupied)

1. Market value of leased fee;
2. Leasehold value to be recaptured by property management; and
3. Financial or contract agreements to be transferred with sale that add or detract from market value of leased fee (such as discount for high-interest mortgage without right of prepayment or additional value of transferable development rights or surplus land).

Development properties[a] *(vacant, transition, or less than 80 percent leased and occupied)*

1. Cost outlays or market value, whichever is lower in value; and
2. Future value discounted by cost to complete and value created by development process, as in R41(b) prototype.

Financial participation contracts[b]

Investment value as discounted cash flow less reserve for resale cost (custom-crafted, hybrid equity contract unlikely to meet presumptions of fair market value).

B. Specific questions to be addressed by independent appraisal value determination:

Market value of a specific interest in a specific property, given income and resale prospects for the underlying collateral as of a specific date.

Appraiser shall provide selected tests of appraisal conclusion that may indicate reliability, including illustrative tests that will vary according to the nature of the property and critical assumptions and are intended to reveal error or suggest reliability:

1. Indicated compound growth rates for effective gross rent, operating expenses, and net operating income, compared to assumed market rental growth rates or expected rates of inflation.
2. Financial risk ratios such as debt-coverage ratio, cash break-even ratio, or range of tenant turnover cost to projected revenue, compared to average vacancy loss in the local market.
3. Ratio of projected potential rent rate to current market rental rate projected at standard growth rate.
4. Sensitivity analysis should be applied to critical assumptions.
5. Whatever formula is used to hypothesize resale price at the end of the investment, the appraisal should compare the resulting resale cap rate with the inferred "going in" cap rate, computed by defining net operating income for Year 1 by appraised value conclusion.

Where appropriate, the appraiser should unbundle the value conclusion as to the proportion of total value contributed by certain categories to facilitate understanding of the relative significance of existing contracts, operating assumptions, and future contingencies.

➔

FIGURE 1 (Continued)

C. Definition of frequency of appraisal by independent appraisers:
   - Annual appraisals for open-ended fund.
   - Three-year appraisals for closed fund.
   - Whenever value changed by in-house managers exceeds 5 percent of previous independent appraisal or 1 percent of total portfolio value.
   - Change of more than 10 percent in capital investment through partial sale or expansion and refurbishment.
   - Independent appraisals scheduled to reappraise approximately 25 percent of portfolio value each quarter.

D. Protection of appraiser independence and control of accidental or systematic bias in the independent appraisal process:
   - Requirement that appraiser be controlled by a specific professional code of ethics and standards of practice and definition of terms, regardless of whether he's a member of that professional organization.
   - A specific individual with experience in property type must sign the appraisal and be accountable for it (compared with the accounting practice, for example, where a firm name can be used).
   - Sponsor should provide guidelines limiting the percentage of portfolio value assignments to be given to the same appraisal firm and percentage of appraisal firm gross income comprising fees generated by one asset management firm. Fees to be due and payable upon receipt of report, rather than upon review or acceptance.
   - Appraiser should be guaranteed at least one update before reassignment to reduce intimidation.
   - Appraisal assignment should be reassigned to an alternative appraisal firm after a specific number of updates, such as three consecutive annual valuations.

E. Supply appraisers with engineering report, investigation allowance, or waiver of responsibility for the influence of the following:
   - Engineering reports on structural matters, expansion capacity, or programmed improvement budgets
   - Analysis of HVAC system in terms of BTU and kilowatt-hour deficiencies or the cost to cure known trouble spots
   - Toxic wastes in the ground or spilled on the site
   - Asbestos removal or other building code internal hazards
   - Survey, deed restraints, or development code restrictions whose impact could hurt building value in the marketplace
   - Existing studies of programmed renovation budgets or cost-to-cure studies of parking, life safety, vertical circulation, or other systems critical to long-term value trends

F. Pension sponsor should set guidelines that permit the appraiser to accept the abstracts of leases, engineering studied, electronic accounting data, and other information from others subject to some guarantee about the authenticity of the data and the appraiser's degree of accountability for spotting errors or due diligence review of the data. Pension sponsor may ask the appraiser to indicate

FIGURE 1 (Continued)

the alternative cost of using proffered material or independent study by the appraiser and his subcontractors.

G. Definition of in-house procedures to protect reliance of investor on independent value estimates:

All valuations are ultimately the responsibility of an in-house valuation, since the in-house procedure will set the value during at least three quarters each year and may override the conclusions of the independent appraiser. The independent appraiser is essentially auditing the objectivity of the in-house group by referring to external market facts, local conditions, and freedom from collective optimism of the ownership. The in-house committee must avoid the subjectivity of a single individual, must establish a consistent procedure, and must record critical factors in their valuation process to be addressed explicitly in the next independent appraisal. Fund management must limit the deviation of annual independent values from in-house values to not more than 5 percent from the lower value before calling for an independent update.

The in-house review committee will consist of no fewer than three persons, one of whom must have appraisal background; the third may be the property manager responsible for the asset. Acquisition agents, general management personnel, or institutional officers involved in fund marketing cannot be official members of the in-house review committee.

In-house appraisals of individual properties shall be provided as necessary to set portfolio values for official purposes, and a summary of appraisal considerations must be put in writing in the property file each time the appraisal is reviewed or adjusted, indicating the reasons for the action taken. Key assumptions of the in-house committee must be analyzed explicitly by an outside independent appraiser at the time of the next independent appraisal.

Period values should be reported in a format to indicate value reported by the last independent outside appraisal, value added by additional capital investment from that date, value lost from partial sale, equity withdrawal, or other financial adjustments, and value lost or gained due to in-house adjustments and the net value at the close of the subject period. Finally, the report should indicate the total change in value since the previous period of valuation.

Fund managers must define accounting rules for operating income distinct from capital investment outlays for amortized leasing commissions, tenant improvements, lease repurchase, and for renovations. Added investment between independent appraisals will be superseded by the next independent appraisal with an appropriate adjustment to additional capital investment.

H. Optional policies of pension fund sponsor or fund management:
- Explicit rules for spot-checking appraisals on a random-audit basis by contracting with a real estate counseling, appraisal, or qualified pension fund consulting firm for an appraisal review (not unlike similar review of property-specific insurance).

➔

FIGURE 1 (Continued)

- Specific rules for property inspections by an independent engineer/architect observer to spot-check properties owned and managed by a commingled fund in which the pension sponsor has invested.
- Specification of accounting format for real estate assets by class of asset or enterprise unit, with possible asset allocation among land, building, tangible personal property, or intangible going concern values.
- Special studies where fund sponsors or asset managers perceive a risk concentration by property type within a specific market area. (It may be desirable to contract for specific research on supply and demand trends related to economic base and demographics, fiscal trends in the community that will affect the real estate tax and resulting cost of occupancy, and other land use trends or plans that may have a foreseeable effect on investment concentration or changing institutional ownership patterns in the market.)

[a]Not subject of current study; recommend R41(b) model.
[b]Valuation process subject to PREA research under the direction of Professor William Brueggeman of Southern Methodist University.

Protocols Controlling Data Sources and Proper Appraisal Assumptions

Need for Data Protocols

The explosion of data, the recognition of the investment risk inherent in the quality of data provided, and the discipline and cost of electronic data processing have outstripped the working ethics and rules provided by the professional appraisal societies. Many appraisers use outside market and engineering studies as a starting point for their work, using limiting conditions to provide a hold-harmless assumption on the reliability of the outside data. At the same time, the professional societies argue that use of an outside data source requires concurrence by the appraiser, implying that the appraiser has exercised due diligence regarding its quality. Some recent prospectuses have contained appraisal value conclusions wherein leases were by one professional group of investment bankers who forecast revenue, while an accounting firm studied expenses and forecast outlay with or without engineering assistance—requiring the appraiser to place a value on a net income figure estimated by others.

These practices conflict with the concept of an independent valuation at a time when the professional appraisal societies and accounting groups want to strengthen the appearance of independence. However, the cost of assembling detailed financial information suggests the practicality of allowing the appraiser to accept abstracts of leases, legal descriptions, accounting data, and engineering data prepared by others. Extensive hold-harmless clauses undermine the usefulness of an estimated sales price that does not consider legal, engineering, or environmental pitfalls. The appraiser has become the economic interpreter who

must synthesize the significance of information from multiple professional sources into an estimate of the price at which a property would likely sell if buyer and seller were *fully* informed about all available facts. Such data must be available to the appraiser and assumed acceptable if received from a professionally designated accountant (CPA), certified property manager (CPM), professional engineer (PE), attorney (JD), or registered architect (AIA).

Alternatively, the client or investment banker could provide necessary data with a guarantee of reliability and financial guarantee of damages for misrepresentation. Indeed, in the future, appraisers may have these other professionals in their office as part of a natural clinic of professional real estate services. The professional societies must issue a statement on data protocols, and major data incompatibility issues must be addressed regarding the appraisal and accounting interface, legal concepts of real property, pitfalls inherent in land use control, legal liability for environmental degradation, and the risk of future subtle distortions based on the future by extrapolation of the past.

Major Data Gaps for Appraisal/Accounting Protocols

The valuation of income real estate properties now relies more on discounted cash flow simulation of property performance or a single price/earnings ratio method called direct capitalization with a single overall rate. Discounted cash flow presumes the real estate is simulated on a strict cash accounting basis, while the Financial Accounting Standards Board (FASB) advocates accrual accounting for real estate, including adjustment of nominal debt to economic equivalents. This will become extremely confusing for both appraiser and those who will rely on appraisal reports. The asset management association can have an impact in this regard by setting a standard to which all members must subscribe. Ironically, the direct capitalization rate method is often based on an economic accrual method with reserves for replacement of short-lived items—a method of smoothing net income that would be unfathomable to FASB and its goals of measuring economic productivity. Our review of many appraisals revealed unwarranted manipulation of direct capitalization. Rates derived from market transactions relied on engineered prices and estimated incomes, while those that came from a loading of points to some base rate—such as a tax-exempt bond or middle-rated industrial bonds—were never supported by evidence from interviews with institutional buyers. The method of building a capitalization rate conceals implicit assumptions about a trend line of future property income.

The major accounting/appraisal conflicts regard the amortization of deferred expenditures or tenant improvements, leasing commissions, points paid for long-term financing, and deferred maintenance combined with capital improvements.

Another major area of concern is the need to allocate or attribute income to land, building, tangible personal property, intangible personal property, and working capital. When should the appraiser delineate revenues from the real estate enterprise, and when should he value the whole as a going concern? This also provides the asset management association the opportunity to set standards for the accountants (see Figure 1, Sections G and H).

Major Issues for Appraisal/Engineering Protocols

Traditionally, the appraiser sidestepped encroachment on the other professions by denying responsibility for legal or engineering issues unless physical structural failures were clearly apparent. However, appraisal evaluations that ignore basic obsolescence in terms of energy consumption, maintenance cost, or environmental risks for such things as asbestos and toxic waste can be construed as misleading, and a major concern of appraisal reform is to avoid the sin of omission—which is implicitly misleading. Therefore, the logical sequence of appraisal would be to incorporate engineering surveys of the structure, its equipment, and its site done before the appraisal.

The Appraiser and Building Management

The appraiser relying on discounted cash flow is forecasting future productivity, but many dollars depend on execution of the property's management plan, which will alter size, tenant mix, and operating characteristics. Should the appraiser accept the management plan of current ownership in forecasting or review several alternative scenarios for the future of the property? One view would be that pension sponsors have a right to know that an independent appraiser has reviewed the asset manager's plans. The other view is to assume the professional property manager will enhance the asset, and subsequent updates of the appraisal will recognize failure. A third perspective would be to value the property exactly as it exists on the day of valuation, extrapolated into the future as though the property were not to be enhanced. To avoid a systematic upward bias of value that hinges on the successful completion of grand plans, we believe that the latter method should be used.

Professional Society Standards and Interface of Professions

The appraiser's expertise is the collection and analysis of market data and off-site transactions, while the accountant and designated property manager are responsible for on-site data collection and control. Traditional appraisers were expected to reconstruct lease roles, profit and loss statements, property management strategy, and a buyer's probable financial structure rather than simply accept data from others. Given the costs of microdata review, should the appraiser be expected to audit data generated internally? The appraisal societies and asset managers must define the following:

1. Responsibility of the appraiser to flag legal, engineering, traffic, or structural issues requiring professional review.
2. Legitimacy of the appraiser's accepting audits of leases, operating budgets, and revenue collections provided by other professionals.
3. Legitimacy of the appraiser's accepting data on such electronic media as floppy disks for use in cash flow or data management models provided by the asset manager client, the accountant for the client, independent purveyors of software and operating data, and investment broker/marketing.
4. Legitimacy of the appraiser's accepting a property management program implemented by the asset manager as a point of departure for future revenues, expenses, and project characteristics of extrapolating the status quo.

The complexity of the appraisal question in terms of income properties is illustrated in Figure 2. In the past, the appraiser was superficially conversant in property management, finance, marketing, and basic engineering—and this general level of expertise presumably protected his independence. Now, a pool of intensely technical data from numerous sources is used, and the appraiser must rethink the protocols of using other sources of data for efficiency and reality while maintaining neutrality and independence.

Institutional Forces Accelerating Appraisal Relevance and Reliability

The appraisal process was not prepared to provide a large volume of valuation services with tight quality control once pension institutions recognized the validity and necessity of real estate equity investment, as such a commitment had to be supported by a constant feedback of performance, safety, yield, and liquidating value information.

Concurrently, traditional intermediaries of mortgage debt euphorically shifted surplus capacity toward construction financing of the real estate product, presumably to exploit the new equity markets. Coincidentally, foreign investors were also willing to expand their participation in U.S. real estate capital markets. These major players, their regulators, and their beneficiaries perceived the need for reducing the information risks in real estate investments and for adapting real estate data formats to be compatible with other portfolio financial reporting standards.

The ultimate control of the appraisal product will be a letter of engagement, with certain requirements sanctioned by such trade groups with a common interest as pensions, investors in federally insured projects, or group equity pools. This letter will be subdivided into four sections: specifications of the assignments, appraisal protocols, appraisal methodology, and appraisal business arrangements.

Each section will incorporate the current standards and practices for appraisal and accounting relative to investment properties that have been promulgated by the following groups.

Federal Regulators for Financial Institutions

Congress has been investigating the impact of inadequate appraisals for commercial real estate lending, as well as failures of residential lending appraisal and its adverse impact on mortgage insurance and secondary market investors (see Figure 1).

Congressional investigators lament the relatively limited opportunities that professional societies have for policing appraisal quality but are harsh critics of the federal agencies regulating the fiduciaries that failed to act when audit procedures revealed widespread weakness and fraud in the appraisal control of the investment process.

Congress points out that the FDIC, the OCC, and the National Credit Association (NCA) do not require appraisals for all real estate loans and suggests that

FIGURE 2

APPRAISAL PROTOCOLS REGARDING DATA SOURCES AND ASSUMPTIONS

Appraisal protocols are concerned with responsibility for supplying data and critical appraisal assumptions and the degree to which the appraiser must concur, be held harmless, or empirically validate through independent research the data in question. The issues raised by protocol grow out of the availability of electronic data files, the increasing conflicts in accounting and valuation procedures, the growing legal and engineering pitfalls of land use control, liability for environmental degradation, and a trend toward computerized modeling of future property market and financial performance.

	Appraiser Supplies	Appraiser Reviews	Appraisal Society Standards	Appraiser's Engineer	Owner's Legal Services	Owner's Policy Statement	Property Manager	Owner's CPA	Owner's Architect	Asset Management Standards
Legal Description of Property Interest					X					
Deed Restrictions and Covenants					X					
Five-Year Chronology of Ownership and Transactions Involving Transfer of Fee		X			X					
Lease Abstracts		X					X			
Engineering Assumptions				X		X			X	
Strategic Management Plan		X					X		X	
Definition of Values to Be Reported			X			X				
Application of Market Comparison Method and Unit of Comparison	X	X								
Application of Cost to Replace Method and Accepted Cost Service	X			X		X	X		X	
Application of Normalized Income Capitalization	X		X							
• Adjustment of accounting history to establish normalized statements	X						X	X		
• Treatment of existing financing	X		X		X	X				
• Logic for income capitalization rate								X		X
Cash Flow Format		X								X
Cash Flow Forecast	X									X
• Revenue under contract							X			
• New contract revenue		X					X			X
• Lease turnover costs		X					X	X		X
• Rental concessions		X					X			
• Market conditions, leasing strategy, and net capture	X									
• Gross and net operating expenses		X					X	X		
• Gross and net real estate taxes	X	X						X		
• Third-party financing format for most probable buyer	X									
• Present value disaggregated by source of financial interest	X									X
Economic Environment	X		X							

Note: X equals source and/or responsibility.

these agencies' attitude toward appraisal is naive at best and irresponsible at worst. Its report suggests that commercial real estate borrowers are shifting their loan applications to banks and insurance companies and away from thrifts because Memorandum R41(b) is being enforced.

Congress can be expected to force corporate fiduciaries to modify and improve appraisal procedures greatly or to face personal liability for dereliction of duty, as is true under R41(b).[5]

The Federal Savings and Loan Insurance Corporation has issued the most comprehensive appraisal procurement standards in the United States. This is currently referred to as Memorandum R41(b), but it will soon be corrected for certain ambiguities as R41(c). This document is appropriate for income properties under development, and it also imposes a breach of fiduciary trust on the asset manager who does *not* insist on receiving an appraisal according to R41(b) standards.

The Federal National Mortgage Association and Federal Home Loan Bank Mortgage Corporation have redefined market value, best use, and the relevance of sales to control the underwriting of apartment projects and condominiums. These controls emphasize cash equivalency of investment value.

Professional Appraisal Societies

The American Institute of Real Estate Appraisers and the International Society of Real Estate Appraisers have reaffirmed their codes of professional conduct and removed possible ambiguities from their terminologies.

Market value has been clearly defined as the most probable price at which a property would sell for cash to the seller, assuming knowledgeable buyers and sellers under no special duress and including time on the market. This benchmark value must then be adjusted for financing, other entitlements, or encumbrances that would modify the cash value (see Figure 2).

The appraiser is expected to exercise due diligence on the selection and utilization of all relative data and to concur in the data used. The basic standard is that the appraiser must report all data and procedures used so that his work can be replicated and validated to avoid miscommunication, disinformation, or sophistry.

As the groups receive legislative help in protecting the appraiser against economic intimidation from the client, they will take advantage of the wave of reform to establish significant controls on their membership and methods.

Credibility will mean higher fees, longer apprenticeships, and more reliance on college training—specifically in land economics and land valuation. Their professional characteristics are already found in Europe and in the British tradition of value surveyors.

The FASB has published a report about the appropriate use of cash or accrual accounting that will conflict with traditional appraisal and pension fund practices.

Several of the Big Eight accounting firms have set up special appraisal review departments, since accounting practice no longer permits the auditor to sign off on appraised asset values without judging the adequacy of the appraisals.

The European Common Market's Accounting Fraternity, aided and abetted by the Royal Institute of Charted Surveyors, has implemented a 250-page set of standards for the appraisal of fixed assets (including real estate) for various financial reporting services; a special section is devoted to pension fund real estate. These standards are incorporated by reference into appraisal letters of engagement. There is a continuing review and improvement by the International Assets Valuation Standards Committee.[6]

Other Institutional Changes

The quickest way to introduce better appraising methods is for a particular user group to define appropriate methods and inappropriate logic in the procurement of appraisal through a standard letter of engagement. Both the Pension Real Estate Association (PREA) and the National Council of Real Estate Investment Fiduciaries (NCREIF) are about to endorse such a letter for their members. They define property interests and definitions, appraisal methods, reporting requirements, and the business relationship between appraiser and asset manager, including the following:

1. Full disclosure of comparable-market sales data.
2. Reliance on discounted pretax cash flows, with emphasis on consistency of financial ratios.
3. Full disclosure must incorporate engineering and other professional studies rather than ignore them by means of hold-harmless clauses.

The universities have developed several appraisal systems that can drive off computer data banks to automate market comparison valuations of industrial land, farm land, wilderness, and swamp land, as well as match attributes of major commercial properties.

Conclusion

Recognition of the pivotal social and financial responsibilities of appraisal by sophisticated investors and public regulators will cause the appraisal profession to leap into the 20th century of financial information. The carrot will be the opportunity to be paid well for providing the best valuation material technically possible because of the value added from reduced information risk. The leap will be assisted by sharp prods from the Securities and Exchange Commission (SEC), bank regulators, and appraisal professional societies, who will otherwise be replaced by the accountants.

Notes

1. Robert Gibson and James A. Graaskamp, "Implementation of Minimum Appraisal Standards for Valuation of Pension Fund Real Estate Unit Values." Research Committee of the Pension Real Estate Association, unpublished, October 1986. The report is available from PREA.

2. Gene Dilmore, "Component Capitalization," *Real Estate Issues*, Spring–Summer 1985, pp. 18–26. For ease in accounting, certain components can be simplified to serve as a proxy; for example, cash flow under contract could be the first year's cash flow to avoid accounting allocation of current and future expenses.

3. Rebel Cole, David Guilkey, and Mike Miles, "Toward an Assessment of the Reliability of Commercial Appraisals," *Appraisal Journal*, July 1986, pp. 422–432.

4. David Shulman, "The Relative Risk of Equity Real Estate and Common Stock: A New View," Salomon Brothers Inc., June 10, 1986.

5. For recommendations and provisions of HR 4956, see Section IV in "Impact of Appraisal Problems on Real Estate Lending, Mortgage Insurance, and Investment in the Secondary Market," Housing Report 99-891, by the Committee on Government Operations, September 25, 1986, based on a study made by the Commerce, Consumer, and Monetary Affairs Subcommittee.

6. For additional information, write the Secretary, TIAVSC, 103 Mount St., London W17 6AS, United Kingdom.

Testimony of James A. Graaskamp Before a Subcommittee Of the U.S. House of Representatives

Thank you, sir, and I would like to welcome you to those of us who have been trying to reform appraisal for about 25 years. My mentor and my first PhD was in real estate under Richard Ratcliff, who was regarded as the preeminent theorist in the last several decades in appraisal theory. My second PhD is in risk management, which seems to cover exactly the subject matter that we are talking about here.

We come to this with wholehearted endorsement of your legislation. We feel that ultimately it should be extended to other aspects. A major area of government guaranty is in the pension area, and that is, of course, involving more and more real estate where appraisal practices also need review.

But that industry is attempting to review them on their own. We headed up the research for the Pension Real Estate Association on appraisal practice, policy, and protocol for those who manage those funds, as well as those who do the appraisal. They are moving toward an industry standard via a letter of engagement, since there are probably only approximately 200 appraisers who they feel are qualified to do large-scale investment properties, which says something about the state of the art.

My credentials, in addition to being an academic—which in real estate circles one has to live down—are that we run our own appraisal group, called Landmark Research. We do litigation from coast to coast, and my wife tells me that probably we are not a profit-making organization, we are simply an extension of the education process. To get the attention of the major societies, we have to beat their leading people in court in order to establish methodology and practice.

This is the transcript of Dr. Graaskamp's remarks and statement prepared in February 1988 for hearings before the Subcommittee of the Committee on Government Operations on the Real Estate Appraisal Reform Act of 1987 (H.R. 3675).

We have seen the quality of appraisals decline as sophistication of real estate has increased steadily over the last 20 years, and only in the last two or three years has there been any significant response.

For example, the American Institute of Real Estate Appraisers had not issued a single white paper on a single appraisal question from about 1951, when they did one on subdivisions, until two years ago, when they finally addressed the issue of how to appraise for securities prospecti or a limited partnership, and so forth.

There simply has been no industry leadership for responding to the appraisal side of issues of financial information, as there has been in the accounting side.

Let me give you one very simple example. Appraisal is in the business of forecasting. They have no definition of forecasting, nor what are the rules that would apply to that process.

A very basic principle in accounting is that a forecast requires a range estimate in which all elements of the range be plausible and supported. If, in fact, you are going to deal with hypotheticals, "if then" kinds of statements, you are doing a projection, and a projection is only permitted to have limited circulation to a client where the accountant would be present to answer questions.

If, on the other hand, the accountant is preparing a forecast which will have general circulation, where presumably those that may rely on it are not there to address questions directly to those that prepared it, he is not permitted to use hypothetical assumptions. Yet virtually every appraisal we are talking about in terms of income properties that has gone awry for lenders has been based on appraisal projections in which hypothetical assumptions were used, and the appraiser has always hidden behind the fact that "Gee, if you bought my assumption on page 1, then my conclusion is valid even if the assumption itself was insane."

Now, they are encouraged to do that by a lending fraternity that has always been antiappraisal. Obviously, an appraisal chills the deal as far as the lending officer is concerned, and there is a considerable bias against the appraisal unless it is done by a controllable appraiser.

That is a word which the major bank lending officers use all the time. A major bank said that to me just the other day, and I couldn't believe that they should use that word while I was around: an appraiser should be controllable. It is exactly the opposite of the function that he is supposed to perform.

Isn't it ironic that at the closing, the lender requires at least 1 percent of the loan fees for an insurance premium in case the collateral should burn down but would never require that they spend 1 percent of the project to find out if it would rent up, and yet the real collateral is that: Will it rent up?

There is a total antiappraisal bias. Indeed, the recent language in the collapse of R41(c), I think, is really significant. In the recent repudiation of R41(c)—based, of course, on the CEBA legislation—Chairman Dennis Wall made an incredible statement.

In repudiating R41(c), he said, "It wasn't cost-effective and competitive with the bank's appraisal standards," and yet the banks have no appraisal standards and the president of the American Institute of Real Estate Appraisers said so directly.

Now, what is cost-effective? If you have just lost $25 billion and the FSLIC is broke and they are going to lose another $25 billion because, as Mr. Crawford pointed out so beautifully, each of those projects eats money while you sleep, what is cost-effective if it doesn't mean spending adequate money to do a professional job of appraisal and using the appraisal as a legitimate portion of the underwriting process.

Currently, it is used simply as a CYA document in case the auditor should ask if you had one. Neither are the auditors trained, in the banking business, to read an appraisal knowledgeably.

Now I would submit that while many of you think that this legislation is punitive on the appraiser, I would suggest instead it is a curb on the banker. I would suggest that it would be the only defense of the appraiser against his client, because he can go back and say, "I can't do it that way. My certification and my living depend upon my doing it this way, and this way is going to take so many people-hours to accomplish and is going to cost you so much to get the job done," and now the appraiser can be truly independent because he has a rock on which he can lever professionally.

Currently he can't do that. The minute he stands up to a lender, he loses the job, he doesn't get asked back, and very quickly he is out of that particular business. It is a Gresham's Law going on which drives the good appraiser out of anything that has to do with lending and related enterprises thereto.

That industry is not driven by market demand for space, which is the specialty of the appraiser. It is driven by the fees and the commissions and profit centers of the short-term owners of those properties, and the risk is being borne by the federal government and ultimately the taxpayer.

The loan program approved by FSLIC is a bandage on a gaping wound, and sooner or later you in Congress are going to have to find $50 billion to recapitalize FDIC and FSLIC. It is as basic as that.

Now I realize it is un-American to regulate from the federal government, that risk is a part of doing business the American way, but in this case the risk is being taken by the federal government, by FSLIC and FDIC.

It is another basic tenet of business that I learned at my father's knee that those who pay the piper get to call the tune. You are going to pay the piper for 50 billion bucks, and therefore the federal government gets to call the tune. It is basic.

Now I would be happy to answer questions because I can go on and on about appraisal reform for days.

[Dr. Graaskamp's prepared statement follows.]

Re: Support of H.R. 3675 to organize and consolidate federal matters relating to appraisals in legislation to be cited as Real Estate Appraisal Reform Act of 1987.

I. Credentials and bias of the commentator.

II. Statement in support of legislation as drafted.

III. Response to arguments in opposition to legislation as drafted.

A. Fragmentation of appraisal profession undermines capacity to define standards, to certify appraisers, to enforce sanctions, and to finance reform.

B. The historical weakness of appraisal organization has been and will be exploited by the powerful political organizations who represent primary customers for appraisal services and who have a vested interest in preserving a compliant appraisal trade with the trappings of independence.
C. There is a traditional, pervading antiappraisal bias of mortgage loan officers who are represented by the powerful alliance of significant lobby groups, including the ABA, USS&LL, MBA, NAR, and NAHB at both federal and state levels.
D. Real estate transactions and developments are driven by the commissions and fees of the dealmakers rather than effective demand for space, which is the subject matter of appraisal. If accounting could trace the source and application of mortgage funds, it is probable that the losses of FDIC and FSLIC represent the fees paid those who would oppose rigorous appraisal.
E. Citizens can sue doctors, lawyers, and accountants, who must finance malpractice claims with huge private insurance premiums and lose their licenses. However, the federal taxpayer will fund the deficits of FDIC and FSLIC caused by negligent loan officers and compliant appraisers. Who will pay the employees of the defunct lender or the property owner whose net worth is crushed by an oversupply of unneeded, newly built, competitive space?
F. The need for efficient allocation of capital, safety of the depositor and established real estate investor, as well as protection against insider profits in the banking industry require congressional action on H.R. 3675 as drafted.

I. Credentials and bias of the commentator

Our presentation to the committee is prompted by a career in developing appraisal theory, practice, and education, and not as a member of any professional group. We are here at our own expense other than travel monies provided by the university outside funds, as the dean of the University of Wisconsin Business School felt that educators have a significant vested interest in advancing contemporary methods and education for the appraisal process.

. . . It should be noted that we have received the highest awards for appraisal education and improvements to appraisal theory from the Society of Real Estate Appraisers, the American Institute of Real Estate Appraisers, and Lambda Alpha, the national honorary fraternity for urban land economics. Much of our consulting activity involves the use of appraisal in litigation, securities fraud, pension real estate, and bank lending on commercial investment properties.

We have read hundreds of appraisals for investment properties by all the major appraisal firms on properties located from coast to coast. The general quality is from poor to average. Our conclusion has been that the majority of clients find appraisal mysterious, manipulative, and hopefully a tool for advocacy. The fees are too low for a professional piece of work because the clients seldom perceive the value added by careful research of the real estate market and the property. The lender will require at least 1 percent of loan proceeds for fire insurance in case the collateral should burn down, but

would never spend 1 percent of project cost to be reasonably certain the project would rent up. But the rental market is the true source of collateral value; many lenders today can only hope that their real estate interest burns down.

Our bias is that appraisal reform must be brought about by demand pull so that major clients for appraisal services—such as lenders, pension funds, and public agencies acquiring properties by eminent domain—must be *forced* to recognize their own economic self-interest and to purchase responsible appraisal services at prices that justify responsible, professional appraisal work.

II. Statement of support for H.R. 3675, the Real Estate Appraisal Reform Act of 1987

Sound appraisal practices are critical to the security of our financial institutions and pension programs as well as the efficient allocation of capital in our economy. Sound appraisal practice is a fulcrum of social equity in matters of real estate taxation, eminent domain compensation, and allocation of costs and benefits of public infrastructure. Nevertheless, the appraisal process is controlled by 19th-century economic theory, regulatory anarchy, and self-serving clients who desire advocacy rather than objectivity from presumably independent appraisers.

To talk of appraisal reform is to expect massive business culture reform and social engineering of mind-sets, economic interests, and juvenile concepts of enterprise that can only be accomplished by federal intervention. With time, the federal role of creating objective review of appraisal standards and certification requirements could be returned to the private sector once the real estate industry had learned it could survive with truly independent, professional appraisal services.

The creation of a federal Interagency Appraisal Council is a timely and critical catalyst for much-needed reform of the appraisal process, which has become parochial, paralyzed by internal, self-serving political struggles, and subverted by the investment industry to protect the fees of loan officers rather than the funds of savers. None of the federal regulators as individual agencies have been able to withstand the internal political pressures created by the regulated in order to establish meaningful reforms of appraisal methods, the appraisal role in the lending process, and the independent role of the appraiser as a check on counterproductive incentives to make marginal loans. The diverse interests of the council would prevent a travesty such as the recent repudiation of R41(c) by the Federal Home Loan Bank Board. The arguments presented by Chairperson Dennis Wall were that appraisals performed to the standards required of R41(c) were not cost-effective in terms of competitive costs relative to the banking system, a statement which is no less astonishing when you consider that the lenders expect a federal agency and Congress to pay the $25 to $50 billion loss which can be attributed to the implicit conspiracy of loan officers/developers/appraisers. These forces would have more difficulty subverting a council of diverse interests and constituencies. In the future, the council can be expanded to include the Internal Revenue Service, the Federal Highway Department, and other agencies involved in eminent domain acquisitions.

Of critical importance for implementation is the time pressure applied in the proposed legislation to provide appraisal standards and certification standards for review within 12 months of enactment and for installation within 18 months. Any effort by the private industry will be deliberately stalled and extended for reasons to be discussed below. The enormous funding required for putting an adequate system in place is covered by a federal loan for $19 million which could never be assembled by the private sector in a timely fashion.

The historical *volunteer* efforts of the private professional appraisal groups have worked at a glacial pace and are a significant factor in the current vacuum of appraisal standards and enforcement. Where would the appraisal industry raise $19 million to fund a huge two-year effort? How soon could the private industry have an effective program without the money to employ full-time professionals to inaugurate the program?

Only a federal council can enforce collections of fees and charges to support long-term funding of the program as contemplated by the legislation. The industry admits the cost to penalize abusers with existing designations has been a prime factor in the breakdown of private enforcement sanctions, so where would the money be found to install and to impose regulation if states fail to act as required by the industry proposal? It is important that a centralized federal council can operate to certify and to sanction those who abuse if the states fail to act, since most states will fail to act for reasons discussed below. Nevertheless, states should be given the opportunity to be responsible legislators.

III. Response to arguments in opposition to legislation as drafted

The appraisal profession is fragmented and lacks the institutional capacity to define standards, to certify appraisers, or to enforce sanctions on those who abuse designations. The current effort of eight appraisal organizations to create a foundation and model of self-discipline in the image of the certified public accountant is doomed to delay, dilution, and defeat for lack of funds to pay full-time staff, lack of consensus within a profession that has fought merger for years, and lack of legal clout to control its customers or designated members.

Appraisal reform is a legislative issue that will generate significant resistance from a variety of trade organizations who have a vested interest in the status quo as stated above. None of these professional groups speak for the practicing appraisers in the field who have integrity and competence and who need and desire federal assistance to protect their independence and objectivity from mortgage lenders, real estate brokers, builders, and developers.

Congress should recall that the Independent Society of Real Estate Appraisers has testified in favor of H.R. 3675 because these appraisers recognize that the professional organizations cannot impose sanctions without a power of subpoena, disclosure, and freedom from countersuits against those appraisers who pander to those parts of the industry that make their living from fees, commissions, and salaried bonuses based on volume. The position of the American Institute of Real Estate Appraisers (AIREA) is totally compromised because it is dominated by its parent organization, the National Asso-

ciation of Realtors, and because many designated members of AIREA are loan officers rather than independent appraisers.

We submit that the goals of most professional appraisal organizations to maintain their prestige, control of standards, and cash income from membership is in conflict with the goals of its competent individual members who are unable or unwilling to do appraisals for mortgage lenders at the cost of objectivity and independence. We have talked to dozens of designated members who believe that federal involvement is the only hope for realistic reform and for public sanctions against tractable appraisers. Appraisers who think for themselves recognize the platitudes of the professional societies as the conditioned response of American business to any suggestion of government regulation.

There are natural institutional disincentives for thorough and objective appraisals .... There is a deep antiappraisal bias among mortgage loan officers, who state that appraisals are a necessary evil for regulatory purposes. The appraisal guidelines issued in January 1988 by the FDIC, Federal Reserve, and Comptroller of the Currency reveal this bias blatantly in the statement

> ... undue reliance should not be placed upon the collateral value in lieu of an adequate assessment of the borrower's repayment ability ....

The lenders issue nonrecourse loans on commercial properties and yet disregard the reliability of cash flow from the property as the source of repayment. Even the president of the American Institute, Terrell R. Oetzel, commented editorially, in the December 1987 issue of *The Appraiser*, as follows:

> On August 10, 1987, the Competitive Equality Banking Act of 1987 was signed into law. This act directed the Federal Home Loan Bank Board to implement appraisal standards consistent with the appraisal standards of the federal banking agencies. Quite frankly, the federal banking agencies do not have any appraisal standards. Therefore, the Federal Home Loan Bank had to withdraw their proposed rule (R41(c)).

If the bankers and mortgage bankers sincerely wanted to improve mortgage loss ratios, they could have moved toward competitive equality by adopting the standards set by R41(c). Training of auditors to look for standardized appraisal methods that were the same for all members in all states would facilitate audit efficiency, the appraiser's understanding of his assignment, and consistent documentation for mortgage finance in the national capital markets. Instead bankers forced a rule that allows every institution to have its own definition of a prudent appraisal policy—the same rule that will cost the federal government $25 to $50 billion to refinance FDIC and FSLIC.

Defeat of rigorous appraisal standards is a major policy, albeit unwritten, of the American Bankers Association (ABA), U.S. Savings and Loan League (USS&LL), the Mortgage Bankers Association of America (MBA), the National Association of Realtors (NAR), and the National Association of Home Builders (NAHB). We have taught hundreds of their members over the years, and we are currently the nominal dean of real estate finance courses for the ABA on the University of Wisconsin campus each July. Few of these students are

interested in learning how to critique an appraisal, and they all know how to shop an appraisal for the right value commitment by the appraiser.

These same professional real estate associations control state legislative committees and generally have great influence in the office of the governor of each state, so that if they are unable to frustrate H.R. 3675 by crippling amendments or outright defeat, they will dilute and delay state legislation necessary to put permanent certification and enforcement into operation at the state level. We would suggest to you that, if it were possible to retrace the source and application of all mortgage funds that have gone awry, brokerage commissions, lender fees, developer profits and leasing commissions, and other profit centers would represent the $25 to $50 billion that will be funded eventually by the federal government agency's insuring the lending institution. No wonder so many sectors of the real estate industry fear rigorous appraisals and objective market studies as a test of any transaction.

The sanctimonious defenders of American tradition argue that lawyers, doctors, and accountants are not regulated by the federal government, but then those who are hurt by the negligence of lawyers, doctors, and accountants can sue for damages, sue to withdraw their licenses, and collect from insurance resources that do not include billions of federal dollars. Who does the depositor or the out-of-work employee of a bankrupt financial institution sue for damages done by an appraiser? How often does an appraisal organization successfully remove the designation of its own member? Who but the federal government provides significant insurance for the damages of malpractice by the loan officer and his implicit conspiracy with the borrower and the appraiser?

The conventional wisdom is that economic progress requires risk taking, and the real estate industry lenders want Congress to take all the risks. At the moment the federal government lacks the laws and administrative powers to punish even the most fraudulent judgments by loan officers, appraisers, and borrowers. Another conventional wisdom of American business culture is that those who pay the piper get to call the tune, and in real estate mortgage lending Congress and the taxpayers are expected to pay the piper. Therefore, the taxpayer has every right to require real estate appraisal reform by H.R. 3675. The citizen has every right to impose banking rules which promote efficient allocation of scarce capital, which provide safety incentives for savers, and which prevent insider profits more blatant than those in the stock market.

PART V

THE DEVELOPMENT PROCESS

Introduction to Part V

"Someone rolled a rock to the entrance of a cave and created an enclosed space for his family—a warmer, more defensible shelter, distinct from the surrounding environment. This can be called the first real estate development."

"The development process is our most challenging manufacturing process because its subsystems are complex and because it is the instrument of change which affects all of a community and a society."

Fundamentals of Real Estate Development
Washington, D.C.: ULI–the Urban Land Institute, 1981

Graaskamp loved real estate developers—he relished their triumphs and felt genuine pain at their failures. He viewed them as Renaissance men in an age of specialization, an attitude he passed on proudly to his students.

Jim wrote a definitive piece on the subject entitled *Fundamentals of Real Estate Development.* He also devoted much of his coursework to astute criticism of the development process. Many of his classes were interspersed with detailed case studies and war stories of development done correctly or gone wrong. He was a developer himself and wore that appellation with cynicism and pride. His approach to teaching the development process formed the basis for ULI's real estate school development courses and the ULI textbook, *Real Estate Development Principles and Process.*

Part V is primarily a compilation of notes Graaskamp made about developing different types of property. These notes have not been expanded or edited and may therefore not be as complete as the reader may like, but they are included here as reminders of Graaskamp's breadth of knowledge and opinion on the development process. Many of the notes are not dated, but from the text it will be apparent that much about development has changed since he first gave these lectures.

Fundamentals of Real Estate Development

James A. Graaskamp

The real estate development process involves three major groups—a consumer group, a production group, and a public infrastructure group. Each group benefits from cooperation and a full understanding of the values, short- and long-term objectives, and major limitations controlling the other two groups. A major limitation shared by all groups is the fact that each is a cash-cycle enterprise which must remain solvent to survive and which must create surplus over time to maintain credibility with others. Cash-cycle enterprises must continually make assumptions about future social norms, technologies, and the direction of complex changes in personal, natural, and political conditions. The degree of error between assumptions and realizations is what is termed risk, and in an enterprise economy most parties are attempting to shift a disproportionate share of the risk to others while retaining a larger share of the benefits. Unlike many mass-production industries, each real estate project is unique and the development process is so much a creature of the political process that society has a new opportunity with each major project to negotiate, debate, and reconsider the basic issues of an enterprise economy, i.e., who pays, who benefits, who risks, and who has standing to participate in the decision process. Thus the development process remains a high-silhouette topic for an articulate and politically sophisticated society. The best risk-management device for the producer

Reprinted with permission from *Development Component Series* (Washington, D.C.: ULI–the Urban Land Institute, 1981). The 1981 monograph incorporated "the insights and suggestions of a review group" of "seasoned practitioners on the subject."

group, which is usually the lead group in the initiation of a project, is thorough research so that the development product fits as closely as possible the needs of the tenant or purchaser, the values of the politically active collective consumer, and the land use ethic of the society.

Contents

Basic Concepts
- Introduction
- Basic Real Estate Relationships
- Cash Solvency—The Critical Common Concern
- Land versus Location
- Linkages, Location, and Cash Cycles
- Cash Cycle of the User versus Cash Cycle of the Collective Consumer
- The Cash Cycle of Infrastructure
- The Concept of Property Rights
- Most Fitting and Most Probable Use

Risk Management in Development
- Conditions of Uncertainty in Development
- Basic Risk Management Techniques
- Time as a Critical Risk Element

Preliminary Budget Concerns—Producer Group
- Feasibility Analysis
- Approaches to Determining Feasibility
- Regulation of Capital
- Investment Purchase of After-Tax Cash Flow

Marketing—The Key to Development
- Market Research
- Market Data versus Merchandising Data
- Marketing Research and the Collective Consumer
- The Prearchitectural Marketing Program
- Anticipating the Future User
- The Ethics of Fit and Monopoly

Summary

Basic Concepts

Introduction

Someone rolled a rock to the entrance of a cave and created an enclosed space for his family—a warmer, more defensible shelter, distinct from the surrounding environment. This can be called the first real estate development. Since then real estate activity has evolved and taken many forms to meet the needs of man and his society. Once based on need and custom, real estate is now based on social economics and statute.

Real estate can be defined generally as space delineated by man, relative to a fixed geography, intended to contain an activity for a specific period of time.

To the three dimensions of space (length, width, and height), then, real estate has a fourth dimension—time for possession and benefit. This can be referred to as a *space-time* characteristic. The space-time concept is illustrated by the terms apartment per month, motel rooms per night, square footage per year, and tennis courts per hour. A fundamental element in real estate is that any space-time unit has a corresponding monetary value. While many of the value judgments and debates about real estate projects relate to elusive criteria of what is good and beautiful, in a money economy the ultimate criterion is cash.

The creation and management of space-time units is termed real estate development. Real estate developments range from a simple cave to the complex technology of the Park Avenue skyscraper. Like a manufactured product, a real estate project is part of a larger physical system programmed to achieve long-term objectives, but each real estate project is also a small business enterprise of its own. Thus, the development process is a continuum of construction technology, financing, marketing skills, administrative controls, and rehabilitation required to operate the real estate enterprise over many years.

Real estate development also is a complex, collective process, not only accommodating an activity within the parcel, but also adapting to the context of a specific surrounding environment, involving different personalities and interest groups, as well as limited resources. The political and social process to produce a real estate product must consider a diversity of impacts to find equitable reconciliation between who pays and who benefits.

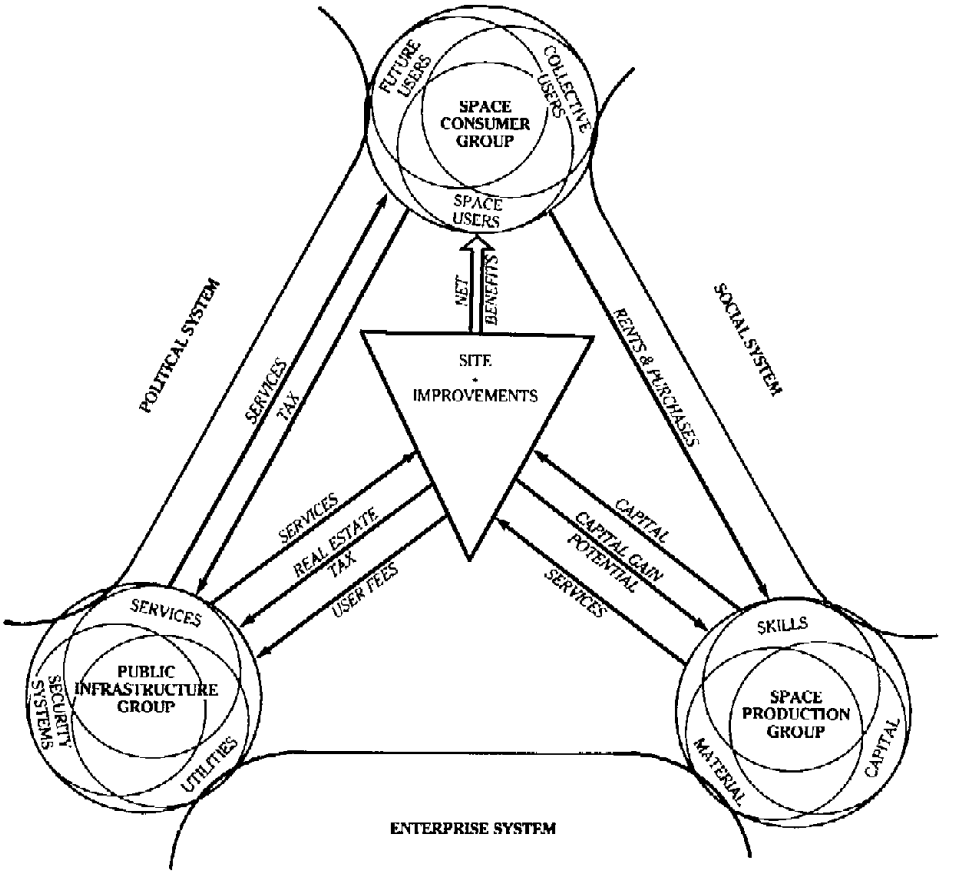
Basic Real Estate Relationships

The real estate process presented in Figure 1 is the constant interaction of three groups—space users (consumers), space producers (those with site-specific expertise), and public infrastructures (off-site services and facilities).

The *space consumer group* includes *individual space users* attempting to rent or buy real estate space to house their specific needs. This group operates individually in the marketplace. The individuals' goals are to survive and to improve their sense of satisfaction and security, using their own funds. In order to achieve the unique combination of attributes each desires, there are trade-offs, such as location, space, and operating cost, that must be made and which influence real estate decisions. *Collective users* generally pursue their interests in real estate activity through the political systems that purchase open space, provide for public infrastructures, or regulate space production with pooled funds from taxes, bonding, etc. *Future users* are typically represented by proxy, either by developers who anticipate the need to change the use of a building in the future or by the judiciary or special-interest groups, who perceive some trusteeship of the land for future generations. Provision for future users is a hidden charge to present consumers.

The *space production group* includes all forms of expertise necessary to convert from space-time requirements to money-time. The system includes those who assemble the capital and those who prepare materials as well as those who contribute to the assembly of these on site. Architect and mortgage banker, lumberman and lawyer, city planner and hotel manager are all in the real estate

FIGURE 1
THE REAL ESTATE PROCESS



business. The real estate business includes any person with expertise in creating and maintaining spaces to house activities of space users in the marketplace.

The *public infrastructure group* includes all those enterprises that provide a network of tangible and intangible off-site systems for the individual space user, including physical networks of street and sewer and other utilities, services like education, police and fire, and operational systems for deed registration, governmental regulation, adjudication, and all forms of economic activity with efficiencies of scale that suggest collective off-site action. Note that the difference between space production and public infrastructure has nothing to do with private or public ownership, since private companies may provide utilities and public agencies may develop real estate. A necessary service, like sewer and water, schools and libraries, becomes an element of infrastructure when there are economies of scale to be enjoyed through collective action of many parcels, leading to off-site centralization.

Cash Solvency—The Critical Common Concern

Each of these three functional groups, and any subgroup therein, represents an organized, rational undertaking, called an enterprise in the language of systems.[1] In an industrial society, each enterprise is a cash-cycle operation. Each begins with certain cash resources with which to purchase raw materials and services, to add value through expertise, and to exchange finished inventory for accounts receivable and back to cash. Most such enterprises, be it a hospital, a city, a household, a university, or a single student, are not attempting to make a profit, but each and every enterprise is constrained by the need to maintain cash solvency, both in the short and the long term, or become bankrupt. Cash solvency of each enterprise in the total process, not maximization of value, is the pivotal issue of survival and the one measure of self-interest that all these conflicting entities have in common. Only a few enterprises are intended to be profit-oriented. Cities, school districts, and homebuilders are all cash-cycle enterprises. Of course, solvency *plus a surplus* at the end of a year can mean the city manager, the hospital director, and the homebuilder will enjoy praise, trust, and greater latitude to try new things from their city council, hospital board, or bank loan committee. Cash solvency is a continuing test of management, and cash surplus the measure of survival risk.

Therefore, a basic axiom for determining real estate actions is that a desirable real estate program permits maximum satisfaction of the consumer within an affordable structure, while respecting environmental limits of the natural resources and permitting the public infrastructure and space production groups to achieve cash solvency, termed a cash break-even or default point in financial planning. Several important implications of this view of the real estate process are these:

- The true profit centers in the real estate development process are in cash revenues created by the developers' expertise in producing space-time units.
- Equity ownership is the degree to which any one enterprise can control or divert cash flows from a real estate project to compensate for its contribution of land, materials, money, and/or expertise.
- Since the public has constitutional rights to divert cash productivity of the property via the real estate tax and user fees, the public has direct ownership of every taxable parcel to some degree, is a preferred partner in the ownership structure, and possesses real assets in terms of taxes, net service costs, and user fees.[2]
- Site selection represents a consensus of cash-cycle forces, with the cost of site preparation acceptable within solvency limits, which are determined by rent levels, real estate taxes, and an infinite number of factors, reflecting the economic characteristics of the user, the producer, and the cost of infrastructure services at alternative sites.
- Control of land through ownership, option, or alliance can indicate who in a real estate project will be hired, what materials will be purchased, and where all the cash flows generated by development and management can be directed. That is why architects, mortgage bankers, public authorities, and cities become developers—to capture some small percentage of the cash flow benefits to their enterprises.

Land versus Location

Land is not location, property rights, or the most important aspect of a project site; instead, land is a natural resource upon which real estate decisions come to bear. It is that which can be brought under the control of man to bear his structures. It is a finite resource that can be exhausted by extractive industries, destroyed by seismic and ocean upheaval, or wasted by ignorance of its processes. It is a limiting factor in development and both a reference and a bearing point for space-time units.

The physical land attributes with legal-political constraints, linkage attributes that define location, dynamic attributes that exist in the eye of the beholder (such as prestige, anxiety, and claustrophobia), and attributes of a larger environmental system create a site.

Location is often identified as the critical factor in a site, but it is seldom understood that location value is related to the functional needs of the activity and not the site. The family unit is a common example of multiple functions involving employment, school, shopping, and recreation. The family chooses a home site that balances convenience against the cost of inconvenience. Each relationship between a household and another point requires movement of persons, goods, or messages. This is termed a *linkage*, and the time, stress, and dollar costs involved are referred to as the *costs of friction*. Each establishment seeks a location defined as a *set of linkages* that will minimize these costs. As the costs of energy, congestion, and time have risen for commuters and the need for suburban school linkages has diminished, the opportunity for reducing costs of friction by trading the house in the suburbs for a condominium downtown has been transferred into rent or the price of a condominium.

Rent differentials for location reflect market recognition of perceived costs of friction to desired amenities. Therefore, locational value is in the mind of the space user rather than inherent in the land, and demand pressures on land shift as his perceptions of convenience shift. Of course, movements of goods and services and people often employ networks of pipes, paving, and wires directly to the site so that some linkages become physically set due to economies of scale in reducing the costs of friction. Some communities have expanded the web of physical linkages to include pneumatic-tube garbage collection, centralized heating and cooling, cable TV, skyway systems, and pedestrian tunnels. However, most linkage relationships are subtle, systematic behavioral patterns that require a thorough understanding of particular establishments and are the basis for marketing.

Linkages, Location, and Cash Cycles

Location as an attribute of the establishment rather than a physical site can be understood by a look at simple financial plans of hypothetical industrial, retail, and household establishments. In Figure 2 the relative revenues and expenses of two alternative plant locations are presented. Notice that the linkages in each community to customers provide different sales estimates, while expenses are also altered by the proximity of each site to raw materials, distribution points, and the availability of labor pools with different expectations of hourly wages, vacation time, and benefits. Indeed, benefit costs may be lower because the

FIGURE 2
INDUSTRIAL SITE ALTERNATIVES

	Site A Northern City		Site B Southern Town	
Revenues:				
Unit Sales	11,000		10,000	
× Price/Unit	$110		$110	
= Dollar Sales		$1,210,000		$1,100,000
– Expenses:				
Raw Materials		$ 110,000		$ 100,000
Transportation:				
Raw Materials		11,000		5,000
Finished Goods		55,000		110,000
Labor:				
Productive Labor Hours/Unit	10.0		10.0	
+ Productive Hours as Percent of Clock Time	0.8		0.95	
= Total Hours on Wage Bill	12.5		10.5	
Direct Labor Cost/Unit/Hour	$ 4.00		$ 4.00	
+ Indirect Labor Cost/Unit/Hour	$ 1.00		$ 0.50	
= Total Labor Cost/Unit/Hour	$ 5.00		$ 4.50	
= Total Labor Cost/Unit	$62.50		$47.25	
Total Labor Costs		$ 687,500		$ 472,500
Administrative Salaries		90,000		150,000
Real Estate Taxes		60,000		20,000
Utilities:				
Heat, Light, Power		75,000		60,000
Total Expenses		$1,088,500		$ 917,500
= Net Profit before Taxes		$ 121,500		$ 182,500
Capital Costs:				
Land		$ 50,000		$ 20,000
Building and Machinery		400,000		250,000
Cost of Relocation		0		100,000
Net Capital Employed		$ 450,000		$ 370,000
Rate of Return on Capital:		$ 0.27		$ 0.49
Number of Years for Payback of Relocation Cost:	$\frac{\$450,000-\$370,000}{\$182,500-\$121,500}$		$\frac{\$80,000}{\$61,000}$ = 1.3 years	

average age of the population in site B is much younger than in site A, reducing hospital costs, pension costs, and the prerogatives of long-time seniority.

On the other hand, administrative salaries are higher in order to compensate executives for doing without certain amenities not available in a small town, such as a country club, a parish school, or diverse medical services. Real estate taxes may be minimal because government services are much less comprehensive and fire insurance may be higher due to a remote fire station. Utilities may be lower because of linkages to hydroelectric power rather than coal-fired plants for site A. Even the capital costs are modified by the intensity of nearby land

development and the willingness of state governments to subsidize the costs of relocation. All these factors are linkages for an industrial establishment which alter its cash flow, business and financial risks, and profitability. In theory, it could pay more for site B because of the increment in the efficiency of its operations.

The retail store location example in Figure 3 depends on its linkages to families in the trade area which have both the income and inclination to visit a particular store or supermarket. The relationship of the store to other nearby retail establishments may generate traffic volume and attract customers or may intercept customers from the potential trade area. A potential linkage to a flow of passing customers can be subtly strengthened by a stop light or a right-hand turn lane or devastated by a median strip which cuts off the linkage of a particular store site to traffic lanes going by. A great number of linkage relationships will affect potential sales for the store, and that in turn controls the acceptable rent levels, capital budgets, and store sites in the real estate process.

FIGURE 3
RETAIL STORE CASH CYCLE

I. Determination of optimum store rent:	
Number of families in area	5,000
× the store's capture rate	.20
= Number of families visiting the store	1,000
× Average family income in area	$20,000
× % of family income spent in supermarkets	.12
= Total potential sales for the store	$24,000,000
× Leakage of food purchases to other sources	.50
= Expected potential sales for the store	$12,000,000
÷ Sales/(sq. ft. of sales floor area)/year	$400
= Sq. ft. optimum building size	30,000
Expected potential sales for the store	$12,000,000
× % of sales allocated to rent expense	.075
= Net rent allowed per year	$90,000
÷ Optimum building size	30,000
= Optimum net rent/sq. ft.	$3.00
II. Determination of optimum building cost:	
Parking stalls required/300 sq. ft. GLA	1
100 stalls x 300 sq. ft. each	30,000
+ Gross building coverage	34,000
= Minimum site area	64,000
× Price of land/sq. ft. of $2.00 (approx. $86,000/acre)	$128,000
× 10% interest on land	12,800
= Annual budget for improvements	77,200
÷ Capitalization rate of 11.5%	.115
= Total budget for building and site	671,300
÷ 34,000 gross feet	$19.75/sq. ft.*

*This budget is too low for 1980 building costs; developer must reduce size of store and cost of site or capture more of potential market of grocery sales.

Notice that any particular retail store can pay a premium for a site where the linkages are expected to produce more than average penetration into a potential consumer group passing by or living in the vicinity. Some retail establishments need multistate linkages by interstate or airline, such as Disney World or ski resorts in Colorado. In Vancouver a development company owned the north shore of Howe Sound but the only link was a ferry boat, so the property was relatively worthless despite its views and southern exposure. A suspension bridge two-thirds the size of the Golden Gate was built, and Lion's Gate Bridge became the critical link to create land of immense value for homes and businesses.

Many of the most subtle linkages are involved in selecting a housing unit for the family household. Linkages of the home site in terms of density per acre and a prestigious location must be traded off with neighborhoods which have homes of different sizes and quality in order to arrive at a monthly housing cost which is acceptable within cash limits of the household. The family is tempted to strain the cash budget because the house purchase is perceived as a major investment opportunity that may provide significant capital appreciation. This capital gain is thought to reduce their net housing cost below that of rental alternatives in the long term. Combine net housing costs with costs of transportation to work, play, and shopping, and with possible costs of poor schools or exposure to natural disaster, and the choice of a house becomes a problem.

Cash Cycle of the User versus Cash Cycle Of the Collective Consumer

Public decision groups, like city councils, school boards, and county governments, often fail to recognize the relationship between the cost of their decisions and the true cost of land since the land cost is out of one pocketbook while the costs of friction are shifted to others who may not vote in their district. Consider the community college district which purchases a cheap rural site rather than assembling a more expensive urban campus because the five rural counties in the district can outvote the single urban center county. While capital cost to the community college funds are reduced, there is a significant increase in the total ongoing cost to students who must commute long distances to school and part-time jobs, to the urban community in terms of underutilized residential land, and to retail real estate near the abandoned old campus.

More recently, with population pressures, depletion, and occasional misuse in the past, natural resources are becoming scarcer. Mindful of this, Congress passed the National Environmental Policy Act in 1969. Its purpose was to prevent or minimize damage to the environment by new industrial and residential development for the benefit of all present and future consumers. To implement this act, most state and local governments now require an Environmental Impact Statement (EIS) for all proposed large developments. A carefully researched EIS may sometimes be of help to both the developer and the city planner by pinpointing major problem areas and suggesting alternative courses of action. An inadequately researched statement can waste everyone's time and money, either during the planning stage or later during the project's use. Generally a shorter environmental impact evaluation of critical issues is the most cost effective.

Recently, many planning departments and conservationists have used the EIS and other provisions of the 1969 act to thwart growth in their cities and towns, which was not the original intent of the act.[3] MIT professor Bernard Frieden, in his book *The Environmental Protection Hustle*, warns that a new "exclusionism" is surfacing across the country. Where the old exclusionism attempted to exclude only low-cost housing in an effort to keep out minorities and the poor, this new exclusionism attempts to keep out everyone—rich, poor, and middle class alike. This restriction on growth, especially in the suburbs and infill areas of the cities, Frieden claims, results in higher prices for housing, reduced choice of housing location, and longer commuting distances, and it discourages carefully planned developments by the large developers. In the same vein, political use of infrastructure systems has become an oblique and debatable extension of land use control law for exclusionary purposes.

The collective consumers are moralistic in public statements but are generally motivated to enhance their own cash positions. For example, in a city south of San Francisco, Palo Alto, further residential growth would require present homeowners to share the subsidy of residential services from the industrial tax base with new residents. Thus they voted to commit 7,000 acres of development land to open space, estates, and some new industrial parks in the name of environmental quality. The monopoly created by growth management causes home prices to skyrocket to the advantage of existing residents, while exclusionary zoning may make it unnecessary to finance expansion of sewer and water facilities by raising everyone's water service fees. Those who benefit as existing residents control local votes and those who must ultimately pay monopoly prices have no standing to vote. Thus the collective consumer will operate to block or imbalance development to protect his short-term cash interest; by the same token, the collective consumer as a builder of public facilities often thinks of only its own budget and not of the shift of hidden costs to consumers and taxpayers.

The Cash Cycle of Infrastructure

Every real estate development creates a new customer for the public infrastructure which surrounds the development site. Each home constructed creates a new customer for the water service, the school system, and the fire department, and generates revenue in the form of meter charges for utilities, real estate taxes, and other receipts such as a share of gasoline taxes for street maintenance and state aid for education based on a per-student formula. There are secondary revenues, albeit indirect, in terms of increased retail sales levels, commercial land values and assessments, and therefore real estate taxes on ancillary uses. There is no aspect of cash forecasting more difficult than fiscal planning for the impact on revenues and service expenses of alternative land use plans, but much has been learned in recent years about the techniques of forecasting cash-cycle implications of alternative development.[4]

In the past, there was a tendency to oversimplify revenue/cost implications with broad generalizations: mobile-home parks presumably had low assessed value but high educational cost burdens and high service-cost implications for welfare and security; everybody knew that industrial plants produced far more tax revenue than required for service costs, since there were no children to

educate or streets to plow in winter. On the other hand, industrial plants attracted the workers at wage scales which could only finance mobile-home housing and contributed to highway congestion which led to street-widening programs. The combination of new residents and new jobs was the final burden on the sewer and water systems which required expanding the processing plant and well system to anticipate growth for the next 10 years. How does one allocate the current costs for expanding the water system and the street capacity between residential and industrial users and further subdivide the burden between present users and future users still to come? Fiscal zoning of land use mix within a community requires open-minded flexibility to balance cash revenues and cash expenses with mixed-use land planning concepts and multiple development proposals spanning different development time frames.[5] A new industrial plant may create a tax surplus which will be consumed in providing services for new residents hoping to work at the plant. But these new residents in turn will prompt commercial development which will further expand the tax base and may restore some real estate tax surplus five to seven years after construction of the first new plant. The interplay over time between cash cycles of users, collective users, and the infrastructure system is the base for the interface between economics and property rights.

The Concept of Property Rights

Individual and collective use of space-time resources and land has always been regulated by society, in part through law and in the larger part through political administration of the laws so that it is always necessary to speak of the legal-political attributes of a site. The rights to use or abuse, to provide expertise or choose contractors, the rights to prohibit or to condition use in certain ways, or to transfer rights from one person to another are defined as property rights. Society creates and continually modifies the allocation of property rights among private ownership, public institutional ownership, and common ownership indivisible among all members of society. A primary function of property rights is to provide incentives for specific parties to take responsibility for development as well as conservation of the resource. The market system rewards those, in terms of consumer satisfaction, who produce the best buildings for the lowest cost of construction and operation.

Until the early 1700s in England, each community had common lands available for everyone to graze their livestock. No one had a vested interest in maintaining some grass for tomorrow or the right to exclude animals to permit regeneration of the grasses, and the resource was crushed by overgrazing. The commons were abruptly fenced to permit controlled grazing by the rich, to the great discomfort of the poor.

Similarly, better information about economic and environmental cause and effect leads to more sensitive, refined allocation of rights. Property rights attempt to incorporate responsibility and its corresponding cost with land use decisions that are fairer to all members of a society. Therefore, cash flow revenues and outlays provide one way to measure the relative burden on interacting parties and to refine allocations of rights and responsibilities, that is, benefits and costs.

Information techniques, property rights, and economics continually interact. The supply and demand for rights to be bought, sold, leased, or otherwise exchanged depends on the benefit and cost of those rights to someone at a certain point in time and the scope of those rights as defined by law. The ownership of a car becomes less attractive as a commodity when the increasing gasoline prices, transportation taxes, insurance costs for injury caused by the auto, and emission control costs are included. Society may further restrict the hours, speed, purpose, or locations for which an auto may be used—the scope of property rights in an auto. Dramatic changes in gasoline prices produce rapid price reduction in large, gas-hogging automobiles.

As long as the interaction of law and economics is gradual, almost unnoticed, there is some degree of certainty about future assumptions. Should rights-to-use change abruptly, the interface between the law and economics is marked by fissure, failures, and disturbances not unlike those caused by faults in the earth's crust itself, and new social problems appear. Big cars are expected to depreciate in a few years under the best assumptions, and the owners can minimize the losses by paying more for gasoline, reducing their mileage, and postponing sale for a few years. But the large capital investments in land development, buildings, machinery, or ships are depreciated instantly when laws like downzoning, rent control, pollution controls, or territorial fishing limits change their anticipated income sources or costs of operation. Unlike the car ownership, which involves a three- to seven-year cash cycle, larger capital enterprises with major debt structures anticipate useful lives of 25 years or more; with an intensive fixed cost of operation they are quickly rendered insolvent by unexpected changes in the legal environment. Such allocations generally involve conflict between equally valid points of view and rights of survival and may transfer great wealth in the form of capitalized cash flows from landlord to tenant or collective consumer.

Although the language of real estate seems static, it is not. Many terms used today, such as fee-simple ownership, had their origins in medieval England. Their current meanings, however, are quite different from their medieval definition. Property rights do change and exist in a certain form only as long as society achieves its objectives in terms of encouraging development and husbandry. Nevertheless, change in property rights must be implemented at a rate which each enterprise can tolerate in terms of its cash cycle and the threshold of insolvency or there could be a taking of property without due process.

Most Fitting and Most Probable Use

Until recently, the economic theory of real estate decision making was built on the premise that the system was committed to finding that private use of a parcel of land that would maximize the owner's wealth by being the most profitable use of the site linkages or physical land. Presumably the only criterion was profit, hence the cryptic term "highest," and, as an inheritance from Adam Smith, there was the further presumption that maximum profit was "best" for society.

Actually, the allocation of land to those who would pay the most or develop it most intensively was characteristic of 19th-century America, when society

needed to reward those who would modify the frontier to accommodate a rush of immigrants. At the same time, society had not melded to a point where it could find a consensus on land use priorities and social objectives. However, it was only as recently as 1975 that the fundamental economic premise of "highest and best use" was redefined as that use on a given date that could be selected as most profitable from reasonable and probable alternatives that were physically possible, legally permissible, and financially viable, given a specific level of effective demand and costs of production.[6] The official definition further made it explicit that wealth maximization was to be qualified by recognition of how a specific use would contribute to community environment and community development goals.

Thus, it has been recognized that the development of each parcel must be considered within a larger system and pattern of land uses and the frequent use of the words "reasonable and probable" reveals a recognition of many of the uncertainties that attend assumptions required in the decision to use and develop a parcel. At best, however, the term "highest and best use" is an anachronism from laissez-faire attitudes of the 19th century that have undergone an evolution in meaning like the concept of fee-simple title. At worst, it implies certainty of one man's judgment, a one-dimensional measure of the adequacy of a development concept and cash for the landowner, even when it is apparent that there are many vested interests in the cash flows that are affected by a given land use decision. Therefore, it is useful to replace this terminology with the terminology of "most fitting use" and "most probable use."

Any decision process requires identification of alternative courses of action and their consequences, and the consequences must then be evaluated and ranked in terms of their acceptability and probability to choose the appropriate plan of action. Typically, a set of consequences is compared to some set of standards which defines the acceptable, the undesirable, and the unthinkable. These standards can be somewhat altruistic, or what might be defined as the norms toward which a society is striving.

The concept of *most fitting use* is normative, that is, the optimal reconciliation of affected consumer demands, the cost of production, the cost of infrastructure services, and the fiscal and environmental impact on third parties. Reconciliation involves financial impact analysis of who pays and who benefits in cash terms, as well as compatibility analysis of the collective consumer's perception of environmental quality and impact on the good life—elusive standards at best. The concept of most fitting use assumes that goals and limitations have been well defined and that misfits between proposed solution and standards can be recognized.

Experience tells us that most plans, development or otherwise, fall short of the ideal. This tendency is implied by the concept of *most probable use*. Most probable use is that alternative course of action which is closest to being the most fitting use while recognizing strong constraints imposed by current political factors, real estate technology, the personalities and talents responsible, the money market, and short-term solvency pressures on consumer, producer, and public infrastructure.

Any enterprise is a compromise because the form it takes, in terms of both its configuration and its behavior, reflects a negotiated consensus between two general sources of power—the power of its environment to dictate form, and the

power of the organization itself to decide what its characteristics and behavior will be.[7] In the process of development, the elements of law, public infrastructure, and consumer preference are the external forces affecting behavior, and the ability to respond from within the organization is a function of talent, money, and political skills.

Risk Management in Development

Conditions of Uncertainty in Development

All parties in the development process must accept significant levels of uncertainty about their cash budgets and other expectations as each enters the development process with a set of assumptions about the future in a society that has been changing at an accelerating rate. The amount of uncertainty for an enterprise varies according to its needs and income. The homebuyer expects to have the same job and the same family needs and disposable income for at least several years, but must organize family finances through insurance and savings to anticipate unemployment, illness, and even death. The pushcart vendor can change his location, his prices, his product mix of flowers and bouquets almost hourly and clean out his inventory by evening. Should he be unsatisfied with his business, he can convert from flowers to scrap collection or popcorn sales the very next day, unless frustrated by municipal permits. The retailer needs six months to re-form his inventory to changing consumer tastes, and the manufacturer needs five years to research and develop a new product line or relocate his plant.

But the real estate developer is locked into a specific location with an immovable inventory of room nights, apartment months, or square feet of leasing area that must be priced and sold many times, for as long as 25 years, before the total capital investment is recovered. That is a unique risk management assignment, and the developer who succeeds most often is the one who takes most care to validate the assumptions over which he has some control and to cushion the enterprise with tolerance for surprise and those changing conditions over which there is little control. The real estate process is concerned with identifying the explicit and implicit assumptions on which each consumer group, each infrastructure, and each production element of expertise is operating in order to allocate risks among those who benefit and those who pay each development alternative.

Control of this variance is called risk management. There is a continual refining of assumptions to convert as much speculation to fact as is possible and to provide tolerance for the uncontrollable surprises. Risk management is not only a philosophy of inquiry and problem solving, but also a primary objective of market research, of contract negotiation, and of strategic positioning of any enterprise or investment selection pattern.

Basic Risk Management Techniques

Aside from the outright avoidance or acceptance of the unknown, the business risk situation can be improved through application of one of the following techniques:

1. *Improving forecasts* through statistical research of the critical facts. For example, the reliability of a forecast is improved by increasing the sample size (the standard error of the estimate is reduced by the square root of the expansion in the sample size). While not all real estate research is statistical research, nevertheless, the general principle is that the exposure to surprise can be reduced by knowing more about the problem in a systematic fashion. Survey research of the consumer, soil testing, and quality control of materials are all elements of risk reduction through research and information processing.
2. *Combining risks* by pooling resources, by diversifying investments, and by improving forecasting through scale of operations. A four-unit apartment with a single vacancy has lost 25 percent of its income while a 100-unit building with 10 vacancies has a 10 percent vacancy loss to gross income, a far more stable situation.
3. *Shifting risks by insurance contract,* accepting the small certain loss of an insurance premium rather than the unpredictable loss of unknown frequency and severity of some insurable catastrophe like fire, collapse, death, or disability. Most static risks, contingencies which are sudden, external, random, and unpredictable as to time, are insurable.
4. *Shifting risks by two-party contract.* The escalator clause in leases is a classic example of shifting the variance in rising operating expenses or real estate taxes to the tenant; the construction contract shifts some of the risk of rising material and labor prices to the general contractor, but in recent years there has been hard bargaining so that developer and contractor each share a part of the risk. Careful study of development ventures between private and public agencies will show that the majority of the contract is allocating responsibility for political administration or construction according to the expertise of each. For the dynamic risks of management, the best controls are the pains of penalties for the failure to perform and the profits that go with expertise in the execution of a plan.
5. *Limiting liability for losses* through the form of ownership as a corporation or limited partnership or exculpatory clauses (which say the lender can only take the property in case of foreclosure) with which one party releases a second from an obligation to perform or for damages as a result of failure to perform.
6. *Hedging* is a term which covers a wide variety of devices for protecting oneself against future price fluctuations or other future contingencies. For example, a buyer can make an offer to purchase, contingent on future realization of political approvals, financing, or other requirements. An option to buy, an option to repurchase, or a variable interest rate mortgage are forms of hedges. The classic hedge in real estate is a mortgage loan for nearly 100 percent of the development cost without personal endorsements. If the project succeeds, the borrower can call out the equity profits by selling the property and paying the loan from the proceeds. On the other hand, should cash flows and appreciation prove inadequate, the borrower can default on the mortgage and *give up* the property to the lender through foreclosure or voluntary conveyance of deed in lieu of foreclosure. Business censure for mortgage default, while still damaging to the developer, has weakened significantly in recent years.

Not only do the parties to the development process seek to arrange the best possible solution to their problems, but also they must anticipate the many less

favorable alternative outcomes to a given set of assumptions in order to survive an upset of their plans.

Time as a Critical Risk Element

The passing of time is the most critical risk in the development process. Time permits the power of compound interest to erode the developer's resources, and it allows the conditions of competition and consumer needs which were true when the project started to change significantly. Perhaps it is the impact of compound interest which is least understood by most government regulators and most often used for extortion by those few who do understand it. Remember that a project with $1,000,000 invested at a nominal construction interest rate as low as 12 percent per annum is costing $10,000 interest for the first month, $333 a day, and then $11,200 the second month, etc. If the developer had hoped for a net profit of $50,000, a total delay of four months in completing the project will not only cause the loss of that profit in additional interest charges, but also may give the tenant the right to break his lease, the owner the right to invoke a loss-of-use penalty, the mortgage lender the right to renegotiate more expensive terms than those in the original commitment, and a competitor the opportunity to finish first and capture the market.

As money and time are expended on the project, time becomes of the essence in achieving expected revenues from sales and rentals. Thus, it is not uncommon to see tall buildings where the top floors are still being constructed while the bottom floors are already receiving tenants. In a slow office market it may be cheaper to build three 100,000-square-foot buildings, one after the other, rather than a single large 300,000-square-foot building where the economies of scale can be quickly lost to the cost of carrying a vacant inventory of space for even a relatively few months or years. The cost of carrying a vacant inventory of space can sometimes be controlled and often significantly reduced by an investment in market and merchandising research. It is a customer and the rate at which customers absorb space that drives the cash-cycle development process. A careful study of each market segment for demographic characteristics, the needs and motivation of the consumer, his priorities in terms of a finished product, and the price he would be willing to pay is merchandising research. American developers have tended to neglect marketing research in risk management in favor of faster construction methods and more elaborate contract allocations of risk among money partners and government agencies. Nevertheless, cash from rapid occupancy or sales turnover of inventory as a result of careful research is the best method for reducing the relentless pressure of compound interest.

Preliminary Budget Concerns—Producer Group

Feasibility Analysis

Feasibility analysis is a generic term which groups a variety of predevelopment studies by generalists and specialists in a systematic philosophy of inquiry to determine facts that are reliable, assumptions about the future that are consistent with past experience, and tactics which will minimize the variance

FIGURE 4
REPORT TYPE CATEGORIES WITHIN GENERAL CATEGORY OF FEASIBILITY ANALYSIS*

Strategy study: Selection of objectives, tactics, and decision criteria.

Market study: Economic base studies or other related aggregate data review.

Merchandising studies: Consumer surveys, competitive property analysis, marketability evaluation, etc.

Legal studies: Opinion on potential legal constraints, model contracts or forms of organization, and political briefs.

Physical design studies: Engineering, land planning, and architectural studies.

Compatibility studies: Impact analysis of project on community planning, environmental quality, fiscal solvency, or other public policies.

Financial studies: Economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

*Modified from J. A. Graaskamp, *A Guide to Feasibility Analysis*, 3rd edition (Chicago: Society of Real Estate Appraisers, 1980).

between objectives and realizations.[8] A real estate consultant would categorize various report types as suggested in Figure 4. A developer builds only what he can finance, and lenders should finance only those projects for which there is a defined consumer group representing effective demand in a specified period of time. Seldom can one individual or firm deal with all of the feasibility topics and report types equally well due to the necessity of specialization, the bias of a single viewpoint, and the gaps in professional education.

The sequencing of analysis depends on the problem, and ultimately there are only three types of real estate feasibility problems:

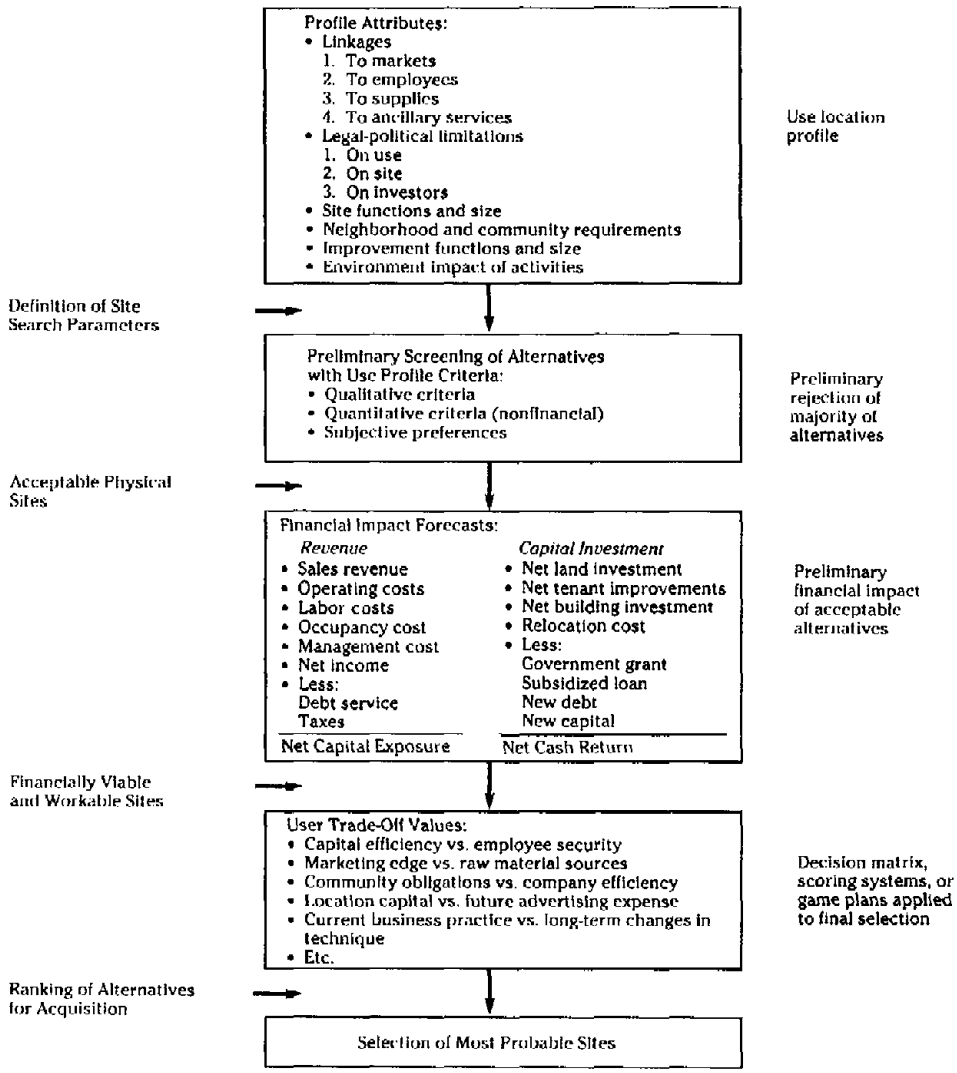
1. The search for the most fitting site for a use(s) (Figure 5).
2. The search for the most fitting use(s) for a specific site (Figure 6).
3. The search for the most suitable investment by investors (Figure 7).

The most common situation is the site in search of a program for use by the speculative developer. The use in search of a site, such as the occupant seeking new housing for his activities, is generally in a more flexible position of first specifying a program and then searching for the most fitting site. The development process is most successful when the developer first researches a program in terms of a marketing target and investment criteria and then acquires land most likely to advance that program.

Approaches to Determining Feasibility

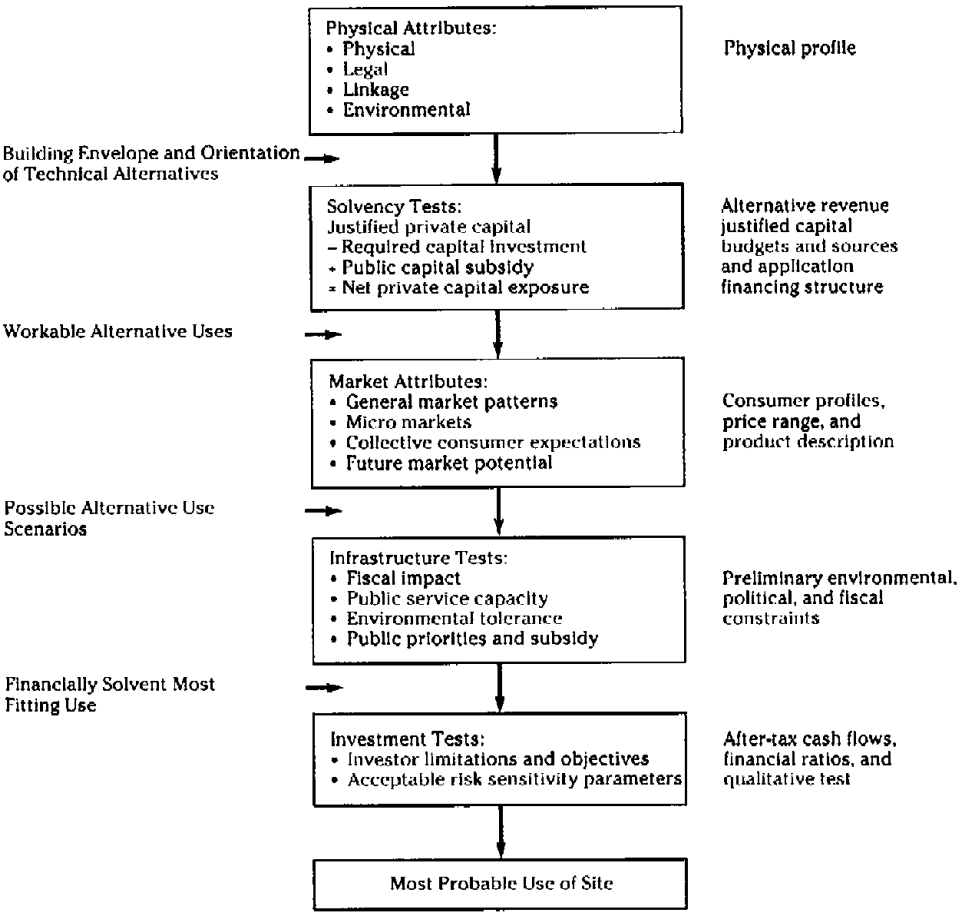
The revenues of a development come from either rental income or sale of space-time units, and the real estate development intended for rental purposes provides the clearest and simplest demonstration of how a space-time unit and a corresponding monetary value are irrevocably linked together. If the total

FIGURE 5
ANALYSIS PROCESS:
THE SEARCH FOR A SITE FOR A USE(S)



capital budget has been set by a completed architectural program, it is then possible to determine the rent required per unit—a "front-door" approach; more realistically, the developer should determine the market rents and additional supply of space required in a given sector and then work backward to establish the capital budget justified by revenues and control of the design. Too often the

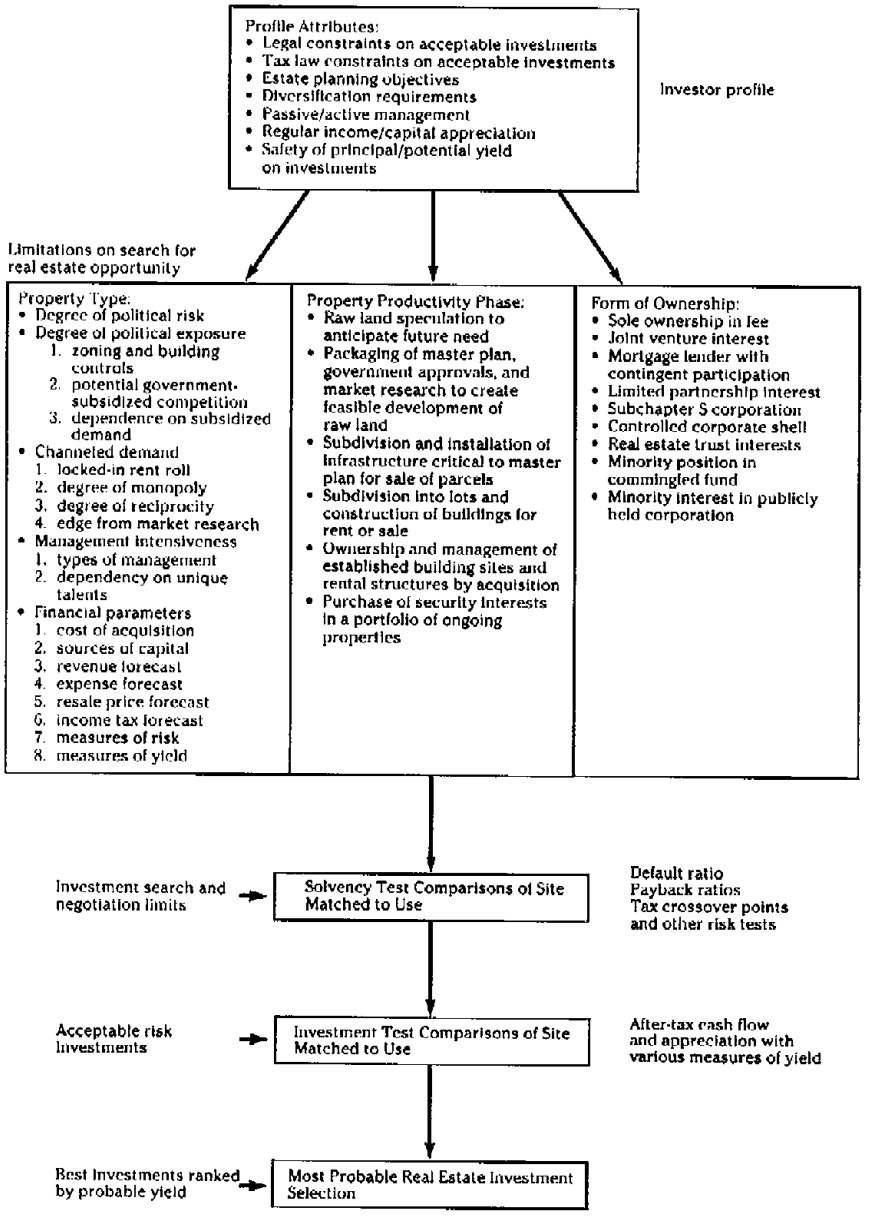
FIGURE 6
ANALYSIS PROCESS: IN SEARCH OF A USE(S) FOR A SITE



design specifications are set so that the rents required to justify the project are out of reach of prospects in the marketplace.

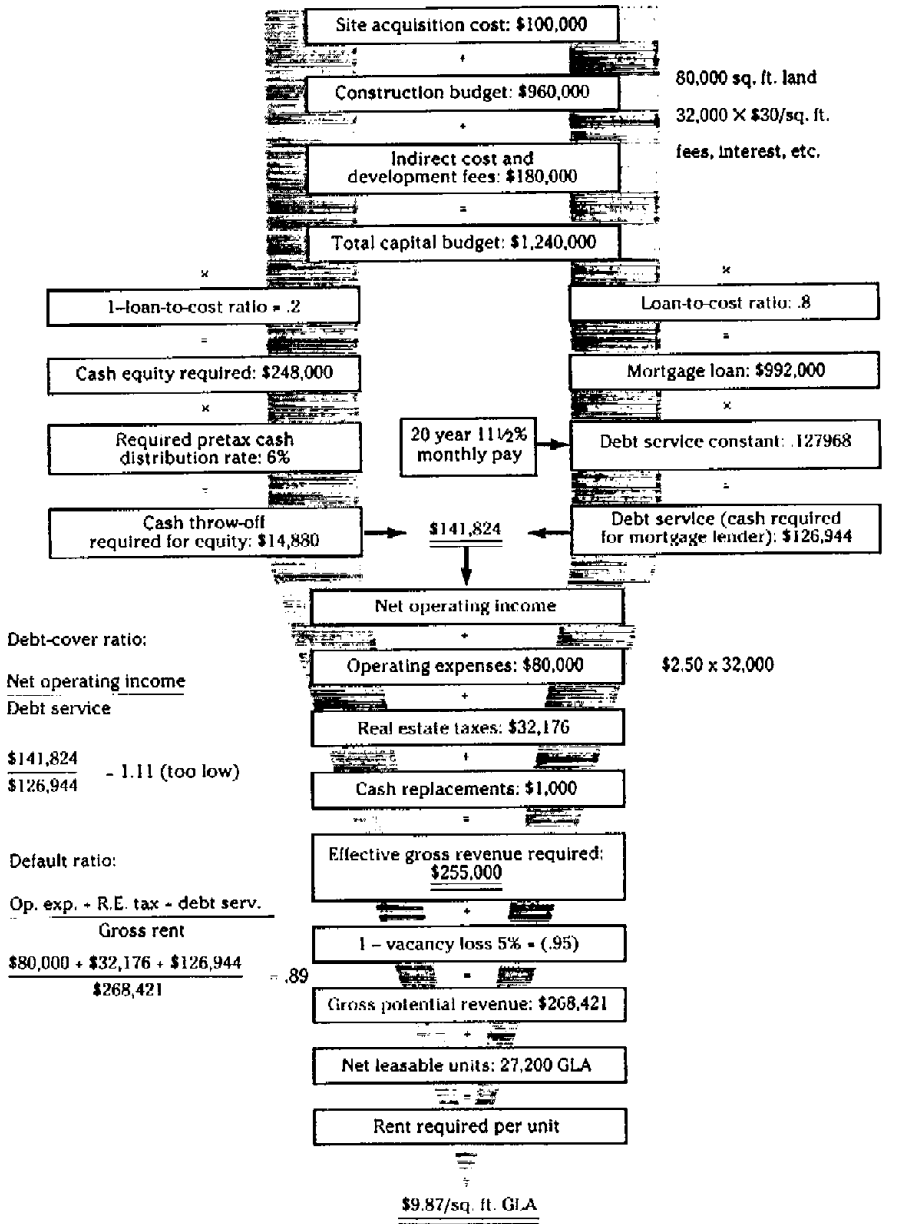
Consider the example in Figure 8 involving a small, two-story suburban office building on an 80,000-square-foot site, costing $100,000. With 16,000 square feet per floor, it provides 20 percent ground cover and very adequate landscaped

FIGURE 7
PROCESS FOR INVESTOR SELECTION OF REAL ESTATE



surface parking. Assuming a basic construction cost at an economical $30 per square foot with fees, construction interest ($100,000), and indirect costs (legal and design fees, permits, etc.) of $180,000, the total capital budget is expected to be $1,240,000. It is hoped that lenders would provide 80 percent of the required funds for permanent financing (or $992,000) on a 20-year term, 11.5 percent

FIGURE 8
LOAN-TO-COST RATIO APPROACH
(FRONT-DOOR APPROACH)



annual interest, monthly payment mortgage, which means total interest and principal payments annually will be $127.97 for each $1,000 borrowed, resulting in a debt-service constant of .127968. Therefore, the project must generate cash of $126,944 a year for the mortgage lender.

The balance of the money required, at least $248,000 of it, assuming no working capital and no cost overruns, would be provided by a partnership of equity investors. They require only a 6 percent cash dividend on their investment each year, since they expect additional return from gradual amortization of the mortgage and appreciation in the resale price over the next 10 years. Experience has shown that operating expenses for this multitenant building will approximate $2.50 per square foot of gross area, while real estate taxes are running about $1 a square foot for comparable properties in the area.

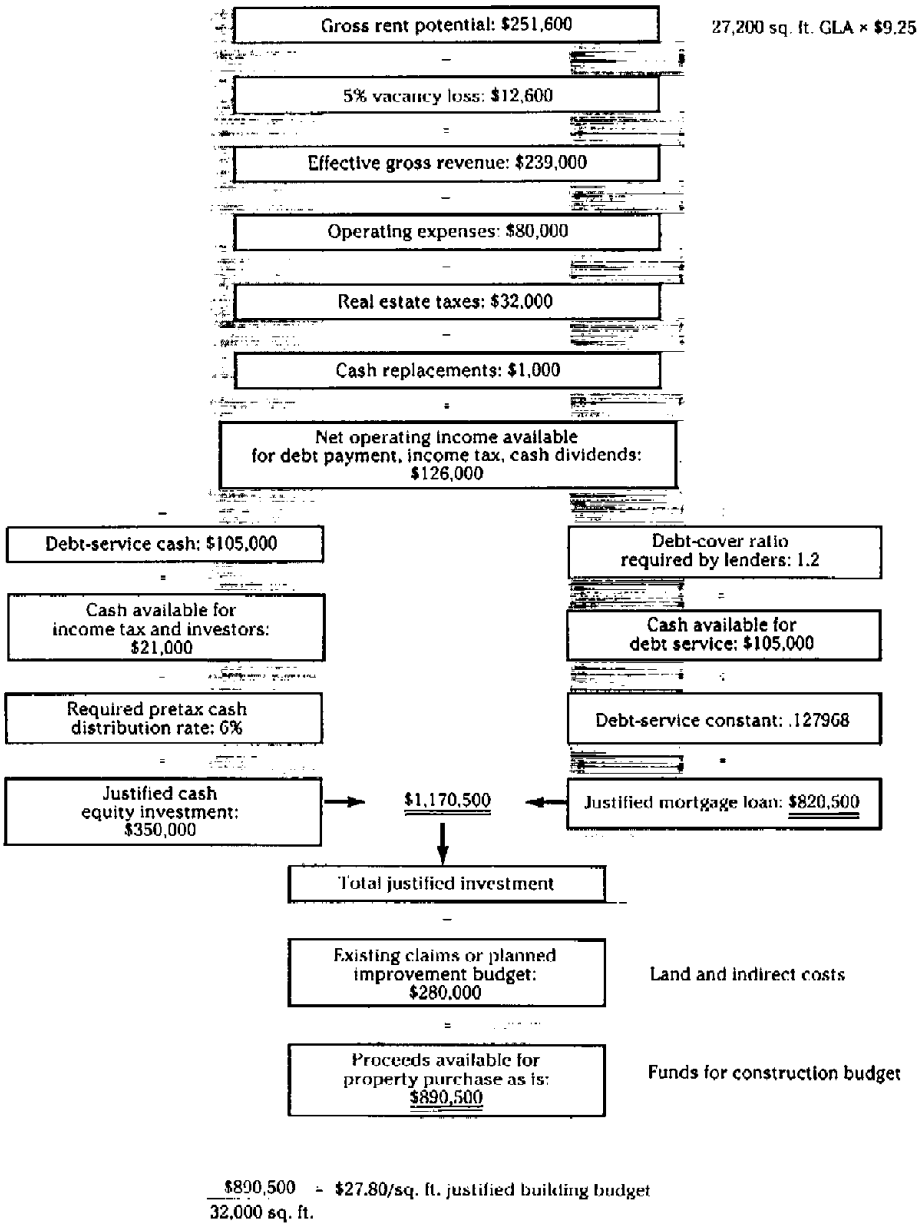
Property management indicates cash replacement costs of $1,000 a year for carpeting, paving, and vandalism loss so that total cost required annually is about $250,000. Assuming a vacancy of 5 percent, this effective gross revenue requirement must be generated from 85 percent of gross leasable area (GLA) of 27,200 square feet, since 15 percent of the 32,000-square-foot building area is committed to corridors, stairways, and utility areas. The balance is included in the leasable area charged to tenants. The result is that the building must rent for at least $9.87 per square foot of GLA if all claims are to be satisfied. Unfortunately, the maximum rent found in the market for two years in the future is $9.25 a square foot, so the building is not competitive. An owner-occupant must question the cost of a building which exceeds rental value of equally suitable space, and a tenant will choose the cheaper space if both buildings are equal in quality and location.

As serious as the marketing problem may be to the developer, the key financial ratios of debt cover and default ratios would be unacceptable to any mortgage lender. The debt cover ratio is the relationship of net income to debt service; and for office buildings, institutional lenders demand that the pro forma ratio fall between 1.2 and 1.3, a parameter which has been relatively constant for many years (ratios available from the American Life Insurance Institute, Washington, D.C.). The solvency test is the cash break-even point of the building as a business, often termed the default ratio.

Lenders and equity investors may agree that for the small suburban office building with multitenants with three- to five-year leases, they would like to see a cushion of 15 to 20 percent between gross rents and all operating expenses and debt-service commitments. The sum of operating expenses, real estate taxes, interest, and principal payments divided by gross rents indicates the break-even point is too high at .89, even without allowance for cash replacements and improvements to the property. (A cash break-even or default ratio of .85 would mean a developer could survive a 15 percent vacancy or an increase in operating expenses and real estate taxes of 19 percent [($268,421 × .10) ÷ $112,176 = .239 or 24 percent less 5 percent vacancy].) At this point, the project would have to be scrapped, postponed, or sent back for redesign. It would make more sense to begin with market rent and solve for the total capital budget that would be justified, and this is what has been done in Figures 9 and 10.

In Figure 9, the emphasis is placed on meeting the debt cover ratio required by lenders, while Figure 10 uses the enterprise approach of structuring the business to achieve an acceptable risk in terms of cash break-even point or default ratio. Moving from rent to budget is sometimes called the "back-door" approach but is the essence of many feasibility studies and is required on the FHA (Federal Housing Administration) 2013 form for all multifamily FHA-insured rental projects and most state housing-finance agency forms. The justified build-

FIGURE 9
DEBT-COVER RATIO APPROACH (A BACK-DOOR APPROACH)
LENDER'S POINT OF VIEW



ing budget, once determined, becomes part of the program but may be modified by adjustments for the discounted value of other investment objectives such as inflation gains, income tax benefits, or advertising value and other benefits to the owner-occupant.

Figure 10 provides an alternative back-door approach which is more useful in analyzing enterprise solvency and relative risk contributions of various claims on gross rent potential. Note that in Figure 10, the objective of holding the default ratio to 85 percent of gross potential rent reduces the cash available for debt service and therefore the justified mortgage loan from a maximum of $992,000 to a maximum of $788,000. The result is to increase the budget because the equity investor is willing to accept only 6 percent cash return as compared to the lender's claim of .127968, a cash payment which includes 11.5 percent interest and repayment of the loan over 20 years. The lender will not benefit from inflation and will suffer loss of purchasing power, which explains his higher interest rate. The equity investor is willing to forgo immediate cash income in favor of inflationary increases in future rents and property values. Because the equity investor capitalizes his share of income at a lower rate, the equity position provides considerably more cash.

This example is an excellent demonstration that the principle of leverage requires that the cost of funds be less than the return on investment, which in this case would be $126,000 net income divided by $1,207,000 total investment or .10. A 10 percent return is lower than either the interest rate of 11.5 percent or the constant of .127968, so that reverse leverage is the result. The more funds that are borrowed, the more risky the investment and the lower the justified capital investment. Note that a small drop in borrowed funds permitted a large increase in cash equity, improving the solvency position as well as the budget to a more realistic $37 per square feet of gross building area.

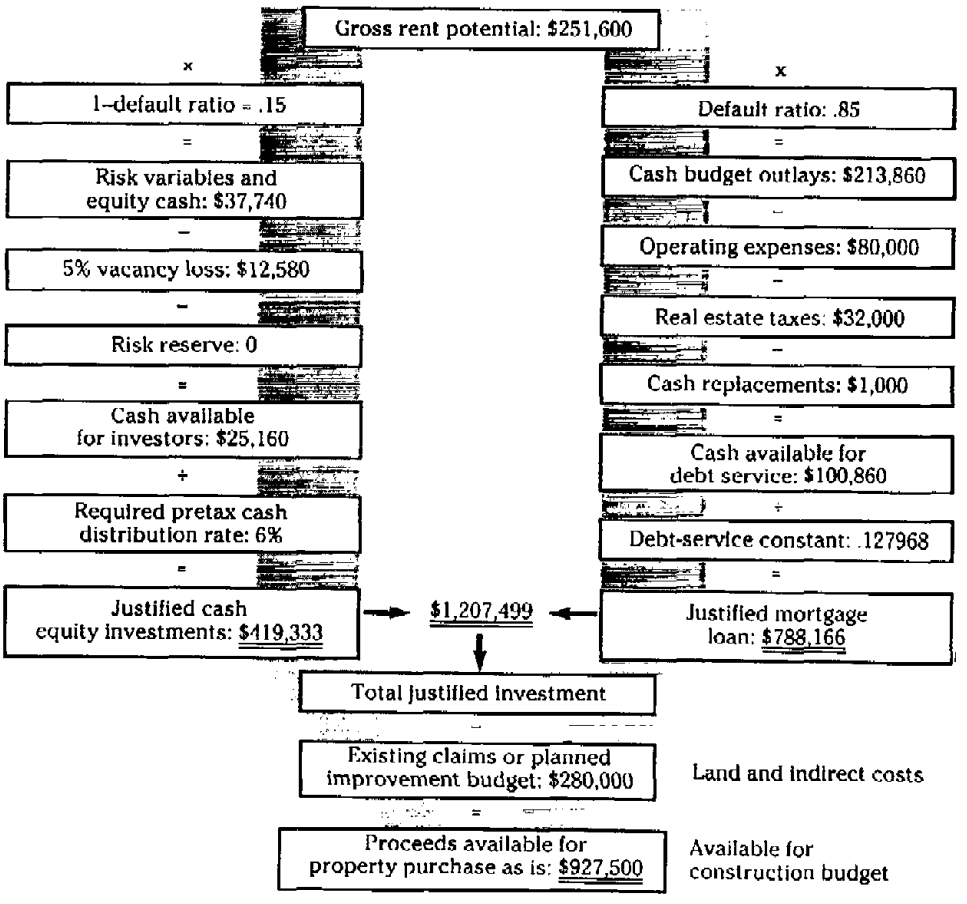
During the decade of the 1980s, interest rates are forecast to remain above 10 percent and more equity money will be provided for most projects, often raised through group investments such as partnerships and corporations. The loss of cheap money has made it almost impossible to finance 100 percent of a real estate project or to depend on leverage as the primary investment advantage of real estate. If equity investors must risk more of their own money, extending the payback period significantly, they can be expected to be more selective in regard to their investments and those whom they hire for their expertise in design and construction.[9]

Regulation of Capital

There was a time when the real estate development process involved individual small firms specializing in just one step of the total development procedure. One firm would subdivide lots, another would build the houses, a third would build the retail buildings, and a fourth would specialize in office and industrial facilities. The latter were typically built primarily by users who rented their surplus space to the general public. Projects were small, prices were lower, and risk capital was local, although commercial property loans were available from national insurance companies.

Today the larger development firms have integrated the entire development process from the conversion of raw land to building sites through the construction, marketing, and management of the total neighborhood. Not only have the scale and required capital expanded significantly from small developments to large mixed-use developments, but also the variety of expertise and therefore

FIGURE 10
DEFAULT RATIO APPROACH (ANOTHER BACK-DOOR APPROACH)
DEVELOPER'S POINT OF VIEW



profit centers retained by a single firm have expanded in a corresponding fashion. The development firm is attempting to control as many profit centers in the development process as possible in order to increase its share of the cash flows that are generated by the development and operations process.

However, larger-scale projects in an economy of generally rising and inflationary costs require very large amounts of capital. Therefore, the development process is a partnership between those with the expertise to produce the product and manage the development business, and those with capital, typically more passive institutions and investor groups. A shortage of high-quality buildings and changes in tax laws should reduce turnover and lengthen holding periods to span significant changes in future use. A general trend in the real estate development process toward selective investment by groups of individuals, institutions, or consortiums of public agencies and private real estate investors is leading toward more regulation of real estate financial instruments, similar to the regulation of securities by the SEC [Securities and Exchange Commission]. The Internal Revenue Service is concerned with the various tax attributes of each financial format and of the participating members in the investment.

Since pension funds may provide large amounts of equity for real estate in the future, the investment standards of ERISA (Employee Retirement Income Security Act) will influence real estate development. Federal levels of regulation of real estate investment may be expanded if efforts to control inflation shift towards selective credit control rather than general monetary and fiscal controls. In short, the public controls on land use and consumer protection which have so complicated development are being matched by progressively more complex federal, state, and trade association rules on capital investment in real estate.[10]

Capital investment by municipal government and infrastructure agencies may be more regulated than capital in the private sector. Referendums are required for municipal bond issues. The Internal Revenue Service closely reviews economic development bonds and state and municipal charters. Also, Congress is reconsidering the proper uses of tax-exempt bonding because voters and legislators at all levels are more nervous about capital risk than are private investors.

Investment Purchase of After-Tax Cash Flow

Money managers for long-term investment funds are purchasing a stream of cash payments over many periods of investment which are generated by real estate. Cash payments may result from rental operations (subject to the income tax), occasional refinancing of the rental project (generally not subject to tax), net profits from resale (generally subject to capital gains tax), or tax savings to other income of the investor due to temporary deductions for accelerated depreciation, investment tax credits, or other tax incentives. It is this stream of cash which is termed *cash throw-off* before taxes or *cash flow* after taxes. When this cash flow is increased by a tax shelter of other income or occasional surpluses for refinancing, it is termed *spendable after-tax cash*. Once the basic financial parameters of a project have been estimated using the front-door and the back-door approach and studies discussed earlier, than the financial analysts convert these facts and assumptions to cash flow projections over five to 10 years' time using annual, semiannual, or sometimes quarterly projections. Those who regulate real estate investment are providing administrative rules and parameters on cash flow projections so that financial analysis must move on from the simple, basic front-door/back-door approaches outlined in this monograph.

A sample cash flow program and its basic assumptions are provided in Figure 11. In Report Section 3 of Figure 11, note that Line 11 of the output shows cash throw-off before taxes. Line 16 shows cash flow after tax, and Line 18 shows spendable after-tax cash. Lines 30–34 give the before-tax ratios necessary for evaluating project performances. Observe that return on net worth, Line 30, decreases over time and that the default ratio, Line 42, improves with time, indicating that while the project is less susceptible to failure, it may not be leveraged enough. Line 34 reports the present value of the project if operated and then sold at the end of each year; this present value must exceed the original acquisition cost of the project, or the cost/benefit ratio is negative.

These types of forecasts are generally made with the assistance of small computer systems available from sophisticated mortgage lenders, appraisers, and consultants. The student of development should be aware of the gap between the basic methods of the front-door/back-door approach in defining the financial parameters of physical planning and the detailed procedures of systematic capital investment.

Different investors may participate in the real estate project simultaneously by means of a variety of financial instruments, depending on their investment profile perceptions for income, capital gain, safety, management ability, etc. One investor may own the land and lease it to the real estate venture for a steady rate of return over a 40-year time span, expecting some protection from inflation because at the end of 40 years he will own the land and building. The second investor may prefer to be in the position of mortgage lender, gradually recovering his investment from amortization and possibly protecting his dollars from inflation by participating in a share of the increases in gross rent or net income. A third investor might be willing to accept a small cash dividend and be entitled to use all of the income tax benefits available to the equity owner of the project, while still a fourth investor would pay hard dollars up front for the right to manage the property for a certain percentage of the gross rent and the cash throw-off.

The supply of capital from a variety of sources, contract instruments, and rate of return viewpoints is called *tiering* and requires a thorough knowledge of cash flow planning and financial ratio analysis as well as the present-value concept of money. In recent years, tiering of capital for real estate has generally included public capital.

Marketing—The Key to Development

Market Research

The revenue flow, on which all assumptions for raising capital to build the real estate rest, begins with a customer. Selling is a method of persuading the customer to accept what is being sold, while marketing helps shape the product and the service to the needs of the user.[11] Marketing must serve three ultimate user groups: the individual purchaser or tenant, the collective users operating through the political process to approve or disapprove a project proposal, and future users who can be expected to convert a structure to changing lifestyles and needs at some point in the future.

FIGURE 11

EXAMPLE OF COMPUTER FORECASTING OF SUBURBAN OFFICE INVESTMENT CASH FLOWS†

Pro Forma
Investment Analysis of Suburban Office

Report Section 1

*Gross Rent	$ 267,206	*Rate of Growth of Gross Rent	0.0375
*Expenses	$ 60,259	*Rate of Growth of Expenses	0.0428
*R.E. Taxes	$ 31,198	*Rate of Growth of R.E. Taxes	0.2950
*Income Tax Rate	0.3000	Project Value Growth Type	2.0000
*Vacancy Rate	0.0500	Working Capital Loan Rate	0.1500
Equity Discount	0.1300	Extraordinary Expenses	$ 30,000
Resale Cost	0.0500	Reinvestment Rate	0.0600
Wkg. Capital R.S.	$ 15,000	Capital Reser. Interest Rate	0.0500
Investor Tax Class	0	Ownership Form	1
Initial Cost	$1,240,000	Initial Equity Required	$295,000

All * values are average amounts for holding period of five years.

Report Section 2

Component Summary

Title	Pct. Depr.	Begin Use	Useful Life	Depr. Method	Cost	Sch.
Site	0.00	1	0	0	$100,000	0
Construction	1.00	1	50	4	$960,000	0
Soft Costs	1.00	1	10	2	$180,000	0

Mortgage Summary

Title	Intr. Rate	Begin Yr.	End Yr.	Term	Orig. Balc.	Pct. Value
Const. Mortgage	0.1500	1	1	1	$960,000	0.774
Permanent Mortgage	0.1150	2	21	20	$952,243	0.685

Report Section 3

Cash Flow Analysis

		1980	1981	1982	1983	1984
1	Gross Rent	$251,600	$251,600	$264,180	$277,389	$291,258
2	Less Vacancy	12,580	12,580	13,209	13,869	14,563
3	Less Real Estate Taxes	16,000	32,000	33,920	35,955	38,113
4	Less Expenses	84,000	60,000	61,200	62,424	63,672
5	Net Income	139,020	147,020	155,851	165,140	174,911
6	Less Depreciation	46,800	45,936	45,098	44,285	43,496
7	Less Interest Pmts.	144,000	108,836	107,256	105,485	103,500
8	Taxable Income	−51,780	−7,752	3,497	15,370	27,914
9	Plus Depreciation	46,800	45,936	45,098	44,285	43,496
10	Less Principal Pmts.	0	13,024	14,604	16,375	18,360
11	Cash Throw-Off	−4,980	25,160	33,991	43,280	53,051
12	Less Income Taxes	0	0	1,049	4,611	8,374
13	Less Reserves	0	503	659	773	0
14	Cash from Operations	0	16,899	32,283	37,896	44,676
15	Working Capital Loan	0	0	0	0	0
16	Distributable Cash after Tax	0	16,899	32,283	37,896	44,676
17	Tax Savings on Other Income	15,534	2,325	0	0	0
18	Spendable Cash after Taxes	15,534	19,225	32,283	37,896	44,676

➡

FIGURE 11 (Continued)

Market Value and Reversion
Cash Flow Analysis

		1980	1981	1982	1983	1984
19	End-of-Year Market Value	$1,390,200	$1,470,200	$1,558,510	$1,651,404	$1,749,106
20	Less Resale Cost	69,510	73,510	77,926	82,570	87,455
21	Less Loan Balances	960,000	939,218	924,615	908,240	889,880
22	Plus Cum. Cash Reserves	10,770	11,812	13,061	14,488	15,212
23	Before-Tax Net Worth	371,460	469,283	569,031	675,081	786,982
24	Capital Gain (If Sold)	117,890	231,090	352,185	477,634	607,650
25	Capital Gains Tax	14,147	27,731	42,262	57,316	72,918
26	Minimum Pref. Tax	0	0	0	0	0
27	Income Tax on Excess Dep.	2,880	5,501	7,870	9,996	11,885
28	Total Tax on Sale	17,027	33,232	50,132	67,312	84,803
29	After-Tax Net Worth	354,433	436,052	518,899	607,769	702,180

Report Section 4
Before-Tax Ratio Analysis
Cash Flow Analysis

		1980	1981	1982	1983	1984
30	Return on Net Worth B/4 Tax	0.2592	0.3102	0.2850	0.2624	0.2443
31	Change in Net Worth B/4 Tax	$76,460	$97,823	$99,748	$106,050	$111,901
32	Orig. Equity Cash Rtn. B/4 Tax	–0.0169	0.0853	0.1152	0.1467	0.1798
33	Orig. Equity Payback B/4 Tax	0.0000	0.0573	0.1667	0.2952	0.4466
34	B/4 Tax Present Value	$1,284,319	$1,335,057	$1,385,464	$1,431,682	$1,473,578

After-Tax Ratio Analysis
Cash Flow Analysis

35	Return on Net Worth Afr. Tax	0.2541	0.2845	0.2640	0.2443	0.2288
36	Change in Net Worth Afr. Tax	$59,433	$81,619	$82,847	$88,871	$94,410
37	Orig. Equity Cash Rtn. Afr. Tax	0.0527	0.0652	0.1094	0.1285	0.1514
38	Orig. Equity Payback Afr. Tax	0.0527	0.1178	0.2273	0.3557	0.5072
39	After-Tax Present Value	$1,287,405	$1,322,538	$1,363,042	$1,399,418	$1,432,025

Cash Flow Analysis

40	Net Income/Market Value Rto.	0.1000	0.1000	0.1000	0.1000	0.1000
41	Lender Bonus Interest Rate	0.0000	0.0000	0.0000	0.0000	0.0000
42	Default Ratio	0.9698	0.8500	0.8213	0.7940	0.7679

Report Section 5
Sensitivity Analysis
Analysis Year Is 2 = 1981

Default Rate - Needed		0.8500	0.8500	0.8500	0.8500
Default Rate - Actual		0.9698	0.8500	0.8213	0.7940
Differ		–0.1198	0.0000	0.0287	0.0560

Marketing is also intended to protect the developer from the uncertainty of competitive pricing. Free enterprise includes the art of creating a monopoly, if only for a moment, so that as a developer one is not forced to use price cutting as a primary device to acquire business. Profit margins typically are not adequate to provide for price cutting. As one analyst once stated, "If you compete on price, there is always someone who can build for less, and by the time he learns his true costs, all of us will be broke." Therefore, marketing is intended to create a

FIGURE 11 (Continued)

To Change the Default Rate .01;
Change Any One of the Following:

		1980	1981	1982	1983
Cash Outlays					
Real Estate Taxes	by	–0.1573	0.0786	0.0779	0.0771
Total Expenses	by	–0.0300	0.0419	0.0432	0.0444
Fixed Expenses	by	–0.0466	0.0419	0.0432	0.0444
Variable Expenses	by	0.0000	0.0000	0.0000	0.0000
Total Interest Pmts.	by	–0.0175	0.0231	0.0246	0.0263
Total Principal Pmts.	by	0.0000	0.1932	0.1809	0.1694
Working Capital Loan	by	0.0000	0.0000	0.0000	0.0000
Gross Income	by	0.0097	–0.0085	–0.0082	–0.0079
Fixed Income	by	0.0097	–0.0085	–0.0082	–0.0079
Variable Income	by	0.0000	0.0000	0.0000	0.0000
Components					
Initial Investment	by	–0.1573	0.0786	0.0779	0.0771
Site	by	–1.9499	0.9750	0.9658	0.9566
Construction	by	–0.2031	0.1016	0.1006	0.0997
Soft Costs	by	–1.0833	0.5416	0.5365	0.5315
Mortgages					
Const. Mortgage	by	–0.0175	0.0000	0.0000	0.0000
Permanent Mortgage	by	0.0000	0.0206	0.0217	0.0228

Notes:

This example is based on earlier Figures 8 to 10.

†The computer output is a portion of report sections available from an educational program at the University of Wisconsin called MR CAP. MR CAP is a basic class tool in most real estate courses at the University of Wisconsin in Madison and is available on many other campuses as well. MR CAP is the property of its author, Assistant Professor Michael L. Robbins, and sample output here is reproduced with his permission.

Data input file required of analyst for the five reports which follow:

```
1, Suburban Office, ULI Example
10, 1980, 0, 1, 1, 5, 27200
30, .85, .06, 2, .03, .13, 0
40, 251600, 0, .05,*
60, .05,*
70, 16000, 32000, .06,*
80, 54000, 60000, .02,*
100, .13, .30, .06
101, 30000, 10, 2
102, .15, 1, .05, 0
103, .02, 15000, .05, 15000
200, 1, Site
201, 1, 100000, 0, 0
202, 1, 1, 0, 0
200, 2, Construction
201, 2, 960000, 1, 4
202, 2, 1, 50, 0
200, 3, Soft Costs
201, 3, 180000, 1, 2
202, 3, 1, 10, 0
300, 1, Const. Mortgage
301, 1, 960000, .15, 0, 1
302, 1, 1, 1, 1, 2
303, 1, 0, 0, 0, .15
300, 2, Permanent Mortgage
301, 2, .85, .115, 0, 20
302, 2, 12, 2, 21, 0
303, 2, 0, 0, 0, 0
400, 5
403, 99
999, 99
```

product which is unique, in terms of sensitivity to the needs of the consumer, and which reduces the other costs of the consumer to a point where the intended buyer or tenant will pay full price.

A strong marketing position requires careful research of the needs and budget limits of the prospective user. No American industry spends less on legitimate consumer research and product development than does the real estate industry. This failure to spend even 1 percent of project budgets on primary

research about the intended consumer is one explanation for many business failures of real estate projects across the land. Developers simply misjudge the number of consumers in the market, the needs as those consumers perceive them, and the rate at which new units can be absorbed in the marketplace.

There is great irony in the fact that mortgage lenders expect insurance premiums to be paid in advance in case the project should burn down but typically require nothing in the way of original research to discover whether the project will rent up. Nevertheless, real security for their loan is a customer, not a fire. Lenders assume that a developer with a track record knows his market from past projects, but past success is no guarantee that any demand remains unsatisfied or that market action has not shifted its location and product preferences. Design serves society best when it serves the intended user rather than the normative standards of the designer or developer or yesterday's market.

Market Data versus Merchandising Data

Market data is typically aggregate data describing population by age group, income category, business activity, location of residence, average price of home, and other statistical information typically collected by planning offices, census data, and other public sources. Market data will assist in scaling the project so that 800 housing units are not planned for a community that will need only 600 in the foreseeable future. It may measure the expected rate of absorption for broad categories of space, say 500,000 square feet of Class A office space, 200 condominium units, or 600 single-family lots per year. More to the point, however, is how much of that potential market can be captured for a specific project, and this capture rate is related to merchandising data.

Merchandising data is typically collected with a specific project in mind and involves primary research by the analyst with the objective of determining the *competitive standard* of project attributes and discovering the unmet needs in the market which could provide the *competitive edge*. In some markets, the competitive standard becomes a very precise and well-known set of specifications. The competitive standard in apartments in the Southwest reveals consistent standards for the number of inches of counter space, cabinet fronts, the weight of carpeting, the cost of the dining room fixtures, and the basic size of rooms. The consumer has taken these for granted and competitive developers have studied each other carefully to measure what the consumer expects as a basic minimum. Everyone expects a bathroom; however, the bathroom may have a variety of layouts which are more convenient, private, spacious, etc. Office buildings also may have a basic competitive standard of one parking stall for every 300 square feet of gross leasable area. Ceiling and lighting systems may be standard, and wall systems may be standard.

A competitive edge depends on finding a true unmet need of a particular consumer group. It is not an edge obtained through gimmicks and cleverness on the part of the designer or the developer. The competitive edge typically is created by finding methods to enhance user self-esteem or to reduce the cost of friction, of anxiety, or of inefficient space layouts housing the user's activity. Medical office layouts can be more efficient with structural column systems which may not fit general office use with the same net product of usable space. Customers may be attracted to a store with better access to parking, wider

parking stalls, or better linkages to work and home. An alternative is to reduce the level of anxiety of the user in terms of security of property and person or as to future adjacent development or control of other tenants in the project.

A third method of creating a competitive edge is to enhance the consumer's sense of well-being by selling him on the more comfortable or romantic lifestyle of a particular project, or the prestige which is to be transferred and contributed to the consumer for locating in a specific project. Another method of building a competitive edge is to shift the balance of who typically pays and who typically benefits in the marketplace. For example, the apartment project located on the site adjacent to a major park provides all the benefits of open space, control of neighboring properties, and convenience of recreational alternatives without necessarily requiring the tenant to pay the true cost. Of course, it may be that the site is more valuable because of its proximity to publicly maintained and operated amenities. Nevertheless, over the long run, there is a significant cash cost/benefit shift from those who live closest and enjoy the park most to those who are expected to pay real estate taxes in general to support parks in other parts of town from where they themselves live.

Finally, the competitive edge may be created by shifting or reducing the risk of change. For example, a primary advantage of a shopping center development where the developer has achieved an operating agreement with three or four major department stores is that he can now promise the smaller retailers who locate within that shopping center control of the total shopping environment by a single landlord. In addition, the operating agreement guarantees joint marketing and promotion of the center by major department stores who have committed themselves to operate under their own brand names for at least 25 years in the future. The developer will maintain certain tenant mixes, parking ratios, and housekeeping standards for long periods of time. Thus, the small retail tenant is willing to pay a premium rent to be in a shopping center as opposed to locating in a commercial strip where there is no assurance that those department stores on which he may depend for primary draw, the parking on which he may depend for convenience, and the tenant mix and marketing efforts in his symbiotic relationships can be sustained over long periods of time without drastic and critical changes detrimental to his business.

There is little monopoly to be gained by providing the identically same product as those already in the marketplace. Monopoly is achieved when you can find a group unserved adequately by present offers, a gap, if you will, of unmet needs within an array of small micromarkets that in total create that vague and nonexistent phenomenon called the real estate market. Consider that a 25-unit apartment project today may require as much as $1,000,000 in capital and $240,000 of annual rents (sales), which is more capital and more sales than is characteristic of 65 percent of all American enterprises. Nevertheless, this big business needs only 25 customers who find it unique because of its sensitivity to their needs.

Marketing Research and the Collective Consumer

Recently, marketing research survey techniques have been used advantageously to control political risks which are inherent in a regulated process like

development. Before spokesmen for neighborhoods or trade associations or other collective segments of the community can render public opinions which are difficult to retract, it is useful to discover whether expressions of concern about traffic congestion, environment, or fiscal impacts are only good reasons for the tendency of people to fear change in the physical status quo of their lives. These fears can be recognized and resolved in preliminary plans to defuse negative political action. Indeed, some political pollster firms can be found doing housing, downtown mall, and redevelopment attitude studies in advance of public and private planning efforts.

For example, a developer acquired a three-block area of a downtown, single-family residential area with the intent to upzone the land for garden apartments. The plot had been vacant for many years, and there was now a scattered stand of walnut and maple trees. A political survey by mail of residents within half a mile of the site generated a high rate of response so that the developer was able to defuse latent fears before any preliminary plan galvanized the neighborhood into an unnecessary political confrontation. The plan showed that two dead-end streets were cul-de-saced and flanked with single-family townhouses compatible with existing homes. Favorite neighborhood pathways were maintained in the site plan, paved, and lighted. Resident parking was placed below the proposed structures; trees were mapped and virtually all were saved in the placement of structures. Guest parking was bermed and driveway outlets carefully placed to avoid conflict with a neighboring church, an arterial, and bus stops. The architectural styling required use of old brick, shingles, and the wood detailing of the early Victorian and Midwest farm styles which characterized the neighborhood. Finally, a Victorian gazebo was placed at the key intersection as a bus stop and as the logo for the development.

The neighborhood ad hoc committee not only approved the architectural program, but also secured the approvals of the City Planning Commission, which issued a commendation. Research prevented inadvertent detailing of preliminary plans which might have triggered bitter political resistance leading to a hardening of positions to avoid personal embarrassment. Egos in place of facts ultimately lead to unreasonable and noncommunicative negotiations of all parties in the real estate development permit process.

Another primary problem in marketing research is determining whether the collective consumer truly understands the fiscal impacts of broad value judgments which are often the grist for newspaper and political debates. Growth management may need to be redefined in terms of long-term fiscal impacts, as has been done for a number of communities in California (i.e., San Jose) and elsewhere recently.[12] The residents may be working against their better interest by blocking further development of a tax base which can share in the costs of providing adequate water treatment, expanded sewer facilities, and other services desired by the community.

The Prearchitectural Marketing Program

Careful consumer marketing research through a telephone survey, mail questionnaire, and personal interview permits development of a prearchitectural marketing program for each project proposal. First, it is necessary to define a

particular market segment or micromarket toward which the project is directed. One developer in the Chicago market has identified 13 single-family home purchase groups, ranging from the young family with children to the unmarried, single individual seeking some tax shelter for his professional income. Each group is surprisingly predictable in terms of needs, budgets, season of the year for purchase, and style preferences. Another award-winning builder in Denver summarized the personality of single-family homebuyer segments at the upper end of the market by stating his firm catered to the French-cuff-and-studs set, competitor A reached the button-down-collar boys, while competitor B focused on the Pendleton-plaid-woolen-shirt crowd.

Similarly, office building users can be segmented by those whose customers come to them versus those who go out to meet the customer on his turf, those linked to the courthouse or the financial district and those linked to the suburban service base, those linked to production facilities and those closely linked to merchandising areas, and so on. Each will rank style, convenient access of parking, special linkages, monthly costs, and peer group proximity quite differently.

A significant part of the merchandising strategy is anticipation in the design program and product perception by means of the sales themes, logos, and competitive sales points to be advanced by the project. Moreover, the designer needs to consider what will be used as an initial sales area, which units may serve as models, and whether the approach zone to the project is a positive reinforcement of project image. The approach zone, of course, will consider signs, entrances, paving, site development, and the visibility of positive project amenities to the prospects arriving on site by foot or by car.

Too often the architect treats the merchandising campaign of the developer's marketing force as an area of discipline remote and unrelated to the design process. The result will be projects like those designed for the New York Housing and Urban Development Authority, which placed chic, cubist, early Marekesh, epoxy apartments in small New York communities which favored the New England Colonial and Early American styles of architecture. Neither logo, project title, nor furnishings related to the preferences and patterns of the community, and the initial fears of subsidized housing were simply aggravated by providing no sense of architectural identification with the community. Marketing is not a distinct discipline from design but is in fact a significant portion of the prearchitectural program.

Anticipating the Future User

Most structures outlive the lifestyle, cultural, and business needs for which they were originally intended. Recently, development emphasis has been placed on the recycling of older buildings to new and unintended uses as compared to their original function. These adaptive-use efforts have been most successful where floor load capacity in the old structures was generous, ceiling heights were adequate, and column spacing was modular and flexible. Long-term investors now recognize the probability that many buildings will change uses during the time of ownership so that investment safety is linked to project designs which anticipate convertibility of space-time units from one function to another.

The alternative to recycling is a high profit margin and high rate of return on capital which permits rapid recovery of investment and junking of improvements at the end of their useful life. A multistory parking garage might be better designed so the floors are flat rather than sloped and have a higher floor load capacity than required for American oversized automobiles. In the foreseeable future smaller cars will mean a higher concentration of weight loads, and in the longer term it may be desirable to convert parking garages to office space or warehouses. The added cost might be offset by parking fees, higher salvage costs in the structure, or lower interest rates on capital provided.

For many years, rental office buildings have used utility grid systems, modular ceiling units, and HVAC systems which anticipate continual rearrangement of office layouts and equipment. This anticipation of future users must be extended to other forms of real estate and the added capital cost incorporated in the capital budget and rent structure. Computer cash flow models have made it possible to compare costs/benefits of alternative building concepts in terms of maximizing the present value of spendable cash for private investors or minimizing the present value of building life-cycle cost outlays on public buildings. It is imperative that all parties in the development process learn present-value methods of money management reflecting compound interest over time.[13]

Although future needs and lifestyles cannot be anticipated with great accuracy, there is growing recognition that the undefined future user must be considered explicitly in the initial investment formula and design program. Institutional investors need long-term productive investments with protection against the reverses of a fast-changing society; society needs structures which can be recycled in order to conserve the energy required of new development and to speed the response of the urban fabric to changing conditions, thus avoiding the wholesale obsolescence of neighborhoods, the glacial pace of land use succession, and the intolerable cost of past urban renewal programs.

Foreseeable future trends have many subtle impacts on real estate development. Conservation of prime agricultural lands for future food supplies may shift residential development into the hills or into higher-density condominiums in formally exclusive, detached single-family home areas. Subdivision layouts will recognize the need for better solar orientation of structures, to anticipate improved technology and changing cost-effectiveness ratios for solar energy; and home design will invest in features which reduce heat gains and losses, not only to reduce current energy consumption, but also to attract even more energy-conscious buyers at the time of resale, thus protecting investment value.

As these added costs modify the pricing structure and trade-off issues for the real estate consumer, the defined competitive standard will begin to shift. For example, in California the basic 1,500-square-foot house has shrunk recently to perhaps 1,300 square feet in order to maintain price, to reduce the space that must be heated and cooled, and to hold total monthly housing costs within income limitations of the consumer. Notice that the ability to internalize these requirements in the capital cost/monthly payments and therefore the cash cycle of the user begins to provide an infinite number of trade-off decisions for the developer, the consumer, and the public agencies regulating the development process. Overregulation can adversely influence capital cost and monthly cash payments.[14] Sensitivity to the cash cycle and therefore the rent or purchase price

that is within the means of the consumer permits a gradual and economically smoother transition to a modified view of the marketing and development process.

The Ethics of Fit and Monopoly

The concept of monopoly or design to channel demand insulated from direct price competition to a project is often regarded as suspect with respect to the free enterprise system, but just the opposite has been demonstrated here. There is a direct relationship between the ethics of fitting a project to the environmental constraints of a site, to the needs and budget of the eventual user, and to the concerns and fears of the collective consumer, and the uniqueness of a project which creates a monopolistic dimension in its pricing. A full price willingly paid by the individual user measures satisfaction and maximizes investment value by stabilizing many of the critical risks of the development process for the investor. Feasibility was defined as measuring the fit of the project to its physical context, to its intended users, to the objectives of the investor, and to the limited resources of the developer and the community.

While fit of a project design to soil profiles and topography maps is taken for granted, lest the structure collapse or sag, it is not generally accepted that the project will financially collapse if it is not sensitive to customer profiles and cash-cycle topology. These steps will greatly reduce both the variance between expected revenues and those which are achieved and the variance in cost from budgets to those which are actually incurred, as well as reduce the risk of upset due to political resistance, rejection by the financial markets, or inflexibility to changing conditions and market needs. Sensitivity is the source of monopoly pricing, and strong demand with stability of the pricing structure is the primary concern of the financial manager, the marketing director, and the physical planner.

In the past, prearchitectural or design programs were primarily concerned with product specification and site characteristics. However, modern design philosophy has been broadened to recognize that the product and the site contribute significantly to revenues and expenses of the enterprise. Because the financial flows of the project are intimately and inseparably related to the design product, it is necessary to recognize the cash-cycle criteria of the user, the selection criteria of capital investors, and the mechanisms of risk management with which capital budgeting decisions are made in the development process.

Summary

Each new development, large or small, is an enterprise and a subsystem within a larger environment. The form and behavior of that enterprise will be a consensus or equilibrium between external forces of interest and the force of talents, energies, and resources internal to the development enterprise. Such an equilibrium is reached more efficiently through an appreciation of joint objectives of development participants rather than through confrontation and desperate pursuit of total victory in a contest of wills. All of the development groups—the consumer group, the production group, and the public infrastructure group—are limited by their cash receipts and the need for solvency as well as

dependent upon one another for their cash income; each has a financial interest in the survival of the others. Thus, solutions to business and political problems are most productive in a cooperative environment.[15]

The development process is a loop system involving many subsystems or cash cycles. Today's buyer of a development product is tomorrow's customer of services from the public infrastructure. Without new customers the infrastructure may not operate at its most efficient scale, thus overcharging consumers or deferring charges to users.

The development process is the interaction of the three major groups to produce land use plans and building specifications where the present value of the benefits to each group exceeds the present value of all expenditures that will be required of each group over the life of the development. More specifically, it is cash-cycle investment which requires 1) present value of the benefits to equal or exceed present value of the cash outlays; and 2) cash receipts from all sources including borrowing and ownership interest to equal or exceed net cash outlays, including repayment of debt and dividends on ownership capital, in each accounting period in order to survive as a justified economic project. Public buildings should be designed to minimize the present value of all cash outlays, direct and indirect, over the life of the facility; and private development should maximize the present value of spendable cash dollars after all expenditures, including taxes.

Real estate development, whether public or private, is constrained by solvency and uncertainty. Because cash projections depend on an infinite number of assumptions, explicit and implicit, about the future, all parties to the development process must tolerate variance in their cash planning and negotiate a risk management plan which is equitable. Risk should be reduced through merchandising research, tight control of development plans, and incentive rewards and penalties for managerial operation. Risks must be allocated to match expertise and responsibility for execution of a plan or responsibility for time delay. Changes to cash plans must occur within cash tolerances of all parties with a vested interest.

The development process historically has been viewed in terms of individual benefit (highest and best use) and has only recently accommodated political interest (most probable use); the search is now on for the law and technology in which real estate development can reflect the needs of society as a cluster of groups (most fitting use). The development process is our most challenging manufacturing process because its subsystems are complex and because it is the instrument of change which affects all of a community and a society.

Notes

1. John A. Beckett, *Management Dynamics: The New Synthesis* (New York: McGraw-Hill, 1971).
2. Robert A. Caro, *The Power Broker: Robert Moses and the Fall of New York* (New York: Alfred A. Knopf, 1974).
3. Bernard J. Frieden, *The Environmental Protection Hustle* (Cambridge, Mass.: MIT Press, 1979).
4. June R. Vollman, "Here's a New System for Figuring Project Feasibility," *House & Home*, October 1973.
5. Robert W. Burchell and David Listokin, *The Fiscal Impact Handbook* (New Brunswick, N.J.: Rutgers University, Center for Urban Policy Research, 1978).
6. Byrl Boyce, ed., *Real Estate Terminology* (Cambridge, Mass.: Ballinger Publishing Co., 1975), pp. 107–108.

7. Beckett, *Management Dynamics*.

8. James A. Graaskamp, *Guide to Feasibility Analysis*, 3d edition revised (Chicago: Society of Real Estate Appraisers, 1980). See also Stephen D. Messner, Byrl N. Boyce, Harold G. Trimble, and Robert L. Ward, *Analyzing Real Estate Opportunities: Market and Feasibility Studies* (Chicago: Realtors National Marketing Institute of the National Association of Realtors, 1977).

9. Stephen D. Messner, Irving Schreiber, and Victor L. Lyon, *Marketing Investment Real Estate: Finance Taxation Techniques* (Chicago: Realtors National Marketing Institute of the National Association of Realtors, 1975).

10. Stephen E. Roulac, *Modern Real Estate Investment: An Institutional Approach* (San Francisco: Property Press, 1976).

11. Ruben A. Roca, ed., *Market Research for Shopping Centers* (New York: International Council of Shopping Centers, 1980).

12. Roca, *Market Research for Shopping Centers*. See also Gruen Gruen + Associates, *The Effects of Growth Management on Housing Production: The Case of San Jose* (San Francisco: Author, 1976).

13. Eugene L. Grant and W. Grant Ireson, *Principles of Engineering Economy*, 5th edition (New York: The Ronald Press Co., 1970).

14. U.S. General Accounting Office, *Why Are New House Prices So High, How Are They Influenced by Government Regulations, and Can Prices Be Reduced?* (Washington, D.C.: U.S. Government Printing Office, 1978).

15. John McDonald, *The Game of Business* (New York: Anchor Press/Doubleday, 1977).

A Risk Management Approach to Real Estate Lease Negotiation

(Seminar Notes)

I. *Financial Management and Risk Management*
A real estate transaction is the purchase and sale of a set of assumptions about the future, specifically the future of a particular unit of space-time in a given context. Once the basic real estate space-time unit and price have been defined, the balance of real estate negotiation is the control and allocation of the risk of variance between expectation and realization, between the assumptions of pro forma budgets and the realities of closing statements for profit and loss, balance sheets, and net worth.

A. *Risk management is control of variance relative to the expectations of a specific party or viewpoint, essentially variance in cash receipts and outlays.*

B. *There are essentially two types of risk exposures:*
1. *Static risks (uncontrollable, or external events) are those which can only cause a loss due to surprise upset of a plan.*
2. *Dynamic risks (partially controllable internal events) can produce profit or loss and are best controlled by the finesse of management execution of a plan.*

C. *Risk evaluation or comparison grows out of the function of risk management for an enterprise.*
1. *Risk management has two objectives:*

This section contains notes for a seminar in negotiation for real estate transactions at the University of Wisconsin Extension on July 9–12, 1980. The seminar was sponsored by the National Association of Corporate Real Estate Executives.

a. *First priority—conservation of existing enterprise assets despite surprise events*
b. *Second priority—realization of budgeted expectations despite surprise events*

2. *The process of risk management involves systematic and continuous*
   a. *Identification of significant exposures to loss*
   b. *Estimation of potential loss frequency and severity*
   c. *Identification of alternative methods to avoid loss*
   d. *Selection of a risk management method*
   e. *Monitoring [of] execution of risk management plan*
3. *The risk management process is both a philosophy of inquiry or analysis and a checklist of management concern, which is attempting to answer systematically "WHAT IF...?" questions, to anticipate surprise, and to provide for a response or adjustment in advance of the contingency.*

D. *Identification of significant exposures to loss can begin by using standard business documents as reminders, such as*
1. *Review of balance sheet accounts*
2. *Review of profit and loss statement accounts*
3. *Review of business organization or function chart*
4. *Review of elements of financial feasibility analysis*

E. *Significant exposures has to do with potential loss frequency, loss severity, and degree of uncertainty:*
1. *Very frequent and minor become expense accounts.*
2. *Less frequent but predictable and major become reserves or budget allowances.*
3. *Infrequent, uncertain, but very severe become issues of risk management.*
4. *A 50/50 probability is the most uncertain outcome.*

F. *The alternative methods of avoiding loss which everyone subconsciously uses include*
1. *Eliminating risk exposure*
2. *Reducing frequency or severity of loss (diversification or mortgage loan closing process)*
3. *Combining risks to increase predictability (reserves for expense)*
4. *Shifting risk by contract (subcontracts or escalator clauses)*
5. *Shifting risk by combination (diversification) by contract (insurance)*
6. *Limiting maximum loss (corporate shell or limited partnership)*
7. *Hedging (sale and leaseback, options, contingent sales)*

G. *Risk management concepts lead to understanding of the true essence of a mortgage contract and an equity commitment.*
1. *A mortgage is a classic straddle in two markets for the borrower; it is a call on a space-time commodity in a rising market and a put to the lender in a falling market. It is also a straddle in the money market. The mortgage contract is a risk management agreement to provide coverage of static risks and an imperfect straddle on the dynamic risks. Protection for the lender is revenue to the borrower, negative incentives, and salvage.*

2. *Equity ownership is the degree to which you can divert cash flow and maintain control within an unacceptable level of risk avoidance.*

H. *A lease is a straddle in the money market and in terms of location requirements for the tenant.*
   1. *Net rents after expenses represent an interest return for lending a capital asset in the form of real estate space. The tenant may prefer to lease rather than own because the opportunity costs or return on his own money is higher than that expected by the landlord. Tenant is going short on future value of the property while the landlord is going long.*
   2. *The tenant may see the lease as a risk management price permitting future flexibility to change location, size, price, or type of fixed asset mix depending on his perception of future volatility of firm revenues and space requirements. The ability to dismantle a fixed asset base by nonrenewal of leases may come at a premium which is cheaper than a carry on an underutilized asset.*

II. *Risk Management Approach to the "What Ifs" of Leasing—Definitions*

A. *Specific space and location to be leased*

B. *Specific business entity as lessee*

C. *Specific description of real estate elements to be leased (definition of shell provided by landlord and finishes provided by tenant)*

D. *Specific exemptions of tenant improvements to remain tenant property*

III. *Conditions for Commencement of Lease*

A. *Conditions permitting cancellation by landlord (lessor)*
   1. *Failure to obtain specified financing prior to construction*
   2. *Death or disability prior to a certain date*
   3. *Impossibility of performance due to acts of God, government, regulation, labor conditions, etc.*

B. *Conditions permitting cancellation by tenant (lessee)*
   1. *Completion according to specification*
   2. *Completion according to scheduled time*
   3. *Conditions relative to other occupancies*

C. *Remedies of landlord*
   1. *Forfeiture of tenant deposits or escrow funds*
   2. *Liquidated damage provisions*
   3. *Guarantees by others*
   4. *Penalty rents, assessments, etc.*

D. *Remedies of tenant*
   1. *Postponement of commencement date*
   2. *Rental abatement*
   3. *Cancellation of lease at option of tenant*
   4. *Penalty payments in contract assessed to the landlord*
   5. *No penalties other than suit for damages*

IV. *Conditions for Termination of Lease*

- A. *Death or disability at option of lessee estate*
- B. *Scope of "change in conditions" clause*
- C. *Guaranteed occupancy and operations clause*
- D. *Cancellation/liquidation damages formula*
- E. *Bankruptcy receivership of business termination clause*
- F. *Assignability clause*
- G. *Implied good faith effort of percentage lease*
- H. *Permitted uses clause*
- I. *Casualty loss event*
- J. *Condemnation events*
- K. *Specific conditions subsequently explicitly identified as grounds for termination*
- L. *Subordination position*

V. *Rental Formula*

- A. *Basic minimum rent*
- B. *Formula for rental adjustment over time*
- C. *Renewal options, if any, and base rent*
- D. *Calculation of prominent area charges and tenant participation in same*
- E. *Real estate tax escalator clause*
- F. *Insurance premium stop-loss clause*
- G. *Utility expense stop-loss clause*
- H. *General maintenance and replacement assessments for HVAC, parking, lighting, etc.*
- I. *Audit of sales and overage rents*
- J. *Conditions for rental abatement due to casualty loss, remodeling, road construction, or business interruption due to riot, strike, civil commotion, or disruption of public services*

Office Buildings

(Class Notes)

I. *The skyline of New York or Chicago is a dramatic sculpture of free enterprise. The buildings and towers of these skylines are not the product of urban renewal, government insurance, or a sheltered monopoly. Instead they represent the clash of urban economics, big money, big talent, and big egos. It is free enterprise in a very raw form.*

   A. *The forces of urban economics are those that impel into being a central business district and a complex commercial world which thrives on congestion.*

   B. *The office building as we know it today originated in Chicago and owes its existence to that city's first urban renewal project—the Chicago Fire.*
      1. *The office building before the fire was a primitive affair. Buildings had one toilet, no elevators, no central heat, and often no water or gas light above the third floor. Nobody would or could climb more than six floors. Above the third floor as the stairs went up, you met rental values coming down. The top floor generally belonged to the janitor.*
      2. *Office quarters were fixed in size because all walls were load-bearing.*
      3. *Chicago exploded in population following the Civil War, multiplying 10 times in the years between the years 1860 and 1880.*

   C. *What Marshall Field was to retailing, Owen F. Aldis was to office building. He was a Yale graduate, a lawyer, who came to Chicago and eventually represented the Brooks family of Boston, who gave him financial support for office building development. Thus began Aldis and Company, still a leading firm in this line.*

D. *In 1881 he teamed up with Burnham and Root to build the Montauk building. It was 10 floors tall, had two elevators, a unique floating foundation, and dozens of features to simplify maintenance, prevent fire, and attract renters.*

E. *This engineering masterpiece was the first steel building in Chicago, although its outside walls were load-bearing. The Home Insurance building was the first continuous steel frame building. The Montauk building provided central heating, full plumbing, elevator service, janitor service, some office flexibility, and lo and behold, as it was the tallest building in town, the top floors commanded the highest rent. Yet the advances Aldis and Brooks introduced in their next building made it obsolete in 20 years. Located on the north side of Monroe Street between Dearborn and Clark, it is now under First National Bank.*

F. *In correspondence with Brooks, Aldis stated his fundamentals of office building design, most of which are still valid:*
   1. *The office building that gives up the most for light and air is the best investment.*
   2. *Second-class space costs as much to build and operate as first-class space. Therefore, build no second-class space.*
   3. *The parts every person entering sees must make the lasting impression. Entrance, first-story lobby, elevator cabs, elevator service, public corridors, toilet rooms must be very good.*
   4. *Generally, office space should be about 24 feet deep from good light.*
   5. *Operating expenses must be constantly borne in mind. Use proper materials and details to simplify the work.*
   6. *Carefully consider and provide for changes in location of corridor doors, partitions, light, plumbing, and telephones.*
   7. *Arrange typical layouts for intensive use. A large number of small tenants is more desirable than large space for large tenants because*
      a. *A higher rate per square foot can be added for small tenants.*
      b. *They do not move in a body and leave the building with a large vacant space when hard times hit.*
      c. *They do not swamp your elevators by coming and going by the clock.*
   8. *Upkeep of an office building is most important. Janitor service must be of high quality, elevator operators of good personality, management progressive.*

G. *Chicago pioneered the design of structure because it had a combination of young architects, imaginative investors, and smart, tough contractors who were engineers, not tradesmen. The best known of the latter were George A. Fuller and Paul Starretts and his four brothers. All began in Chicago and then moved to New York to lead the building development of that city.*

H. *In 1853 a man by the name of Elisha Graves Otis invented the safety elevator, and he continued to improve his product to pave the way for skyscrapers. In short, vertical transportation made extensive horizontal transportation unnecessary. An example of how elevators control building: elevators used direct current and the only place direct current was available was on the tip of Manhattan Island. Therefore, the first skyscrapers were in the Wall Street*

area. High-rise development then skipped to the 40s in the second building boom of the late 1920s, leaving a long strip of lower buildings.

II. *Elevators transport millions of passengers but are not a very efficient means of transportation. An elevator can handle 2,500 people an hour, while an escalator will handle 5,000 an hour, but does it in too slow a manner for high-rise buildings.*

A. *Elevators take a big bite out of a building's rentable space. In a skyscraper, an express elevator may serve the top 30 floors but must have shaft space through all the floors it does not serve. Moreover, it must serve floors of some size to have sufficient density of traffic per stop. Because elevators in a tall building will use as much as 25 percent of lower floor area, the height of buildings is limited on small and medium-sized lots.*

B. *Many ingenious schemes are used to reduce elevator capacity, including double-decked cabs serving alternate floors and running a local and express car in the same bank or shaft. However, this latter system creates lift inefficiency because of the problem of running hoisting cables of the local car past the express car.*

C. *The other component of vertical circulation is the stairway. They too use up rentable space. There must be two stairwells at a minimum. Generally, the entrance to any room must be not more than 75 feet from a stairway—although some experts prefer to measure safety in terms of 15 to 20 seconds from any starting point. The capacity of stairs to carry people is based on a 22-inch-wide step, which rates a one-story stair 30 persons per minute for 22 inches of tread width.*

D. *Stair capacity is related to corridor capacity, both of which are related to intensity of or density of population and peak loads this population will place on horizontal and vertical circulation routes.*

E. *For example, peak corridor and stairway loads in a classroom building will be higher than in an office building with the same population density, and obviously less where density is lower. Classroom halls require twice as many square feet of corridor per person as office space.*

1. *Studies show 1,000 square feet of corridor for 250 classroom seats, or four square feet per person is desirable.*
2. *Since corridor traffic should flow evenly, classroom doors should be staggered and elevator passengers should stand adjacent to but separate from the main corridor.*
3. *Some office areas require a minimum corridor of 44 inches, the minimum width which permits two persons to pass with comfort.*
4. *The architects also have formulas which relate the height and width of corridors to what is aesthetic as well as functional to avoid what is narrow or low. Or to permit the movement of special equipment.*
5. *One study of university buildings indicated corridors represented about 16 percent of gross building area and stairs 3 percent. Moreover, an addition of just two feet to a corridor or stair width would increase the gross area by 4 percent and 1 percent, respectively. Overdesign can be*

an expensive luxury but underdesign means an unattractive building, particularly where stairwells create a bottleneck.

6. *Note that density of floor population will determine total tread width, but these widths can be distributed in various ways among the various stairs serving the floor. For example, if 7½ units of exit width are required, it may be cheaper to build three 56-inch stairs. But it may be more functional to build one 78-inch stair and two 44-inch stairs. Stairs should be planned in relation to present and future circulation patterns. Moreover, highest-density uses should be on the ground floor, and so on.*

III. *Obviously there is a relationship between land cost, structure cost, elevator cost, and required population density. We can develop both a specific and a general example.*

A. *Assume a 10-story building with a classroom capacity of 400 per floor or 4,000 students total. Assume a gross floor area of 10,000 square feet and a gross building area of 100,000 square feet.*

B. *To transport 40 percent of the student station capacity in 10 minutes will require an investment of about $1,500,000. This is the cost, probably minimal, of 12 large (7,000-pound capacity) passenger elevators. An elevator of this size can carry 47 persons, but in practice the average load would be about 33 persons.*

C. *To evaluate this kind of expenditure, two questions should be asked and answered: What is the ratio of elevator cost, and How efficient is the performance of the elevators?*

D. *The total construction of the building in the example, without elevators, would be in the range of $2,000,000 to $2,500,000, even if the gross area were distributed over three or four stories. Converting the same functions to a high-rise, elevator-equipped building would thus add 60 percent to the cost. This additional expenditure would presumably be offset by savings in land and, to a small extent, by savings in stairwell area. The savings in stairwell area would at most equal the increment between the stair width as determined by code. It is very doubtful if this increment would exceed 1 percent of the gross area of the building.*

E. *The efficiency of this building is therefore questionable. Forty percent represents 60 percent of a building used at two-thirds capacity. The real problem is that it takes 10 minutes to transport all 1,600 students who ride the elevators, and one trip of the elevator takes 2 minutes 45 seconds.*

F. *Therefore, it is necessary to restrict heavy concentration to the lower floors and permit only light densities above. This juxtaposition is also appropriate off campus.*

Example 1: We have skyscraper hotels built over low-rise department stores.

Example 2: Office buildings often build to the lot line on the lower floors and then set up tall towers which become smaller as floor densities decline and the number of elevator shafts is reduced.

Optimum Relationship between Land, Building, and Vertical Circulation

1. $(\Sigma C)_1\ (\Sigma C)_2 \ldots (\Sigma C)_n$
   for any one building, where ΣC is the sum of the costs and subscripts 1...n represent the various possible solutions listed in ascending order of costs. ΣC may be defined as
2. $\Sigma C = C_L + C_R + C_E$
   where C_L is the cost of land, C_R is the cost of building (excluding elevators or escalators), and C_E is the cost of elevators and/or escalators.

   Since the concern here is with the relation between land use and building height for a fixed volume of usable space, the problem may be considered in terms of the number of floors required under specific constraints. For any one possible solution the cost per floor may be expressed as
3. $$\frac{\Sigma C}{N} = \frac{C_L}{N} + \frac{C_R}{N} + \frac{C_E}{N}$$
   where N = the number of floors.

   Among several proposals involving differing heights, the break-even point in sacrificing land to height may be stated as
4. $$0 = \Delta\frac{C_L}{N} + \Delta\frac{C_R}{N} + \Delta\frac{C_E}{N}, \text{ or}$$
5. $$-\Delta\frac{C_L}{N} = \Delta\frac{C_R}{N} + \Delta\frac{C_E}{N}$$
   where Δ is the increment of change. Typically, the increment land cost per floor diminishes as the incremental elevator and/or escalator cost per floor increases; therefore, at some point they will be in balance and it will be possible to determine the building height which results in the minimum aggregate construction cost. This is expressed algebraically in equation (4). Each of the cost elements in equation (5) may then be expressed as a unit cost multiplied by a quantity.
6. $$-\frac{\Delta(P_L)\,\Delta(L)}{\Delta N} = \frac{\Delta(P_V)\,\Delta(V)}{\Delta N} + \frac{\Delta(P_E)\,\Delta(E)}{\Delta N}$$
   where P_L is the unit price of land, L is the amount of land, P_V is the unit price of building (exclusive of elevators and/or escalators), V is the volume of construction, P_E is the unit price of elevator and/or escalator capacity, E is the amount of circulation capacity, and N is once again the number of floors.

Commercial Leases

(Class Notes)

I. *For the developer of commercial structures, it is difficult to say which comes first, the building or the lease (in multitenant projects).*

   A. *Not only do lenders want leases first; they wish these leases to conform to their idea of what is the best security for their loan. Therefore, negotiation of a lease involves at least three parties—the tenant, the developer, and the eventual mortgage holder (as distinguished from the construction lender).*

   B. *Ignoring detail provisions of insurance, etc., lease negotiations are concerned with the ability of the tenant to pay the rent and the strength of the obligation to pay the rent.*

      1. *Capacity to pay is a matter of credit and character and need not concern us here other than to point out AAA tenant leases can serve as collateral more readily than "local risks," a questionable practice, as many lenders have found.*
      2. *Legal strength of the obligation is in regard to rent collection, lease cancellation, and status in event of mortgage foreclosure or insurance loss.*

   C. *AAA tenants can sometimes push for sly cancellation provision[s] in the event that there is a shift in their market area, etc. In addition, fire damage, etc., may provide the tenant the option of canceling the lease, and finally financial [arrangements] with the landlord may permit modification or cancellation. In the case of leases to professional persons, death or disability may cancel a lease; for other organizations, the landlord may be required to provide expansion space or forfeit the lease. Therefore, a 20-year lease may*

be good for only one year. Indeed, federal bankruptcy laws permit cancellation of a long-term lease by a bankrupt [lessor] by payment of no more than one year's rent as damages.

D. *Next the lender is concerned with the effect of foreclosure on the lease. If the lease is made after the mortgage, it is subordinate to the mortgage and extinguished should the mortgagee start foreclosure action.*

The mortgagee may not want to give the tenant an opportunity to break a lease favorable to the landlord or, conversely, may wish to bargain a new lease at more favorable rent from a given tenant. Each lease must be negotiated as to whether it is superior or inferior to the lease. The wise tenant who values his location and his rental terms will insist on a dominant lease and/or a provision for quiet and undisturbed possession of the premises for the life of the lease.

II. *Of course, the lender is also concerned with the term of the lease in years, the amount of rent in relation to area and sales volume, and provisions for renewal.*

A. *Lease terms for the building should be staggered. Not all tenants can move at the same time. Moreover, a long-term lessee may want room to expand in the future so that his immediate neighbors will be given short-term leases. At the same time the lender wants to see a certain proportion of leases which will maintain the cash flow with some degree of stability and at a point above the break-even point.*

B. *For example, if the break-even point is 60 percent and you have leased 60 percent of rentable area to AAA tenants, they will extend you a loan in anticipation that you will receive some income from local risks for the balance of the property. Solid leases also reduce the vacancy allowance and possibly the cap rate selection. For example, if one solid tenant takes 50 percent of the building, and those renting to local risks face a 10 percent vacancy ratio, you should expect a vacancy rate of only 5 percent.*

C. *Most commercial leases run for five or 10 years and carry options to renew for 10 or 20 years more. As a result commercial loans tend to be 10 or 15 years in duration, with interest ranging from 5.75 percent to 6.5 percent.*

D. *The value of percentage leases depends on estimated changes in demand for tenant goods and services over the period of the lease. To the degree that land and building contribute to improvement of earnings, the landlord is entitled to share in the additional earnings. There is always the problem of defining and isolating the sales figures to be used and gaining access to the records to audit these figures for the landlord. It is not unknown for a chain store to credit sales to one location rather than another because of lower rent requirements.*

E. *Finally, we have a long group of lease provisions to pinpoint the responsibilities of each party in regard to a variety of questions. The object of the lease is to answer as many questions as possible which may arise in the future. Since it not likely to be clairvoyant, the more comprehensive the lease, the better. These details would include*

1. *Name under which business is to be conducted*
2. *Prior possession*
3. *Continued occupancy*
4. *Manner of conducting business*
5. *Restriction against other outlets*
6. *Tenant advertising*
7. *Subleasing*
8. *Exclusives*
9. *Differential between wholesale and retail stores*
10. *Percentage differentials for varying types of merchandise*
11. *Off-premise sales*
12. *Allowances to tenant for capital improvements*
13. *Recapture clauses*
14. *Escalator clauses*
15. *Condemnation clauses*
16. *Purchase options*
17. *Insurance*

Commentary on Shopping Center Development[1]

(Class Notes)

I. *Once again we touch on a topic on which we could dwell for weeks. Shopping centers have been the glamour girl of real estate development. For many, they are the only desirable real estate phenomenon to be derived from our convulsive move to urbanize our population. Certainly their profit potential in the short run has been overestimated by the lay investor and their long-term monopoly value underestimated by all but a few.*

   A. *Major shopping centers are returning on the average slightly less than 6 percent on equity, assuming straight-line depreciation and return after amortization. Many large centers are still marginal because they have been built to anticipate markets five or 10 years in the future, and most centers have cost more than the developer ever anticipated.*

   B. *But think of the monopoly power the shopping center will have in a few years. Sites of 60 to 100 acres will not be available at reasonable prices. Primary markets will have to do much of their shopping at the existing center. Discount houses are driving the small strip retailer out of business, not the larger retailing units. Moreover, the center owner will own the whole town as far as his tenants are concerned. Downtown the landlord must compete with many others for the available tenants; in the shopping center there is only one landlord, and probably there is only one premium center serving a given market.*

   C. *However, developers have found they can be the victims of the real estate tax monopoly of the city. Often the tenant, on a fixed minimum-plus-percentage lease for 10 years or more, no longer considers himself as part of the taxpayers' alliance, so that the developer is a constituency of one and lacking*

the political influence of the downtown associations who have gleefully pressed for ever-higher assessments on their suburban competitors.

D. *The developer must also face the monopoly of money. The lender who puts up 80 percent or more of a multimillion-dollar cost drives some hard bargains in terms of control, an equity share or sweetener, and in mortgage terms.*

II. *In preliminary planning, before you reach the refinements of physical design stressed in CBH [*Community Builders Handbook *by ULI], you must relate gross receipts to estimated capital cost. There must be an economic rationale for the center, and I would like to plug some dollar-and-cents examples into the CBH discussions to give them some imagery and scale.*

A. *First we need to agree on several basic definitions:*

1. ***Gross leasable area****—the standard unit of measurement—is the total floor area designed for tenant occupancy and exclusive use. It includes basements, mezzanines, and upper floors, if any. It is expressed in square feet measured from the center line of joint partitions and from outside wall faces. GLA is all that area on which tenants pay rent. It is the area producing income.*
2. ***Gross receipts*** *is the total income received. It includes the rental income from tenants plus other income received as charges payable under certain lease clauses, such as common area charges, tax and insurance charges under escalator clauses, and income from facilities that may be provided as features of the center.*
3. ***Balance after operating expenses*** *is that part of the total income remaining after operating expenses, including real estate taxes, are taken out before deductions are made for depreciation, debt service, federal income taxes, and return on equity. The* ***operating net*** *is what remains after operating expenses are taken from gross receipts.*
4. ***Parking index*** *is the number of car spaces provided, not the area of square feet taken up by parking. Parking index indicates technically the number of car parking spaces provided in relation to the gross leasable area.*

B. *The bible of shopping center analysts is the biannual ULI study* Dollars & Cents of Shopping Centers. *Must reading for the appraiser is the Standard Manual of Expense Accounts for Shopping Centers,*[1] *also by ULI.*

C. *The budget for construction costs is geared to income from the guaranteed rent expectancy. The developer must begin with a requisite number of individual leases from several key tenants simultaneously. These leases reflect the average sales which the market analysis indicates are a feasible target for a particular location.*

1. *Suppose the developer uses average gross receipts for regional centers, which is $2.01 per square foot of GLA (that is, rent plus common area maintenance fees).*
2. *The ULI study shows operating expenses for the average center at $.66 a foot. That would leave $1.35 available for debt service, depreciation, and return on equity. Lord help those who don't do better than the average.*

3. *One expert, Willard G. Rouse of Community Research and Development, Inc.,[2] would interpret this $1.35 as follows:*
4. *Presently, shopping center mortgage financing requires 6.5 percent interest with a 20-year payout and a 9 percent cap rate to pay back principal and interest. If you divide $1.35 by 9 percent, you get $15 per square foot of capitalized value. If the mortgage ratio is 2:3, the developer could borrow $10 per square foot of GLA. Let's see what capital costs may be before talking rents for a regional center. The ULI offers a checklist for capital costs which is a bible in the field. Its basic categories are*
   a. *Off-site improvements*
   b. *On-site improvements*
   c. *Building costs*
   d. *Tenant improvements*
   e. *Fees*
   f. *Land cost*
5. *Off-site improvements are generally overlooked but, just as in residential development, the developer may have to create streets for entry, construct sidewalks, run out utilities, relocate power lines, even install traffic lights at $5,000 or more apiece.*
6. *On-site improvements range from surveys and tests to paving of parking, landscaping, and street hardware. Rouse reports these will range from $2 to over $4, but he suggests preliminary plans should allow at least $3 per square foot of GLA.*
7. *The next item is building cost, which is what most people think of when you say a center costs $10 per square foot. Actually this item runs between $5 and $6 a square foot. This includes just the building shell and finishing utilities and landscaping within five feet of the building. Utilities are roughed in and finished public areas including escalators, stairways, and public toilets. One very expensive item is cleanup of the construction mess, an expense the sharp developer is shifting to his tenant in his lease.*
8. *Tenant improvements range from $4 as a low to $6 as a high, and Rouse suggests $4.50 as a minimum. That is a tight budget, for it includes air conditioning along with storefronts, window backs, ceilings, walls, acoustical material, and store fixtures. There is also installation of fixtures for lighting, plumbing, and signs.*
9. *Beginners always underestimate fees. These costs will exceed $3 a square foot of GLA. There are market and traffic studies, architectural, engineering, legal, and accounting fees. Rezoning can be very expensive, and leasing costs will be in the area of $.70 per square foot. And there are also all the carrying charges for staff and real estate during the period of development and construction.*
10. *Now we have spent $16 a square foot of GLA without land and we expect to mortgage it for $10. This developer must either put in $6 in equity or secure guaranteed rent leases far above average.*
11. *Land cost is often distorted by the amateur. A land cost of $20,000 an acre would suggest a cost of $.50 a square foot. However, the developer must provide a minimum of three square feet of parking for each square foot of GLA, which means the land cost must be a multiple of four, or $2*

per square foot of GLA. Some experts urge ratios of five or six to one. At this point, we have a total capital cost of $18 or more per square foot of GLA.

III. *Obviously the developer is going to need more rent than average. To add another $5 to that mortgage, he must increase his rents by $.68 per square foot for an average rent of about $2.70.*

   A. *$2.70 is not a high rent for a shoe store, bakery, or barbershop. However, large space users for food and general merchandise are not about to pay $2.70. They think in terms of $1.50.*

   B. *Studies show 48 percent of the GLA in the average regional center consists of food stores and department stores. Since they claim to generate the traffic for the other stores, they expect to be subsidized, and they are. If you expect to average $2.70 a square foot, it will be necessary to add $1.20 lost on the big space users to the other 50 percent of the GLA, which brings the average rent on the rest of the center up to $3.90.*

   C. *A regional center may have 300,000 square feet of GLA. Your market potential must be able to absorb 150,000 square feet at $3.90, and that may be tough. Several large women's stores may want some rent concessions, and high rent payers like candy stores need only 800 or 1,000 square feet.*

   D. *It may be necessary to push your key tenants to $1.90 or $2 so that the differential is only $.70 or $.80 and you can secure the smaller tenants at $3.40 or $3.50.*

   E. *These figures are realistic. It is hard for the developer to make any money and it is almost impossible for him to mortgage out. Amateurs have made too many mistakes so that lenders today look for developments by the professionals in league with experienced merchandisers.*

IV. *The developer must push for higher rents for key tenants or a reduction in cost both for himself and for differentials shifted to smaller tenants. At random, I would like to suggest various innovations which are being tried to accomplish this.*

   A. *Developers look with more favor on granting exclusives to some tenants. Variety may not be the spice of life. For example, F.W. Woolworth might pay $1.60 per square foot if it must share the market with a Grant's store. If it is given an exclusive, it might pay $1.90 or more because it will realize a higher volume of sales per square foot.*

   B. *The allocation of space may reflect sales per square foot of GLA. For example, the ULI studies show the highest are meat markets, supermarkets, liquor, delicatessens, restaurants, costume jewelry, dairy products, TV stores, and drugs. Sales per square foot of GLA ranged from $134 for meat to $59 for drugs.*

   C. *The lowest average sales per square foot are theaters, coin-op laundries, furniture stores, gift stores, flowers, and photographers, where the range was $27 to $35. Obviously these tenants must pay a higher percentage of sales as rent, but the additional percentage is not so high that one can support much space or expect much overage rent.*

D. *The developer must also be careful not to give away excess space to secure the national credit risks sought by the lender. For example, figures show that chain shoe stores do a smaller volume per square foot than independent shoe stores. This results when the independent will take 25,000 square feet while the chain store will take 4,000 square feet. With a lower minimum rent, the national credit can take more space and hope to expand the business in the future. His speculation is financed by the developer and the local tenant.*

E. *From the physical construction standpoint, the outstanding trend in centers today is development of the closed mall center. Roofing and air conditioning the mall add at least 15 days of high-volume shopping to most centers in the country. A closed mall fights the heat in Phoenix, the rain in Seattle, and the cold in Minneapolis. Obviously, bigger crowds mean higher sales per square foot and they have found it means higher sales and a better distribution of sales per shopper. In uncomfortable weather, shoppers tend to bunch in the larger stores or fail to window shop along the mall where it is open to the weather. A closed mall avoids bunching and permits sliding-glass storefronts, which merge the smaller stores with the mall.*

F. *Another type of center is the fashion goods center, which features nothing but specialty shops and none of the usual service shops, such as supermarkets and drugstores.*

G. *In an effort to generate more heterogeneity in pedestrian traffic and a wider span of use hours, developers are adding office buildings, theaters, prestige nightclubs, and community recreation facilities to the basic shopping center physical plant. Several centers have developed perimeters of hotels, offices, etc.*

H. *One mystery is the discount house. Discount houses create a lot of pedestrian traffic, are large advertisers, and require space which is somewhat cheaper to build. On the other hand, discount stores hurt the independents more than the larger stores, and these independents must be kept alive if only to subsidize the rent of key tenants.*

I. *Several patterns of financing and construction have been used to reduce the burden of key tenants on the developer and the smaller tenant. The developer may lease the ground from the owner on a net net net basis of 6 percent of appraised value. The owner must take all the care of the construction money lender in assessing the potential of the development before subordinating, and the amount of the mortgage to which the lease is subordinated should be stipulated. The developer in turn may sublease ground to one of his key tenants under an agreement which obligates the tenant to build his own store.*

J. *The sale or lease of land within a center to a tenant is known as a "carve-out." Sale to the tenant permits him to resell it to the lender on a leaseback. The developer achieves a traffic generator without cash investment and perhaps without need to subsidize by means of higher rents for independents.*

K. *Developers find that activity means business. In Portland, they have an ice skating rink in the middle of the center which is not run for profit but to attract people. Many have built community auditoriums available to civic groups at nominal cost. A few have art galleries; more have bowling alleys.*

V. *One specialty building that has been profitable has been the bowling alley, for which some interesting data are available.*

A. *Bowling alleys demonstrate the profit potential of developing heterogeneous use of a low-cost service at regular intervals through the year. They provide an excuse for group activity, an occupation for leisure time, and the appeal of mild competitive sports activity. We are all well aware of the tremendous growth which this industry experienced until recently.*

B. *The bowling alley depends on the automobile and hence on location, convenience, and accessibility. Adequate parking is a must. Pinsetter equipment manufacturers recommend the following formula:*

No. of lanes × 10 × 80% = required car spaces

with a minimum of five cars per bowling lane in any event.

C. *The typical situation features an owner of the building, an investor, and a tenant of the building as operator. The tenant rents on a net lease basis on an annual basis. Presently, this rent for a modern center with a cocktail lounge and restaurant will range between $1,100 and $1,400 per bowling lane, with a national average of above $1,200.*

D. *The mortgage lender as well as the investor is primarily concerned with the character and ability of the manager. Character will be investigated and ability will be indicated by his initial list of league commitments, since league play is the bread and butter of the operating enterprise. The potential for bowling alley demand is measured in relation to population per lane. Fifteen hundred persons per lane in the primary area (five or six minutes driving time) is considered minimum, and there should not be a competing bowling alley within two miles.*

E. *Financing of bowling alleys is generally conservative. The total investment will range from $11,000 to $15,000 per lane, depending on land cost and restaurant decor. A 32-alley building requires in the neighborhood of 30,000 square feet. Conventional lenders will loan about 50 percent on the value of the property, requiring 100 percent amortization in 10 to 12 years and charging 6.25 to 6.5 percent interest.*

F. *The lender on the real estate requires not only personal endorsement but a chattel mortgage on the automatic pinspotters, which may be purchased or leased. For example, Brunswick may require 35 percent down with the balance payable over a five-year span.*

Notes

1. Now known as the *Standard Manual of Accounting for Shopping Center Operations*.
2. Now of Rouse & Associates, Philadelphia, Pennsylvania.

Shopping Center Retail Potential

(Class Notes)

I. *The concept of a retail trade area can be applied to virtually any kind of consumer-oriented space, golf course or drug store, campground or office project.*

A. *Obviously, different types of services have different primary and secondary trade areas, so a shopping center with a broad variety of services cannot simply rely on some rule of thumb such as six minutes' driving time.*

B. *Indeed, there is good evidence that the size of a real estate project is a demand-generating factor itself. There is also an image component.*

C. *The general model or retail-trade-area determination, be it for a store or entire city, has a simple, well-known structure. It is composed of three factors:*
   1. *The shopping utility of the retail facility to a potential patron*
   2. *The cost of reaching the facility by that person*
   3. *The strength of competing retail centers*

D. *Mathematically, these elements are usually joined as follows:*

$$P\left(\frac{H_a}{X_1}\right) = \frac{\frac{U_a}{C_a}}{g\Sigma_{i=1}\frac{U_i}{C_i}}$$

This states that the probability of the hypothesis that shopper X_1 *will choose facility* a *is equal to the ratio of* a*'s drawing power, shopping utility divided by cost, and the sum of the drawing power of all* g *centers under consideration.*

E. *Trading ranges are determined by evaluating the patronage probabilities of consumers located at varying distances from the various centers.*

II. *Shopping utility and cost are, of course, but shorthand for notations that represent rather complex human value systems.*

A. *The shopping utility of a center derives from two sources:*

1. *One is a* mass *component which defines the range of goods and services available in the center. Mass provides utility by reducing ". . . the time and effort required for individual transactions." Mass makes multipurpose shopping trips economical and facilitates interstore comparisons.*
2. *The second source in an* image *component and depends upon consumer perception of the center's price level, its physical plant, and social class orientation.*

B. *The cost element of the model is a function of consumer expenditure in time, money, and nervous energy necessary to reach the center.*

III. *Doubt that mass will be adequate is brought to mind because of difficulties experienced by researchers attempting to evaluate interstore trading areas. At this level of disaggregation, the image content of shopping utility evidently becomes the controlling factor.*

A. *This point is suggested by the method the retail industry uses to cope with locational problems. This procedure is stated succinctly by Kane, who says, "The best way to determine the trading area of a proposed supermarket of similar size, location type, and operation characteristics commands, preferably one from the same chain or group as the proposed store." [sic] This analogue approach, as illustrated by Applebaum in a recent article, is essentially empirical in nature.*

B. *The rationale is that image controls drawing power, and the best way to determine a trading area is to project image from comparable situations.*

C. *Apropos of this technique, the power of the chain organization in the past and the galloping growth of franchising today probably stem from this capability of projecting trading areas. The independent merchant builds a unique establishment. If he guesses shrewdly, or luckily, his trading area will extend over sufficient purchasing power to afford him an adequate volume of sales. The chains need not guess.*

D. *In a scale of disaggregation, the intraurban shopping center lies somewhere between the individual retail store and the urban entity itself. The issue is raised, consequently, of the relative importance of mass and image in determining the level of utility for some given center. Herein, the hypothesis is advanced that mass will retain much of its significance, but that individual consumers will perceive its value diversely. Two corollaries follow:*

1. *The first is that the utility of a given center size will vary among segments of the consumer market and will differ with the character of the shopping problem that the consumer seeks to solve.*
2. *The second corollary is that a center's utility will not necessarily be proportionate to its mass.*

E. *By grouping the variables into four general categories and undertaking this type of analysis with respect to each, one may arrive at the following interpretation of intraurban shopping patterns.*

1. ***Distance.*** *The role of distance is conveyed by three variables. The first is the straight-line distance between each respondent and the primary center. The second is the straight-line distance between the respondent and the nearest secondary centers. The last is a rough location of the respondent on a north–south axis. No distance data to tertiary centers were computed because of the very large number of such facilities.*
2. ***Shopping plan.*** *The second most important set of variable coefficients computed by the discriminant program relates to the shopping plan of the respondent. Here, for example, one may see that those shoppers who took their trip in the evening bypassed both the primary and the secondary center in favor of the tertiary center. Travelers by bus tended to go to downtown Oakland; car users went elsewhere. Where a child accompanied the parent, secondary centers received the heaviest patronage. When the shopping plan involved a large number of different stops, the tertiary centers were avoided.*
3. ***Motivations.*** *A third group of variables found to be important is related to specific shopping reasons. For example, those respondents looking for items of apparel clearly find tertiary centers unsuitable for their needs. However, when price is volunteered as a reason in the store choice, tertiary centers are given the best rating.*
4. ***Demographics.*** *The demographic variables, in general the weakest of the four groups, reveal the importance of income as a factor affecting patronage at the primary center. Shoppers from better neighborhoods, with better incomes, are shown to favor downtown Oakland.*
5. ***The role of mass.*** *The data reviewed above suggest that in terms of intraurban shopping, the role of mass dominates that of image and supports the validity of employing gravity models for the study of this subject. Image factors, however, were not without significance. This appears particularly with respect to social class perceptions where blacks largely rejected the secondary centers in preference for the primary center. It is also to be found in the differential perception of price held by consumers, as well as that of past satisfactions, for the three centers.*
6. *The data also intimate that the values mass provides are not constant among various market segments of shoppers. They bear out an earlier prediction by Kelley that ". . . the core of convenience analysis lies in the areas of consumer psychology and sociology." Without doubt, the primary center had a greater attraction for the higher social strata, while the tertiary centers had greater affinity for the price-conscious and the secondary centers for those who were concerned about convenience.*
7. *Mass maximizes return by reducing search cost—that intrastore travel the consumer must make to resolve satisfactorily his shopping objectives. Yet the circumstances which create value for the consumer have been grossly stated at best. Several patterns of value are suggested by the coefficients reported above.*

F. *Under some circumstances it is of extreme importance to the consumer that multiple store visits be made to satisfy a shopping task. Such a need might be defined as a requirement for "full search." Several indicators of the presence of such a need exist. One relates to the product. When consumers are looking for an item with high "social visibility," such as apparel, it becomes imperative for them to examine market offerings. Partly this is because of rapid style change, but also because the proper choice is psychologically necessary.*

1. *Associated with this factor is the consumer's place on the social ladder. The farther along the consumer is, the keener is the appreciation of making the proper product choice. The data suggest that shoppers living in better neighborhoods and holding higher occupation status (husbands') place a higher value on the primary center.*
2. *Higher income provides the necessary purchasing power not only to make the appropriate purchase but also to make more of such purchases. Hence, these persons are more apt to make more multiproduct shopping trips and value mass more highly as a result. They are also likely to be more sensitive to advertisements directing their attention to product availability.*

G. ***Directed search.*** *Directed search involves a pattern of "limited search." It connotes the consumer's concern for the purchase, particularly with respect to price, but that considerable interstore search would not be worthwhile. This is due, primarily, to the fact that where savings in price only are stacked up against the cost of any degree of interstore shopping, it requires an extremely expensive item to show positive gains. This is particularly true where the item involves the husband in the purchasing process, and his search time must be considered as well.*

1. *Under these conditions the value of mass takes a new form. Unless the shopper is totally uninformed about the character of alternative centers available to her, she or her husband is likely to possess an image of a store—or at least type of store—which carries the necessary quality product in an acceptable price range.*
2. *Advertising plays a role here, too, but less directly than in the case of full search. Because of the low probability that an advertised sale for a larger-ticket item will reach any specific family with immediate intentions of buying that product, advertising has considerable value in creating the image as well as the quick response.*

H. ***Casual search.*** *Casual search is another form of limited search. In this instance, there are no compelling social or economic reasons that motivate the shopper to undertake an extensive shopping tour. This condition is, of course, not unknown with regard to many inexpensive items sold in drug, variety, hardware, and food stores. The point is that it applies as well to many shopping goods with values extending to perhaps $1.5 or $20, or more in the case of the affluent. It takes into consideration that shopping is an exhaustive process and that a payoff will not exist for most items the household purchases.*

Retail Site Selection Seminar

(Seminar Notes)

I. *Selecting and securing a retail site for a particular line of merchandise is simply a special case of the larger issues of feasibility analysis and real estate problem solving.*

   A. *There are only three basic problems in real estate:*
      1. *A site in search of a use (with or without structures)*
      2. *A use in search of a site (with or without improvements)*
      3. *Investment cash looking for an opportunity to finance a site (with or without improvements)*

   B. *The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition: "A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources."*

   C. *The problem of defining objectives, measuring success, and ranking alternatives to permit selection with the best likelihood of satisfaction involves a number of important abstractions:*
      1. *The decision process requires systematic review of facts to first identify alternative courses of action and their alternative outcomes followed by*

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a screening with criteria which give dimension to objectives, which in turn flow from value judgments.

2. *Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating the form of the solution to the context [in] which it was created.*
   a. *Context includes those elements that are fixed, given, or objectives, and to which any solution must adapt.*
   b. *Form-giving elements are those variables within the artist's control, i.e., options or alternatives at a particular time.*
   c. *A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the context.*
   d. *Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.*
   e. *Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily on accurate and comprehensive definition of the context.*

D. *An* enterprise *is any organized undertaking, and a real estate problem or project always begins from the viewpoint of some enterprise relative to its environment.*
   1. *The* systems engineer *sees the eventual form of an enterprise in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power—the power of the environment to dictate form and behavior of the organization, on one hand, and the power of the organization to decide for itself what its characteristics and behavior will be, on the other.*
   2. *The systems engineer uses "power of the environment" as a dynamic alternative to the static implications of context and adds the dynamic element of behavior to the elective responses of the form-giver.*

E. *The general theory of enterprise management procedure can be converted to real estate semantics for site-selection feasibility.*

Values, objectives, policy	*Strategic format*
Search for opportunity alternatives	*Market trend analysis*
Selection of an opportunity	*Merchandising target with monopoly character*
Program to capture opportunity	*Legal-political constraints*
	Ethical/aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	*Project development*
Operation of program	*Property management*
Monitoring and feedback	*Real estate research*

F. *These elements or components of the decision process which involve real estate also explain or match the variety of research studies and consulting reports which may be done from time to time on these matters:*
   1. *Strategy study: selection of objectives, tactics, and decision criteria.*

2. *Market analysis: economic base studies or other related aggregate data review.*
3. *Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.*
4. *Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.*
5. *Compatibility studies of project to community planning, conservation standards, or other public policies.*
6. *Engineering, land planning, and architectural studies.*
7. *Financial studies: economic modeling, capital budgets, present-value and discounted cash flow forecasts, rate-of-return analysis, financial packages.*

G. *An overall view of the process of matching a specific retail use to site alternatives is provided in Figure 1 [in the first article in Part V], borrowed from a recent ULI monograph,* The Real Estate Development Process. *Compare it to Figure 2 [in the same article] for the more basic case of a site in search of a use.*

II. *Specification of site needs or an inventory of actual site characteristics should both be organized according to the following subsets of attributes:*

A. Physical attributes *(static) include site dimensions, soils, geology, topography, site improvements and capacity, and on-site flora and fauna.*

B. Legal-political attributes *include not only zoning and subdividing codes at the local level but also relevant federal, state, or private controls which might direct or restrict site use. As appropriate, the appraiser should note administrative patterns relevant to application of law to use of subject site.*

C. Linkage attributes *identify relationships of site to networks, populations, or activity centers that might generate potential demand for the subject property.*

D. Dynamic attributes *are those attributes which exist in the minds of others in terms of status, anxiety, beauty, imagery, sentimentality, or other perceptions which attach to the subject property, to the degree that these are economically significant.*

E. Environmental attributes *of the site refer to off-site natural systems of which the subject property may be a part, such as riparian rights, pollution downwind, stormwater runoff, etc. Even the shadow cast by the structure off site may become significant in the era of solar energy. Impacts on others may be perceptual (i.e., dynamic) or fiscal (legal-political) as well.*

F. Static site attributes *which begin to narrow the potential market to alternative uses should include both the facts and their implications for productive use in such topic areas as*
   1. *Size, shape, lot area, setbacks, envelopes, and critical constraints (FAR, parking ratio, DU count, etc.)*
   2. *Topography, soils, geology, slope stability, bearing capacity, septic suitability, potential for subsidence, etc.*

3. *Water table, wells, streams, ponds, stormwater swales, shoreland edges, bulkhead lines, floodplain designations, etc.*
4. *Existing on-site utility services and capacity.*
5. *Access points and capacity to public thoroughfares or private rights-of-way.*
6. *Site improvements such as paving, retaining walls, pedestrian paths, culverts, etc.*
7. *Concealed utility easements, old foundations, etc.*
8. *Landmark attributes or historical site features.*
9. *Flora and fauna which enhance marketability or which might cause environmental impact litigation.*

G. Legal attributes *of the site should be reviewed from the top down, starting with possible federal concerns through condominium association bylaws.*
1. *To suggest federal concerns, consider the FAA airport approach zone districts, Corps of Engineers, Environmental Protection Agency, Small Business Administration rules, Farmers Home Administration rules, HUD insurance rules on mixed-use projects, national banking rules relative to floodplains, neighborhood planning district priorities, federal highway subsidy rules, sewer and water system grant limitations, etc.*
2. *At the state or regional level, there will be agencies paralleling federal concerns plus industrial building and fire codes (on stores of more than 50,000 cubic feet), state highway access, shoreline controls, coastal zones, harbor conditions, and regional planning commissions.*
3. *City-level constraints inherent in city building, housing, land planning, public transit, and public safety codes.*
4. *Intracity, special district controls imposed by urban renewal districts, tax increment districts, special assessment districts, tax conservancy commitments, and extraterritorial zoning.*
5. *Public and planning premises of community master plans relative to sprawl, restoration, redevelopment, and other land use priorities as these attitudes will affect administration of the law.*
6. *Existing or impending legislation relative to such matters as*
   a. *Septic tank installation*
   b. *Water quality for groundwater, water recharge areas, stormwater runoff, salt-water encroachment, etc.*
   c. *Air quality standards relative to use, HVAC performance, microclimate interference, etc.*
   d. *Conservation of environmental edges, prime agricultural land, and wetlands.*
7. *Public attitudes of public commissions for sewer, water, highway, planning, or building administration.*
8. *Private constraints may include deed restrictions on the use of the site, merchandising agreements defined in the operating agreement between the developer and his major tenants, merchants associations' rules, condominium bylaws, or terms of the master lease.*
9. *Currently, some of the big surprises include energy rules, parking lot landscaping, architectural barriers for the handicapped, special mall*

assessments, and neighborhood planning boards with power to veto retailer plans.

H. Static building *attributes further narrow or define the retail selection process. Any checklist on building features or planning program for a building project should be subdivided as follows:*
   1. *Foundation system*
   2. *Structural system*
   3. *Floor system*
   4. *Ceiling system*
   5. *Roof system*
   6. *Exterior wall system*
   7. *Interior wall system*
   8. *Horizontal circulation system (privacy, interaction, congestion, confusion)*
   9. *Vertical circulation system (handicapped code, cost, economy of scale, and height)*
   10. *HVAC system*
   11. *Life-safety systems*

I. *There is a need to specify the dimensions for key functional elements, such as*
   1. *Modular unit*
   2. *Bay space*
   3. *Floor load*
   4. *Ceiling height*
   5. *Entrance doors, loading docks*
   6. *Elevator dimensions*
   7. *Visual codes, such as store front mass, graphics area, materials*
   8. *Claustrophobic factors, such as glare, temperature, humidity, etc.*
   9. *Life-safety systems, etc.*

J. *Linkage attributes relate the subject property to both networks of supporting infrastructure which contribute toward effective demand for the property as economic space-time or the supply-and-demand impact of related activity centers which may interact with the subject property.*
   1. *Analysis moves best from the borders of the subject property outward to expanding zones or potential demand or competitive supply.*
   2. *Utility services are network linkages in terms of*
      a. *Limitations on sewage processing, stormwater retention, or runoff constraints*
      b. *Community energy supplies, priorities, and capacity*
      c. *Water processing and chemistry, as applicable*
      d. *Possible dependency on resources, such as wild game and fish, underutilized labor pools, fire department coverage zones, etc.*
   3. *Street, sidewalk, rail, and public transit systems, including access points, traffic department controls, etc.*
   4. *Relationship of subject site to contiguous properties, balance of city block, and neighborhood layout pattern.*

5. *Relationship of subject site to generators of potential needs and uses for the subject site, such as*
   a. *Employment centers*
   b. *School system alternatives*
   c. *Retail services*
   d. *Complementary existing nearby uses*
   e. *Recreational services*
   f. *Health care systems*
   g. *Security systems*
   h. *Waste disposal services*
6. *Neighborhood demographics (population, age, employment, income, etc.)*
7. *Relationship to competitive alternative and estimate of supply of available space, competitive ranking, and exposure of subject site to competitive interception of potential demand.*

K. *Dynamic attributes constrain the ability to exploit the retail linkages of a site, because they have to do with characteristics which exist in the mind of the beholder, which are mental or emotional responses stimulated by a site or project, and which affect decision-making behavior. All of these affect the frequency of visit to the site, the time spent at the site, and the average purchase per visit:*
   1. *Image conditioning of the approach zone*
   2. *Decision timing of the approach zone due to visual factors in terms of site prominence, reminder codes or prompters, potential for controlled sight-lines, views from the site*
   3. *Elements of anxiety due to stress of access, confusion as to destination, and perceived security and flight zones*
   4. *Elements of prestige and status*
   5. *Claustrophobic impact of temperature, humidity, glare, congestion, ceiling height, or threat of uncomfortable social encounter*
   6. *Noise as an auditory gauze to control unwelcome sounds or sounds at discomforting levels due to traffic, crowd, or mechanical generators*
   7. *Prevailing air currents and smells*
   8. *Historical community imagery attached to neighborhood, site, and structures, including political images recently established by vested interest groups or media*

III. *Every retail enterprise has a pattern which presumes a certain frequency of visitation per consumer and an average expenditure per visit. The ultimate strategy is to increase the frequency of visit by expanding the trade area or improving the drawing power by increasing the average purchase per visit by combining purchases, staying at the retail center longer for recreation, or raising customer taste to higher-priced products.*

A. *Each retail establishment is presumed to need a specific set of linkages to certain segments of the community. The ability of these linkages to draw in customers against the cost of friction defines the trade area.*

B. *Years ago, the simple retail model was a gravitational model that said people tended to be attracted to a retail point as a function of the variety of goods offered (M) and inversely related to the square of the distance traveled, later modified to the square of the time traveled.*

C. *More recently, the gravitational model has been expanded.*

$$\frac{\text{Draw}}{\text{Friction}} = \frac{\text{Diversity, perceived bargain, and recreational content}}{\text{Travel time, travel cost, travel stress, shopper situation}}$$

D. *Every retail entity is presumed to have a pattern within the general model. In some cases the site determines the model, and in other cases the model determines and limits the selection of site. Model is modified by the presence of a network of a given set of stores in a general market area.*

E. *The site-selection model will add "place" to the following variables in control of the marketing manager:*
   1. *Product mix and price*
   2. *Profile of each retail consumer segment to be solicited. Consumer profile includes basic demographics, household purchasing power, and search pattern, including dominant movement patterns*
   3. *Promotion and preferred media pattern*
   4. *Policy in regard to techniques for customer control, for management incentives*

IV. *Investment position*

A. *Political exposure*
   1. *Basic regulation environment*
   2. *Government subsidy of competitive supply*
   3. *Government subsidy of effective demand*

B. *Degree of channel demand*
   1. *Identity of interest with larger enterprise*
   2. *Physical monopoly*
   3. *Reciprocity*
   4. *Sensitivity to consumer need*

C. *Degree of management intensity*
   1. *"High-touch" personality*
   2. *"High-tech" personality*
   3. *Formula management*
   4. *Automated retailing*

D. *Financial parameters for break-even occupancy*
   1. *Front-door, back-door approaches*
   2. *Fixed costs, variable costs split*
   3. *Buy or lease*
   4. *Expected payback and opportunity cost*

E. *Tax considerations*
   1. *Sales tax*
   2. *Personal property tax*

3. *Local payroll tax*
4. *Real estate tax incentives, special assessments, and common area assessments*
5. *Income tax incentives for commercial remodeling, investment tax credits, etc.*
6. *Income tax shelter for executive bonus and compensation plan*
7. *Estate tax planning opportunities*

Bibliographic References for Shopping Centers

Applebaum, William. Shopping Center Strategy. New York: International Council of Shopping Centers, 1970.

International Council of Shopping Centers. Shopping Centers 1988: Answers for the Next Decade. New York: Author, 1979.

International Council of Shopping Centers and the National Retail Merchants Association. The Independent Retailer and the Shopping Center. New York: Author, 1968.

Kane, Bernard J. Jr. A Systematic Guide to Supermarket Location Analysis. New York: Fairchild Publications, 1966.

Kornblau, Curt, ed. Guide to Store Location Research. Reading, Mass.: Addison-Wesley Publishing Co., 1968.

Practicing Law Institute. Business and Legal Problems of Shopping Centers. New York: Author, 1968.

Rams, Edwin M. Analysis and Valuation of Retail Locations. Reston, Va.: Reston Publishing Company, 1976.

Roca, Ruben A., ed. Market Research for Shopping Centers. New York: International Council of Shopping Centers, 1980.

ULI–the Urban Land Institute. Shopping Center Development Handbook. *Washington, D.C.: Author, 1977.*

Hotel/Motel Lecture

(Class Notes)

I. *While the regional shopping center may be the premier real estate investment whose success is tied directly to consumer psychology, the hotel, motor inn, or resort inn is an equally profitable but spooky investment and highly vulnerable to the attitudes and values of the consumer. Like retailing, the lodging industry is essentially a service industry using a large piece of real estate hardware.*

   A. *The lodging prototype may be classified for convenience as predominantly catering to one of the following consumer types:*
      1. *The transient who is traveling to some other destination and needs food and rest—the interstate auto traveler.*
      2. *The terminal visitor who has arrived for some purpose in the area and needs a temporary residential base, such as the businessman coming to Madison.*
      3. *The recreational vacationer requiring both entertainment and relaxation and access to other recreational resources.*

   B. *The basic product is room by the day, so a 100-room motel has an annual inventory of 36,500 room-days, a break-even point in the neighborhood of 9,000 room-days before debt service and before losses on services provided which don't carry their own weight. While rooms create a gross profit margin of 75 to 80 percent, public spaces generate little revenue, and restaurants and meeting rooms seldom provide much profit per square foot of building but are needed to fill the rooms.*

   C. *When merchandising rooms or considering the accounting for annual operations, it is useful to think in terms of 52 weeks consisting of 13 seven-day periods, with each period having two weekend nights and five weekday*

nights. The average price per room will differ for weekends and weekdays by season, and the occupancy rate will differ drastically by weekend, weekday, and season. The object in feasibility is not to prove that the motel is feasible at the peak of the season, but rather to establish that it can carry its fixed costs during the worst of the season.

II. *Assuming a site in search of a market, the first step is to presume one of the three market types as the base of demand: transient, terminal, or vacation. Each demand is derivative of some existing activity level but to an increasing degree is a function of management's ability to create an atmosphere and mood appropriate to the role the guest imagines himself to be playing, i.e., cool businessman, international gourmet and connoisseur, lover, or sportsman. The problem for the analyst is to identify a capture rate for that portion of the demand which is derivative and to estimate the degree to which management can create their own demand by serving an unmet need.*

   A. *The derivative demand may be a matter of one or two large installations. For example, [determining the demand at] the West Allis Inn involved a phone call to the Milwaukee VA hospital to determine how many families visited patients on weekends to stay overnight. Additional phone calls were made to determine how many salesmen, engineers, and others were brought into town by several neighboring major industries, such as Allis-Chalmers and Chain Belt Corporation. The VA hospital provided weekend traffic, while business provided weekday volume. In each case, seasonal levels could be found, and the VA tended to be higher in summer and the businesses higher in winter. Here was an ideal meshing of weekday and weekend cycles. There were no competitive alternatives in the immediate area, and the capture rate of the potential derivative demand was high.*

   B. *While terminal derivative traffic may be documented by interviewing local organizations and [checking] guest registers, derivative traffic from highway volume is more difficult.*
      1. *Highway departments have traffic counts, origin and destination studies, and traffic volume forecasts as well as plans for future interchange development, etc.*
      2. *The analyst may be able to obtain gallonage information from various filling stations along the route, and some national chains pay to examine credit card sales at various interchanges to find out where people were coming from and their propensity to spend for various services.*
      3. *Franchise operations have access to reliable regression coefficients as to their seasonal penetration relative to their particular type of business. (For example, Sheraton pitches to businessmen in their ads ["unwinding executive"] while others try for a family-type image, such as Howard Johnson, "host of the highways." Each chain knows the power of its reservation system to create business and the degree to which its salesmen can contribute business and convention accounts.)*

   C. *The terminal or recreational inn may be derivative of multiple generators which change by season, requiring a series of subestimates.*

1. *For example, a recreational resort may be a function of skiing, snowmobiling, and weekend retreats during the winter while relating to summer vacation patterns, fishing runs, and local events during the summer.*
2. *However, ultimately the terminal and recreational inn depend on management's ability to create or exploit the "mass" of its facilities and to reduce the utility cost to the consumer. Mass is both the variety of services and the magnification of same by increasing consumer appreciation and intangible attitudes, while utility cost is a function of time, anxiety, and satisfaction received per dollar of opportunity cost.*
3. *Today the style is to capture the motor inn customer by packaging his reason for the trip, such as skiing or fishing, with his lodging and his transportation. Airlines can pick up a tourist agency commission, or well-known resorts will help sell airline tickets, so that there's a tendency to gain control of derivative demands before the trip starts.*
4. *The transient motel will attempt to stabilize occupancy at low travel periods by appealing to terminal traffic with special rates or meeting facilities, while the terminal motel will make a play for the visitor not related to its basic demand generator. The recreational resort inn may need to create its own volume with a secondary market among business meetings, etc.*

D. *Once the type and number of each type of traveler have been determined, some sort of marketing strategy must be determined.*
   1. *For example, Holiday Inn started by following the Statler Plan of producing a standard room of a given level of cleanliness and comfort at all locations at pretty much a standard price to avoid the unpleasant surprises of wide differentials in facilities and services which otherwise confronted the traveler. Reliability at a price to avoid the depression of a bad deal was the basic psychology.*
   2. *Over the years, many innkeepers have made outstanding food the market device, expecting more than half their restaurant-going will be from local residents. Business travelers usually have time for a relaxed dinner, while local businessmen value the efficient lunches.*
   3. *The recreational visitor is controlled by both the role he would like to play and the budget he has to spend over the length of his stay. The family on a weekend minivacation will be a big spender on services, while the family on a two-week stay will budget carefully.*

E. *Different age and income groups associate with different symbols and must avoid certain symbols. For example, associations of public officials and financial officers try to avoid Las Vegas or Monte Carlo or the Playboy Inn for trade meetings.*
   1. *Morris Lapidus is responsible for such garish elements as the Eden Rock in Miami Beach or the Americana in New York. He ventures the opinion that for many of the older vacationers, they relate to the 1930 and 1940 movie version of the good life with streamlined forms and decor like a Bugsby Berkley or Doris Day musical.*
   2. *A whole generation has been sold on the Playboy image or on the masculine symbols of timber A-frame construction, etc.*

3. *Thus, the public areas of a hotel act as stage set, backdrops for the subconscious fantasies of the guests. Even the Holiday Inn is catering to an image of common-sense thriftiness and the meat-and-potatoes-with-no-frills standards. Various recreational or business roles are being quietly sold by the TV medium to precondition the customer. This symbol or role will relate to the base from which this demand is derived and should be reasonably understood before making some decisions about market strategy.*

F. *Relying solely on a passive program of locational position and word-of-mouth advertising probably will not attract adequate financing or adequate business for a new operation. Therefore the developer will need to consider alternative marketing programs or combinations, once something is known about demand generators and the profile of travelers.*
   1. *Different franchises offer different images and different styles of managerial assistance, but their input is often overemphasized by lenders and developers.*
   2. *Membership in a cooperative reservation service such as Western Quality Motels.*
   3. *Independent sales of business meetings and conventions by means of salesmen making direct calls. Each salesman would then be at attendance at the meeting, make all the arrangements, and make good on all his promises.*
   4. *Block sales or reservations to companies, universities, or others in regular need of motel rooms or to airlines, bus companies, or travel agencies.*
   5. *Creation of a community vested interest in its success by using local development money or subsidies by local merchants. Even the First Plankinton Hotel in Milwaukee back in the 1860s was financed in part by the residents of Milwaukee's Fourth Ward because they felt downtown Milwaukee needed a first-class hotel.*
   6. *Build and lease to an operator.*

G. *Franchise hotel chains provide instant image, prototype plan, management systems, and little else.*
   1. *Hilton or Marriott requires a nonrefundable $25,000 just to talk about it. Once the hotel opens, the operator pays 10 cents a room per day into a national advertising fund plus 4 percent of gross room sales plus special assistance charges and may purchase many of his supplies from a subsidiary of the franchiser.*
   2. *The fancy signs and lighted pylons remain the property of the franchiser and under the terms of the contract can be removed whenever the franchiser feels operations are hurting the image of the chain.*
   3. *However, the franchisee can seldom cancel in less than 10 years and may have to pay some type of penalty, such as the advertising fee to a certain date, cost of sign removal, etc. The wise developer will have a clause permitting cancellation after two years of occupancy below some minimum, say 65 percent.*

4. *The franchiser will require the operator to attend his management schools, use his accounting systems and business forms, and expect conformity in quality and detail on a great many items such as furnishings, decor, menus, uniforms, national promotions, etc.*
5. *For building plans, the franchiser provides a prototype layout providing basic specifications, but the developer must hire his own architect, whose plans must be approved by the chain. Nevertheless, the contract is loaded with hold-harmless clauses and the requirement that the developer name the chain as a coinsured in his public liability coverage with a waiver of subrogation.*
6. *While the franchisee will be controlled by a no-compete clause for a certain range, there's no control on conflict of interest by the national chain which will be contracting to send convention business to the hotel. Moreover, if the national chain leader determines that business potential in a given market would justify expansion, it might require the franchisee to expand or, after 90 days' notice, it will grant another franchise.*

III. *The cash flow format for hotels is somewhat different from other types of income properties because revenues and costs both reflect a wide number of revenue or profit centers which form divisions of the total enterprise. Some typical financing packages for packaging a motel include*

A. *Straight mortgage using appreciated land for equity to finance out*

B. *The French plan—create a public or community corporation by selling a package of common stock, callable preferred, plus mortgage bonds*

C. *A conventional mortgage plus chattel mortgages or long-term leases of equipment, furniture, and even carpeting*

D. *A conventional mortgage plus a subordinated leaseback of land plus a syndication*

E. *Financing on the collateral of an operating lease to a national chain*

F. *100 percent financing by means of a sale and leaseback or participation loan*

Recreational Land Development—An Overview

(Class Notes)

I. *Trends in recreational land development in 10 years have reflected the most rapid rate of innovation of any type of real estate. Buyers are much more willing to accept new concepts in reaction to the conformity of suburbia, concern for environment, and limitations in budget since the product is attempting to broaden its market base in terms of income group, age, and variety of recreational alternatives.*

   A. *The original product was the lake lot and cabin, an informal type of subdivision by many small, marginal, and uninformed developers; these still account for the largest share of recreational units sold.*

   B. *More sophisticated developers realized that the revenue unit was lakefront footage and that it was cheaper to manufacture that close to urban areas by damming a creek. Moreover, the project would be within the preferred two-hour driving range.*

      1. *Controlling enough land to enclose all the branches of the lake often left the developer with much back-land acreage that he would subdivide and sell as back lots for a very low price, which taught him to respect the mass market.*
      2. *To increase the value of the back lots, it was necessary to increase their access to the water and take away their image as second-rate lots, so he began referring to all the lots as "property."*

   C. *Success of well-designed back lots and community access points led to the Lake Camelot experiment in which none of the lots were on the water. Shoreline was maintained and all the lots became equal and therefore priced out equally, while environmental quality was greatly increased and stabilized.*

D. *Realizing a "property" simply provided access to leisure-time pursuits, the Voyager Village project in Burnett County involved eight natural lakes. No lots are permitted within 200 feet of a lake, and setbacks on lots are a minimum of 75 feet. Every type of recreational facility is provided, including an airport, golf course, ski hill, bathhouses on the lakes, boat ramps, etc. The object of a leisure home is to consume or waste time and provide a device for reducing urban involvement socially, or at the school level, or the unnecessary activities of shopping, etc. It provides the emotional release of a dream for retirement, or family togetherness or romantic isolation or romantic identification with the out-of-doors. The number one recreation is still hiking or sitting on the porch.*

E. *Ultimately, the second home is to provide access to the out-of-doors without the congestion of public park systems or with the psychology of the reserved private club which has elements of status, safety, belonging, and assured availability and quality control. Snowflower represents the next step in the evolution, where the buyer owns a membership certificate rather than title to a specific piece of ground. Snowflower provides four different levels of camping experience for the family. The Homes Association has evolved into a club that maintains and owns everything. The club has a maximum number of members at two times its daily capacity.*

F. *Only 3 percent of the lots sold are built on each year. More recently, second-home buyers want an immediate, instantly operational package without having to deal with contractors, townships, and all the rest from a distance. As a result, many projects are packaged by using cluster building techniques or modular units.*
   1. *Modulars take advantage of the equity buildup in lots purchased at an earlier time and [of] the greater availability of financing, including FHA loans to 75 percent of value.*
   2. *The multifamily package makes possible more dollar sales per customer and multiple profit centers in building, furnishing, maintaining, renting, and brokerage for the developer who has created a captive market.*

G. *The explosive growth in second-home development and purchase has meant tremendous abuse of both natural resources and the consumer, which in turn is generating much-needed legislative momentum at local, state, and federal levels.*
   1. *Environmental control of shoreline resources is both a local and state responsibility.*
   2. *Legislative control of marketing is primarily a state and federal problem.*
   3. *Administrative control of investment matters through state blue-sky agencies and the federal Securities and Exchange Commission.*

II. *Demand pressure for recreational homes can be indicated by providing some demographic detail of the market.*

A. *The backbone of the recreational market is families with incomes greater than $15,000 per year. This group is growing, from 10.8 million families in 1970 to a projected 23 million by 1980.*

B. *The National Association of Home Builders (NAHB) estimates people were building second homes in the late 1940s at a rate of 20,000 per year and that this figure escalated rapidly to 40,000 houses per year in the 1950s. In the 1960s, the figure rose to an average of 60,000 second home starts per year. By 1967 a Census Bureau study indicated that about 1.7 million of the 58.8 million households in the U.S. had second homes reserved year-round for their own use and that the median income for these owners was twice that for homeowners in general.*

C. *For the decade of the 1970s the NAHB projects 150,000 second-home starts each year, while the FHA predicts 200,000. Sanford Goodkin predicts one-fifth of all homes built over the next 10 years will be mountain cabins, seashore cottages, and wilderness retreats.*

D. *The sales potential will be different in various parts of the country, since 38 percent of all second homes are in the Northeast and 30 percent in the North Central section of the country; they account for two out of three second homes. The balance is equally distributed between the South and the West. However, it is in the South and the West where the fastest rate of growth in development is taking place as northerners seek warmer climates for the winter season and westerners improve their access to ski slopes, etc.*

E. *The 1967 Census Bureau study indicates 50 percent of husband-and-wife households have no children under 15, and 15 percent of other households do not. Seventy percent of households with second homes are in the age bracket 35 to 64, and 21 percent are over 64. While households for those under 35 represent 25 percent of total households, they represent only 8 percent of the market.*

F. *Fifty percent [of households with two homes] have their second home within 100 miles [of their primary home] and 70 percent do within 200 miles, with the exception of the upper-income strata, where as many as 20 percent are more than 500 miles away, reflecting more ability to pay for transportation or ability to remain away from work longer.*

G. *Proximity reflects a change in vacation pattern from long two- or three-week trips during a single season toward the minivacation taken frequently during two or three seasons of the year. The Christensen study ranked summer, fall, and spring, in that order, as the favorite seasons for using cottages.*

H. *In Wisconsin, there are three zones of demand pressure tied to population centers at Minneapolis, Chicago, and Milwaukee and eastern Wisconsin. The degree of pressure depends on both interstate access and the shape of the fan of alternative recreation owners. Milwaukeans cannot go east and prefer not to go south. Chicagoans can go to Michigan or Wisconsin, and to the west the fan goes all the way to southwestern Wisconsin. Minneapolis has the broadest array of alternatives—to the west, the north, or Wisconsin. Developers must tie to these primary trade areas for large-scale projects. More and more, the trade area is defined by the amount of time it takes to drive home on Sunday night so that the trade area is shrinking slightly as congestion increases.*

III. *Environmental impact and control have been relatively unsuccessful where local communities and counties have been responsible, and more impressive where state agencies have been able to learn from their own mistakes and the local government. The locals are much more influenced by short-term increase of the tax base and business than by long-term environmental impact.*

A. *The first problem is water pollution due to sewage and disturbance of shorelines and natural filters of marshlands on the shore.*

B. *In Wisconsin 60 percent of our land or more is unsuitable for septic tanks, and so the locals disregard water tables, bedrock, and seepage patterns. Developers proceed without a permit, facing maximum fines of $1,000. To avoid drinking water pollution and reduce the size of lots otherwise necessary to keep the well a minimum distance from the septic tank, many developers are putting in water systems.*

C. *A second element of water damage relates to the recreation capacity of the lake in terms of motorboats and related pollution, fishing pressure, quality of water for swimming, etc., relative to potential loads when all the lots are built out—an eventuality which may take 20 years.*

D. *Land resources also have capacity limitations if we consider the "edge effect," that is, those interfacing points where most animal life occurs—such as the interfacing of meadow and woods, water and land, or brush and full timber. Presently, environmental impact is concerned with static inventories of flora and fauna, but work is progressing on the dynamic natural balance which must be conserved in the dynamics of land ecology. The presence of man will have a damaging effect, and the problem is one of meeting both philosophical and economic constraints.*

E. *The Lily Lake project [in Eagle River, Wisconsin] represents an experimental approach to the tradeoff problem between environment and economics—the natural and the behavioral components of the context.*
   1. *Definition of critical site characteristics in terms of slope, soils, water table, education, and priority elements of natural habitat;*
   2. *Definition of supply of developable acreages;*
   3. *Recognition of distance between buildable areas and water areas and possible design features to correct for this disability; and*
   4. *Linkages of site in terms of approach zone, other parkland areas, and other boating lakes.*

IV. *Regulation of development and marketing process is fragmented and relatively uncoordinated both within a state and between states, which leaves many gaps for the unscrupulous and tremendous frustration for the legitimately concerned developer.*

A. *There are local approvals for zoning, septic tank administration, building permits, and acceptance of special responsibilities, such as maintenance of a dam or parks or roads.*

B. *In addition to state approval of plats, states have a variety of other tools for administrative regulation, such as the utility commission, harbor commis-*

sion, highway commission, resource board, shoreline control, legislation affecting registration of title, powers related to state-owned lake bottoms, and a variety of new agencies spawned by concern of the state attorney general for the consumer, such as standard purchase agreements which can be rescinded.

C. *Federal regulation can be explicit or take the form of conditional grants and aid to provide economic incentives for minimum standards by the state.*
   1. *The Office of Interstate Land Sales registration presumes that full disclosure of the facts will protect the consumer—presuming that full disclosure will result in defensive buying decisions and provide a means of conviction for a sin of omission when the laws don't permit prosecution for the real sins committed.*
   2. *Underwriting standards for the FHA Second Home program and through FSLIC or FDIC auditing of institutional loans can also indirectly discourage inferior development.*
   3. *The federal search is on, however, for methods that can prevent development of key resources at all, such as creation of national parks in the Apostle Islands [in Lake Superior, off the Wisconsin coast], wilderness areas on the St. Croix River, and similar devices for the coastline.*

PART VI

INVESTMENT STRATEGY AND DECISION MAKING

Introduction to Part VI

"Equity investment typifies the problem of teaching real estate of any form and investment of any kind because last year's lecture notes are never any good the following semester."

Class Notes—Business 850
January 21, 1987

"For many years to come there will be a great discrepancy among buyers and sellers (or their agents) in their ability to correctly value the present worth of any given property. A significant portion of profits to be made will therefore go to those who understand the requirements of capital investment valuation and the components of risk necessary to apply the present value of money concept to maximum advantage."

"Recent Trends in Real Estate Investment Valuation"
Real Estate
New York: John Wiley & Sons [Ronald Press],
1972

For many years Graaskamp taught a course called "Real Estate Equity Investment," which attempted to touch on the myriad philosophical and practical considerations of investment strategy and decision making. Although Graaskamp is perhaps best known for his insightful work on appraisal and feasibility, he saw these techniques as playing a supporting role to the ultimate process of making an intelligent investment decision. The analysis and conceptual underpinnings were only as useful as the appropriate investment application and execution.

His course on making and implementing a real estate investment decision was exceptional. Many of his students (particularly those not so steeped in the technical aspects of appraisal theory) believed this was the best course they took in their business curricula, and perhaps in their entire educational careers. The instruction consisted of a loose series of anecdotes and examples punctuated by mind-teasing questions and observations. It is not possible to convey through this collection of lecture notes and writings the true sense of the wonder and excitement of enjoying this subject matter with Jim Graaskamp.

In this part we have attempted to cover the various investment issues he dealt with, including portfolio management, limited partnerships, REITs, and pension funds. A good share of the part is made up of class notes. Again, many are not edited or dated, so the reader is required to fill in some of the gaps.

The Role of Investment Real Estate in Portfolio Management

James A. Graaskamp

Contents

I. The Nature of Real Estate and Real Estate Investment
  A. Definitions of Real Estate
  B. Many Dimensions of Real Estate Space
    1. The legal dimension
    2. The physical dimensions
    3. The social dimension
    4. The financial dimension
  C. Economic Characteristics of Investment Real Estate
  D. Trends and Growth Potentials for Investment in Real Estate Space
    1. The demand for real estate
    2. The need for urban facilities
    3. Operating expenses will increase
    4. The high cost of real estate
  E. Source of Return of Real Estate Investment
II. Alternative Media for Real Estate Investment
  A. Mortgage Lending
    1. Savings and loan shares

This brochure was intended for use in the educational programs of The American College of Life Underwriters, Bryn Mawr, Pennsylvania. The factual material in this brochure is presented because of its educational value. Any opinions expressed are those of the author and do not necessarily represent a policy or point of view of The American College of Life Underwriters. ©1970, 1972 by The American College of Life Underwriters. Reprinted by permission.

2. Mortgage collateral trust issues
3. The mortgage investment trust
4. Equity investors speculate in mortgage loans
5. Income-participation mortgages
6. Net worth participation loans

B. Single-Tax Entity Equity Positions
1. Individual fee ownership
2. Tenancy-in-common
3. Joint tenancy
4. Straight partnership
5. Limited partnerships
6. Real estate investment trusts
7. A land contract or contract for deed
8. The option to buy
9. Investment in shares of a cooperative corporation
10. Ownership of a condominium title

C. Double-Tax Entity Forms of Investment
1. A closed corporation
2. Joint ventures
3. Publicly held land development companies
4. Development and construction companies
5. Mobile home manufacturers
6. Publicly held prefabrication companies
7. Building materials suppliers
8. Traditional corporate giants

III. Selection of Real Estate Media

A. The First Level of Decision Making
1. Strategic objectives
2. The time horizon and liquidity preference
3. Property management
4. Legal regulation
5. Risk management

B. Elements of Physical Property Management and Analysis
1. Market trends and opportunity areas
2. Alternative merchandising targets for space
3. Legal-political constraints and alternatives
4. Physical-technical constraints and alternatives
5. Aesthetic/ethical constraints and alternatives
6. Financial constraints and alternatives

C. Professional Counseling for Real Estate Investment
1. American Society of Real Estate Counselors
2. The Society of Real Estate Appraisers
3. The Society of Industrial Realtors
4. The National Institute of Real Estate Brokers
5. The Institute of Real Estate Management

D. Appraisal Organizations
1. The Society of Real Estate Appraisers
2. The American Institute of Real Estate Appraisers

3. The American Society of Appraisers

IV. Basic Strategies for Income Tax Planning for Real Estate Investment
   A. Tax Advantages in Real Estate Investment
   B. Classification of Investor and Real Property for Tax Purposes
      1. Real estate held as a personal residence
      2. Property held for investment
      3. Real estate held for the production of income
      4. Real estate held for a trade or business
      5. Real estate held for sale to customers
   C. Deferral of Income Tax through Real Estate
      1. Accelerated methods of depreciation
      2. The installment sales contract
      3. Deferred payment sale
      4. Sale for an indeterminate price
   D. Deferral or Avoidance of Capital Gains Taxes
      1. Allocated capital gain
      2. Involuntary conversion
      3. Tax-free exchanges
   E. Tax Preference and the Real Estate Investor
      1. The limitation of income tax deductions
      2. The minimum tax on tax-preference items
      3. A variety of miscellaneous provisions

V. Investment Valuation and Forecasting Methods
   A. Investment Decisions—Buy or Sell at a Price
   B. Real Estate Brokerage Pricing Concepts
      1. The gross rent multiplier
      2. The net income multiplier
      3. Sale price multipliers
   C. Professional Appraisal Evaluation Methods
      1. The market approach to value
      2. The income approach to value
      3. The cost approach to value
   D. The Great Debate—What Are Income, Yield, and Risk?
      1. The broker's rate of return
      2. The Inwood method of discounting
      3. Discounted actual after-tax annual cash receipts
      4. The internal rate of return
      5. The modified internal rate of return
   E. Investment Real Estate Counseling Guidelines
      1. Percent initial equity payback after tax
      2. The default ratio
      3. The net income to market value ratio
      4. Bonus interest rate
      5. Cash returns on original cash equity
      6. Returns on net worth before and after taxes
      7. The present value of the project before and after taxes
      8. Equity rate with cost of capital
   F. Real Estate Investment Value Conclusions

Investment decisions in regard to real estate are gravely mismanaged by a majority of investors due to the emotional mystique that surrounds real property ownership and the difficulty of obtaining and analyzing the mass of information necessary to make a sound investment decision. Much of the risk in real estate investment is created by inadequate research and organization of factual data so that expectations are unknown rather than unpredictable and the surprise potential inherent in planning for the future is unnecessarily magnified.

I. The Nature of Real Estate and Real Estate Investment

A. Definitions of Real Estate

Some bright young man invented real estate the day he rolled a rock across the entrance to his cave, thereby creating an attribute for his cavern that was not found in nature. It is not known whether he sought to exclude the chill winds or his enemies, to create privacy or status, or to reduce his fuel costs. Nonetheless, the movable rock was an artifice to manufacture space to house some of his activities. Today the essence of real estate is still space, for this is the usable commodity created by the intersection of land, wall, floor, and roof planes.

Real estate is therefore space to contain an activity, space artificially defined and delineated by survey and structure from the natural world in which we live, and described by reference to a specific and fixed locus point on the surface of the earth. Some of the earliest records of society indicate the first improvement to land has always been a survey monument, with techniques ranging from some great pylons on the Nile, to reference to giant trees, to early U.S. government township surveys, and now electronically established coordinate grids and long legal documents for condominium plats.

Real estate has gone far beyond the concept of land as the seed-bearing surface of the farmers' fields or the physical structures placed on the land. Real estate as we know it is related to land simply for a fixed point of reference with which we can locate and identify mineral resources deep in the crust of the earth or airport landing approach zones high above normal building heights. The infinite variety of activities which civilization must house or accommodate requires that the spatial attributes we create by artifice be highly adaptable and easily assembled into distinctly different economic commodities. Real estate investment becomes concerned with the manufacture of a multidimensional product involving the right to benefit from complex space-money-time relationships.

B. Many Dimensions of Real Estate Space

While the dimensions of real estate begin with the intersecting planes of solid geometry, the structures operate within force fields of law, finance, time, environmental perception, and social ethics.

1. *The legal dimension* of real estate is concerned with the rights to use or benefit from certain space attributes and, since the physical real estate is immobile by its nature, it is often the legal rights which are treated as an economic good transferable from one owner to the next. The language of these legal rights has its origin in early European history and English feudal law, but the substance

of real property rights is shifting dynamically without changing the old semantics. The legal dimension therefore refers to two basic issues: *access*, or the allocation of decision-making prerogatives arising out of the right to occupy the land or to control its use; and claims on the benefits or income arising out of ownership.

Specific property rights have no inherent ability to preserve themselves without enforcement through various mechanical agencies created by society. The legal substance of fee-simple ownership, i.e., private access and claim rights, therefore, undergoes continual evolution through interaction of social values, political structures, and economics, which modify these agencies to advance the general welfare. Private investment in real estate provides access and claims to benefits of specific space components to individuals, partners, or corporate entities who may benefit to the exclusion of all others but with significant qualifications.

All land is assumed to have once been the property of the state, and these lands went into the private market with the qualification that first priority to occupy is retained by the state via the process of eminent domain. Further, the first priority to control its use is held by the state through its police powers, and first claim upon the productivity of the real estate is reserved for the state via the power of taxation, principally the real estate tax. Thus, the nature of private property is more easily defined by what it is not, rather than by what it is. The dimension of a real estate investment in terms of access and claim may quietly diminish as the legal dimensions of public access and claim are expanded for the general welfare[1] of a population growing ever more intense in its utilization of a commodity in fixed supply.

2. *The physical dimensions* of real estate, of course, begin with the elements of solid geometry, because real estate as a manufactured commodity begins as cubage of enclosed space. However, this space has the fourth dimension of time, which makes it a perishable commodity. Thus rents may be quoted per square foot of space per month or year, motel rooms per night, or dormitory rooms per semester. Real estate is a space-time product, and time becomes the common denominator for the financial dimension. Space-time is not sterile, but rather contains a variety of qualitative attributes. The public warehouseman is more directly conscious of the utility value of cubage for stacking pallets, and the building maintenance engineer is more sensitive to the environmental qualities or attributes which must be given enclosed spatial volumes to provide proper temperature, humidity, light, color, room forms, and textures.

The artificial space which is manufactured for real estate investment more and more represents the total environment of man. To live in an urban environment is to live entirely within a manmade world where great expense must be incurred to preserve small pieces of the natural physical world intact, or nearly so, as an arboretum, a vast wildlife refuge, or a miniature classroom aquarium. The physical attributes of real estate are, in the aggregate, the aquarium of mankind.[2]

3. *The social dimension* of real estate was long smothered in the romantic American tradition of vast unsettled lands where a man could move on to a new wilderness if he had neighbors on the other side of the hill. An explosive population growth and shift from rural to urban employment has created increasing and massive interdependency, and it is now becoming clear that there is an

interaction between behavior of people and the condition and form of artificial space within which they live.[3]

Cities are an aggregation of individual real estate decisions, masonry reefs in the sea of mankind built of many little structures and individual development decisions. The late Sir Winston Churchill summarized the case in "we shape our buildings and they shape us." We have built our cities to date without knowledge of how our artificial habitat is affecting the chemistry and sanity of man, but there is now scientific evidence that it does so in profound ways. Thus, there is a severe ethical constraint placed on the freedom of choice of the investor operating in real estate. The fabric of our buildings and land is the product of our real estate investment decision-making process and becomes the ecological base of all future life.

4. *The financial dimension* of real estate is readily apparent when space is understood as a manufactured product in a price economy, and responsive to the price and quantity of available inputs and expected demands. Allocation of capital in a market economy is concerned with elements of risk and rates of return for a manufacturing process which in real estate requires high capital expenditure and continuous and unpredictable operating budgets. Any business activity is a money cycle of cash to raw material, to good-in-process, to inventory, and then to sales and collections, and back to cash.

The dominant characteristic of real estate investment is that, as a business with a cash cycle, its expectations span several generations; an inventory of apartments to rent must be merchandised for 40 years or more before all the cash spent on construction has filtered through the cash cycle and back to investable cash once again. Thus, money-over-time introduces present-value concepts and compound interest as a dominant dimension of real estate investment.

Whether it is real estate or spaceships to the moon, American industry will build what it can finance, and it can finance whatever can be merchandised to serve social priorities in order to complete the cash cycle. Poor use of land, just like the poor use of government tax resources, reflects the values of the consumer more than those of the producer.

C. Economic Characteristics of Investment Real Estate

Real estate is generally regarded as a risky enterprise, although the layman cannot express why this is so.[4] A prime characteristic of a parcel of land is its *immobility;* the entrepreneur is unable to move the land and all its desirable features to where the people will pay to use those features, or conversely to move the land away from the adverse influence of an oil refinery or deteriorating neighborhood. Thus, all real estate investment is highly vulnerable to environmental changes beyond its borders and largely beyond the control of its developers to prevent or mitigate.

In many ways the buildings on these sites suffer *inflexibility* due to the problem of converting physically obsolete units, such as a five-story warehouse, or downtown hotel or auto dealer display facilities in a particular neighborhood. Unfortunately, most real estate has excessive *durability;* the home styles of 1920 may no longer be fitting to the lifestyle of the 1970s, but the buildings are still sound while the neighborhood has waned in desirability for lack of large lots, or curvilinear streets, or attached garages. It might be better to have housing

structures that would be salvageable each 20 years as paper pulp and scrap iron rather than to freeze in brick and mortar concepts of the good residential life that were made obsolete by changing social patterns.

The *complexity* of any individual real estate parcel is underscored by considering the vast networks of streets, utilities, and city services for security and education that support it. The complicated building structure is time-consuming to build and requires constant maintenance for even a simple frame residence. The complexity is increased by the nonstandardized, nonindustrialized building processes by which real estate is created and maintained.

As a result of these qualities, units of real estate are high in capital cost with insatiable demand for long-term credit, while durability leads to prolonged expectations of income and gradual amortization of capital investment from future income. This prolonged payback of capital means long-term exposure to the dynamics of a changing society to which the real estate cannot readily adapt due to its immobility, inflexibility, durability, and complexity. Constant adaptation to changing outside circumstances requires ever-constant management attention, and the ability of real estate investment to glide through economic adversity can be likened to the helicopter which in the absence of power and pilot control has the natural glide angle of a falling brick.

Nevertheless, some philosopher has pointed out that "everyone must be someplace," so people are generally willing to pay if necessary to have a place on this earth on which to stand, to live, to work, to play, or just to park the car while mailing a letter. Space in which to exist is the most basic public utility of all and thus, despite its relatively unattractive physical supply characteristics, real estate investment benefits from some rather interesting and potentially profitable demand characteristics.

Since each building and each site is unique to some degree in terms of its ability to satisfy location preferences in the marketplace or to provide features and services desired by some special group, much real estate has some potential for *monopoly pricing*. This economic characteristic is aided and abetted by the lack of adequate market information and the irrational motives of people in the marketplace seeking prestige or short-term convenience at almost any cost.

D. Trends and Growth Potentials for Investment in Real Estate Space

The profit potential in real estate investment depends on the ability to sell or rent real estate at a price exceeding the cost of operating and the cost of financing the real estate in question. Considering rental real estate for purposes of discussion, potential revenues for rental properties during the decade of 1960 to 1970 were typically allocated as a percent of gross rent as follows:

Vacancy	5%
Operating cost	25%
Real estate taxes	20%
Interest	25%
Principal payments	15%
Cash profits	10%
Gross rent	100%

Rent levels will be sensitive to demand and price inflation while expenses are particularly vulnerable to real estate tax trends and the cost of borrowed money, which together absorb 60 percent of gross revenue dollars. The potential for real estate investments in 1970 to 1980 is mixed when these relationships are analyzed further.

1. *The demand for real estate* is a direct function of size and demography of population and the disposable income of space users. Figure 1 suggests the pressure of population growth in the United States. Although birth rates are dramatically falling, it appears that by 1985 our population will be approaching 250 million, and by the year 2000, population in the U.S. will be nearing 285 million persons, a double-edged sword of marketing opportunity and ecological disaster. Further, 85 percent of the entire net increase will be concentrated in 12 major urban regions so that growth plus increasing density will generate constant demand pressure on existing and to-be-constructed urban facilities. Tabulation according to the distribution of this population growth by age groups further magnifies pressure on metropolitan-urban suburbs and expansion at high-rise densities in the core area because growth will be occurring in the 15 to 24 age group (apartment dwellers) and the 25 to 44 age group (homebuyers and luxury apartment dwellers).

This market does not depend on future fertility assumptions but represents people already born who will require high-standard residential and employment facilities. One analyst suggested that those with doubt about the demand for real estate fly over their existing city and ponder on the fact that for every building which can be seen, another of equal capacity must be built by 1985. Countless government reports are postulated on the need for 26 million additional dwelling units by 1978, including 6 million to be subsidized for the benefit of low- and moderate-income families.

Rent levels will not only be favored by strong demand-pull upward but will further be driven upward by a cost-push spiral due to a relentless inflation of construction costs and operating expenses. Residential rents and commercial-retail property rents are sensitive to retail price levels due to monetary and fiscal policies, but the inflation that has proven to be so profitable to real estate investors in the past represents the major threat to profitability and real estate investment in the future. The demand-pull and cost-push pressures will mean that nationwide *need* for space is not equivalent to *effective* demand for space, i.e., the ability to pay the price required to obtain a specific type of real estate. Secondly, continued inflation will further restrict the accumulation of savings, which is the prime source of real estate credit with which to finance investment.

2. Historically *the need for urban facilities* in the United States has made real estate the major investment depository of accumulated national wealth,[5] and the construction of new real estate and all other required supporting facilities such as streets, utilities, schools, and highways absorbs the majority of new capital accumulated from savings each year. Indeed, the average family spends 25 to 30 percent of its disposable income on housing costs, while industry is reported to have invested 16 percent of its capital assets in real estate and to pay 6 percent of gross national product to house its operations.[6]

For example, a newly constructed three-bedroom house would cost a minimum of $18,000, and the total housing cost for purchase and operation of

FIGURE 1
PERCENT POPULATION CHANGE, BY AGE, ENUMERATED AND PROJECTED POPULATIONS, SELECTED DECADES, 1890 TO 1990

	Enumerated Populations			Projected Populations		
Age	1890–1900	1930–1940	1950–1960	1960–1970	1970–1980	1980–1990
Total	21.4	7.6	18.8	13.4	11.1	12.4
0–4	20.1	–7.2	24.4	–13.5	17.6	14.6
5–14	16.1	–8.4	44.6	15.5	–11.7	21.4
15–24	16.8	6.9	8.4	47.5	15.2	–11.4
25–44	26.3	10.1	3.9	2.4	29.2	27.2
45–64	27.0	22.3	19.3	15.5	3.2	3.2
65 and over	27.4	36.4	32.0	17.6	17.8	17.1

Sources: U.S. Bureau of the Census, "Projecting the Population of the United States by Age, Sex, and Color to 1990, with Extensions of Total Population to 2015," *Current Population Reports, Population Estimates*, Series P-25, No. 359, Feb. 20, 1967. Published in Irene B. Taeuber, "The Changing Population," *Urban Land*, July–August 1967, pp. 15–21.

such a house at interest rates of 8.75 percent will exceed 1.5 percent of value per month or $270 a month, which in turn requires a family income of at least $12,000 a year. For a business example, consider that it would be impossible to build high-rise office space for rent at less than $7.50 a square foot unless the owner-developer were a financial institution which could provide money for its building on terms not available to a nonfinancial developer. Moreover, these occupancy costs for homeowners and businesses can be expected to rise more steeply than income or business profits for reasons related to the real estate tax load implied by solutions to the urban crisis.

3. While *operating expenses will increase* with general price levels, real estate taxes can be expected to rise more quickly than general price levels or to be converted into more oblique income taxes on wealth. The urban crisis is more than the issues of poverty and de facto segregation, for it is the technology of basic city services that has become seriously inadequate. Water-flushed sewage systems must be supplanted by alternative procedures such as vacuum tube systems, on-site processing of wastes, recycling procedures for water, and extensive processing of industrial fluids. Population size by 1980 will make such innovations mandatory, as both present sewage treatment systems and natural surface waters will be physically incapable of absorbing the wastes of the 1980 population level. Air pollution is primarily a consequence of depending on fossil fuels for electrical energy and automobile engines. The cost of electricity will rise, and electricity may well be rationed as capital costs for pollution control soar and ecological concerns hamper construction of additional power plants.

By 1980 there will be severe regulation on size of automobile engines and hence the nature of automobiles; a shift in driving behavior patterns and a shift in the modal split between public transportation systems and private autos will have a pronounced effect of the shape of our cities,[7] the nature of public capital

investment in roads and rails, and hence the pattern of real estate values within urban areas. A shift in transportation patterns and reconstruction of our sewer, water, and power-generation systems will require huge public capital expenditures and will lead to further concentration of urban populations, with cities tending to grow up in the air rather than sprawl into the hinterland rural areas. Higher densities will require further public investments in recreation facilities and education plants.

The result can mean only one thing—rising real estate taxes or indirect taxes on urban dwellers, reducing their disposable income and effective demand capacity for real estate. Grass-roots political pressure for reform of the real estate tax suggests that some part of the educational and welfare costs of the community will be shifted to state or federal income taxes. An abrupt shift might create some windfall profits in long-term leases; the wise tenant should negotiate terms which could escalate down as well as up. As income taxes on real estate profits rise, however, nonprofit housing would enjoy significant cash rent advantages from interest subsidy and tax relief relative to private rental housing.

4. *The high cost of real estate* requires a high proportion of credit. Most of the capital wealth in America is in its cities, 60 percent of which is mortgage credit. Housing is the largest single item of national wealth, valued at over $400 billion, which is twice the assets of the country's 500 largest companies. Newly constructed housing absorbs a fifth of the capital expenditures each year, so the raw material of real estate investment is money. It is doubtful at this time if the supply of money or the cost of money will be adequate to support real estate investment sufficient to meet the needs for space.

Interest expense on borrowed capital represents 25 percent of gross rent collected on investment real estate; therefore, the productivity of investment capital in real estate is highly sensitive to prevailing mortgage interest rates. Indeed, the principle of leverage is applied to real estate equity investment more extensively than in any other investment field.

Leverage depends on the spread between the productivity of capital at work and the interest cost of borrowed capital. If real estate earns 12 percent on total investment and interest and principal payments on a 5.5 percent, 25-year mortgage equal 7.5 percent of invested capital, the developer-investor enjoys a 4.5 percent return on every dollar supplied by the lender. This spread, or leverage, is very sensitive to rising real estate taxes, interest costs, and rent controls so that cash earnings from real estate investment can easily disappear in communities with high real estate taxes during periods of deflationary government policies.

Since most of the problems facing America require solutions that will consume vast amounts of private and public capital, it is reasonably certain that the demand for capital will maintain relatively high interest rates, causing severe inroads in real estate profitability and therefore a constraint on the construction of new supplies of urban space. In the face of a population expansion in those age groups requiring space, the demand-supply function will bring about an increase in rents that will further reduce effective demand in a free market. Given the scale of the problem, it is not unreasonable to assume extension of government interference with the real estate market in the form of rental subsidies, rent controls, and manipulation of construction priorities by means of government loans and government-subsidized interest rates.

One group of economists[8] has estimated that the total new investment required to meet conservative urban renewal and expansion needs will require $1,300 billion for buildings and facilities through 1985. To create sufficient savings for such investments, a significant number of assumptions must be made regarding individual and corporate income, the propensity to save, and the distribution of savings through the private or public machinery in real estate finance:

1. There would need to be a steady growth of GNP of at least 3 percent per year and a productivity increase of 2 percent.
2. If government subsidies are to be minimized, private investment would have to increase from 12 percent to more than 19 percent of GNP, of which 14 percent would be needed just to meet expected population growth.
3. As a corollary to private investment, there would have to be some restriction on the growth of private per capita consumption and the governmental share of GNP. The conservative must hope there will be high voluntary savings and investment rates.
4. The governmental share would still require reduction in military spending, space exploration, and farm subsidies.
5. At the same time that mortgage debt would increase, it would be necessary for consumer debt on autos, appliances, etc., to decrease.
6. If federal subsidy is not to prevail, the local real estate tax base must be bolstered by high corporate investment in real estate, encouraged perhaps by income tax incentives.
7. Assuming voluntary savings and voluntary investment can be generated, the structure of debt would be greatly altered and the government would need to have primary responsibility for coordinating the flow of credit to needed investments and to the intermediaries who make these investments. It would need to control interest rates with greater selectivity than the Federal Reserve Board does today, perhaps by means of a central mortgage bank.

Forecasting the mobilization of money resources is subject to all manner of errors, but the above requirements were stated for the 1965 to 1980 period and have not been realized in any of the five years since. In the last quarter of 1969, the federal government directly or indirectly was responsible for the majority of new residential mortgage money.

Thus, real estate investment for 1970 to 1980 is in the ironic position of offering the equity investor an opportunity to exploit the monopoly potentials of location and the oligopoly of new space and high leverage during a period of forecasted inflation, while at the same time threatening confiscation of profits via increasing real estate taxes and price control as a cost of federal financing aids during a period of real estate credit shortages.

One final trend in the revolutionary pressures placed upon the real estate industry is the latent shift of construction from small-scale craft enterprise to capital-intensive industrial-scale enterprise. In every aspect of real estate, there is a trend toward increasing scale and sophistication: 24-unit apartment buildings are preferred to duplexes, 200-unit apartment complexes with supporting recreational facilities are preferred to 24-unit complexes, prefabrication is increasing in importance relative to site assembly, and small subdivisions have yielded to large planned unit developments involving multiple land use types. Large subdivisions have yielded their glamour to construction of new towns; local builders

have merged into national combines of building material suppliers and land development firms. Many of the major corporations in America are rapidly expanding their real estate investment divisions; in the quest for investment capital, real estate has been innovating a vast variety of financial devices to attract risk capital which will be passive in regard to management responsibility.

Thus, equity investment in real estate may gain a diversity of alternative investment and estate planning attributes that will attract many investors who would never buy land or operate rental property under any circumstances. Before examining these alternative media for investment, it is first desirable to examine the various profit or investment returns which are inherent in real estate in one degree or another.

E. Source of Return of Real Estate Investment

Much real estate is moved into the hands of investors by the real estate fraternity on the strength of its *psychic income,* i.e., the pride of ownership, the security emotionally inherent in landownership, and the popular mythology of real estate as the primary source of wealth in America. However, the intangible, personal, and emotional returns from real estate investment are not the stuff of financial planning, estate building, and investment economics. Instead, real estate must be regarded as a capital investment which represents the present value of a stream of future *cash income* returns—specifically cash return to the equity investor after tradesmen, mortgage lenders, local and national governments, and other partners with prior claims have received their share of capital productivity. Investment returns must be the spendable cash after taxes which the investor enjoys due to his investment in a specific property. After-tax spendable cash in real estate may come to the investor over time in irregular amounts from four sources:[9]

1. Positive cash flows remaining from normal operational revenues over successive periods of time.
2. Positive net worth received as proceeds on sale of the property after debt and capital gain tax claims have been paid at a single point in time.
3. Surplus proceeds not subject to tax derived from refinancing of an existing mortgage balance with a larger loan balance at infrequent points in time.
4. Spendable cash salvaged from other income subject to income taxation unless shielded by tax losses generated from real estate ownership over successive periods of time.

While after-tax spendable cash will represent the direct claim benefits from real estate investment available to the investor, it should be noted that power to control or divert expenditures may be a more valuable but concealed return of an ownership position. Any outlay for the real estate project is income to somebody. The most valuable profit centers may lie in the upzoning of land, the construction profit for the general contractor, the management fees for the property manager, the insurance premiums for fire and casualty coverage, or mortgage servicing fees.

The highest rates of return in real estate are made by those involved in the creative process of developing and managing real estate and not by those who buy in for the long-run investment with a relatively passive management role. Profitability depends on which profit centers the investor will retain and which

will remain the specialty of others. These profit centers generally require little or no front money and represent a significant portion of the wealth accumulation power which lies behind the mythology of quick profits in real estate. Yet the equity investor seldom participates in these profit streams.

Another hidden source of return in real estate lies in its ability to create captive markets for other goods and services, a *peripheral income* which seldom goes to a disinterested passive investor. A residential subdivision creates a captive market for a convenient shopping facility, a mortgage banker, a property insurance salesman, or a private utility company. An apartment building creates opportunity for furniture sales, construction contracts, and property management contracts; an office building for a bank can secure business contacts by leasing to attorneys, insurance men, and others with a high frequency of banking activity. Proximity often means convenience, and convenience combined with consumer inertia offers real estate many monopolistic opportunities for related businesses, reducing business acquisition costs and increasing profits accordingly.

Alternative forms of real estate investment can be analyzed in terms of the types and significance of each of the alternative returns above. Since all returns must be valued on a present-value basis, the sooner the investor receives his cash profits, the higher his true investment yield. Time becomes a relentless dictator in the execution of real estate investment strategies. No investor should better understand the implication of the power of compound interest to create estates or devalue future returns than a counselor with a thorough understanding of life insurance. For example, most experts agree that the value of raw land must double every three years[10] to cover carrying costs and a 15 percent annual compound yield, which is quite different from saying the investor enjoyed 100 percent capital gain in three years.

II. Alternative Media for Real Estate Investment

To expand the sources for real estate credit or equity risk capital, real estate finance men not only are relying on traditional forms of real estate investment but are creating a bewildering array of new financial instruments and financial institutions. Unlike registered securities such as stocks and bonds, the traditional mortgage form has always been regarded as a private contract which may take virtually any form, subject only to usury limits, the requirements of a recordable document, and the common law of contract interpretation and foreclosure. As a result, mortgages have evolved into complex instruments that give the investor the rights of a creditor while providing some share in the profits of ownership. Equity ownership itself is evolving to adapt to the subtleties of the federal income tax, federal financing subsidies, and the need to harness the real estate management talent of one group to the capital resources of another by explicit negotiation on those basic principles of business organization regarding limit of liability, centralized management, business continuity, and marketability of ownership interests.

No other field of finance has been more innovative in the decade 1960 to 1970 than real estate finance, and the stage has been set for responding to the massive capital requirements of real estate in the next decade. For purposes of

brief description it will be useful to classify instruments for investment within the general areas of mortgage lending, single-tax entity equity positions, and double-tax entity forms of investment.

A. Mortgage Lending

1. *Savings and loan shares* represent mutual ownership of a mortgage portfolio. Unlike a depositor in a commercial bank or a mutual savings bank who has the legal status of a creditor, the owner of a savings and loan account has an ownership participation in a mortgage portfolio. Generally the distinction is technical because most associations redeem certificates on demand, but it is not necessary to do so. Mortgages may have repayment terms extending 25 years or more, and in practice the assets of a savings and loan turn over every eight or nine years.[11] Since about 80 percent of their investments must be mortgages, as government regulations do not permit any other alternatives, an association is making short-term commitments to savers and long-term commitments to borrowers.

For many years, government regulation controlled interest rates payable to savers in both bank accounts and association savings accounts so as to place a slightly higher yield on savings and loan accounts. As a result, savings and loan shares became a dominant type of thrift savings account and the largest single source of residential mortgage loans, generally financing the construction of its local community.

Since 1966 long-term interest rates have placed savings and loans at a disadvantage in attracting savings. The progressive associations have responded by creating a variety of new savings instruments which can yield as much as 7.5 percent if there is agreement to deposit funds for as long as two years and maintain minimum $10,000 to $100,000 balances, depending on the savings plan. In addition, savings and loans in some states have joined to create regional development corporations to perform complete land development and property development operations and to merchandise real estate services such as appraisal or computer assistance. Many savings and loans are pushing for conversion to status as mutual savings banks to provide more flexibility of investment alternatives and more banking services to attract savers.

As a result, the investor must carefully analyze which of a dozen different savings plans would provide him the best mix of liquidity, yield, government-guaranteed safety, and freedom from continual management review. Of course, dividends received on savings deposits are taxable as ordinary income, but as part of the government effort to attract savers to real estate lending intermediaries, there is considerable pressure to provide some tax exemption to dividends from a mutual savings and loan association. The investor should remain alert for further developments in the once-prosaic savings and loan deposit share in an industry now seething with competitive innovation.

2. *Mortgage collateral trust issues*[12] represent a new and fast-growing method of pooling mortgages and selling certificates of participation to larger investors, particularly institutional investors such as insurance companies, pension funds, and endowment funds. A mortgage banker who specializes in the origination or servicing of mortgages will deposit in escrow mortgages of residential or occa-

sionally commercial property to secure trust or bondlike investment securities. These are purchased by those who wish the higher yields which may be available from mortgages relative to the industrial or utility bond market, without incurring the messy responsibility for paperwork and collection and servicing problems.

Under a new program the federal government, through its agency the Government National Mortgage Association (GNMA, Ginnie Mae), will insure the investor as to his principal, the on-time payment of interest, or the on-time payment of interest and principal on what are called "modified or fully modified pass-through trusts." The investor may choose the guaranty method to fit his need for accuracy of liquidity forecasting, for absolute safety of principal, or for maximum yield while avoiding nearly all the burdensome processing of mortgages.

These new instruments of finance were first tried in 1970 and are expected by the mortgage-banking industry to become a major device for financing government-insured mortgage investment as well as more conventional mortgage loans. Interest paid to the investors is taxable as ordinary income but, should interest rates fall, certificates of interest would rise in price just as bonds rise as required yields fall. Since the certificates of interest can be sold, they have the possibility of providing a capital gain for the investor speculating on long-term interest trends, a feature which is not true when investing in savings and loan mortgage pools. In the latter, the investor's money is continually reinvested at current rates rather than returned as mortgages are amortized, as is the case with collateral trust issues.

3. *The mortgage investment trust* (MIT) is a form of the real estate investment trust (REIT), which is the real estate finance answer to the mutual stock fund. Ownership of an MIT share is an equity position in a development mortgage bank, and during 1969 and 1970 more than 50 of these organizations were created. Wall Street floated $750 million of new shares in MITs. While some of the older MITs invested in portfolios of residential FHA-VA loans, the new breed specialized in either long-term participation loans on income properties or higher-risk, short-term loans for construction and development periods, or what is called "interim financing," for the developer during the construction phase of the project. Lending during the construction phase is a highly specialized form of real estate finance due to the variety of construction risks, lien risks, and marketing risks which are inherent in a real estate project in formative years.

Mortgage trusts practice both debt and equity leverage. Construction and development loans may provide a spread of 3.5 percent over borrowing rate, covering a 1.5 percent management fee and 2 percent leverage on debt. At the same time, if market value of a trust share commands a significant premium over original issue price, a new stock issue will increase the book value and returns on outstanding shares. Management must determine which form of leverage to employ in each stage of trust growth, given a forecast for interest rates, but trusts enjoy opportunities for leverage and growth both in rising and falling markets.[13]

The trust avoids income or capital gains taxes if it pays out 90 percent of taxable income as defined by IRS, while beneficiaries are taxed on distribution of ordinary income and of capital gains separately and depreciation distributions, if any, are treated as a return on investment. Many believe that the decade of the 1970s favors investment in income property mortgages with participations in gross revenue because equity shares in cash after-debt service will be eroded by

rent controls, rising operating costs, and real estate or income taxes. The largest insurance and banking institutions in the country are moving rapidly into this form of investment company operation.

4. Some *equity investors speculate in individual first or second mortgage loans.* While technically in the position of a creditor, the investor in a delinquent first mortgage or a second mortgage usually invests much less than the face amount of the loan. For example, a second mortgage may sell at a discount of 25 percent, so that the borrower is not only paying a premium interest rate on the face amount of the loan (say $4,000) but, in addition, will pay back $1,000 of principal more than he received ($3,000). Thus, the investor can write off losses directly against income as a bad debt but stands to gain regular interest income and an increment in his capital on repayment.

Land contract discounting is similar to purchase of mortgage interests, except that legal title of the collateral property is in the hands of the investor and possession of the property can be quickly reclaimed in the event of default by the buyer-borrower.

5. *Income-participation mortgages*[14] are perhaps the most interesting hybrid financial instrument to appear during the 1960s. As a general rule, these permanent mortgage loans on rental real estate provide mortgage money at a contract rate of interest plus a "supplementary" or "bonus" interest computed on some formula each year. The formula is based on effective gross rent collected, the increase in the effective gross rent collected, or net income after various specified deductions, including contract principal and interest payments. Alternative types of contracts call for 4 percent of effective gross, or 50 percent of the increase in the gross rent schedule, or 40 percent of net income.

The lender generally waives his right to collect bonus interest if the total interest he would collect would violate usury levels or require more cash than the investment was generating from rents after all charges to revenues. The mortgage lender is therefore in the interesting position of creditor in regard to his capital investment and basic interest return and contingent partner in sales and profits without liability for losses. Such loans reduce exposure of the lender to monetary devaluation due to inflation, because rental projects are sensitive to retail price levels, particularly apartments, retailing outlets, and motels.

In addition, the base for participation might rise due to increasing preference for the location of the property, the amenities offered, or the good management of the developer. The borrower may gain the benefit of more generous loan amounts, complete package financing including construction loans from a single source, and opportunity to build a project of larger scale or more opportune timing than he could otherwise have done. Since mortgage lenders are providing from 80 to 100 percent of the money required for the project on long-term commitments during a period of inflation and in a field of considerable business risks, supplementary interest formulas are a logical way of interpreting the basic maxim that profits go to the risk taker.

6. *Net worth participation loans*[15] provide credit to the borrower at a contract rate of interest and repayment with supplementary consideration in the form of a share in resale or refinancing proceeds. If property values rise as loan balances are repaid, net worth of the ownership position will be increasing steadily. At some point the owner will seek refinancing to receive a tax-free cash

surplus, or he will wish to sell to realize his capital gains. In either event, the original mortgage loan will be repaid with any prepayment penalties due and, in addition, the lender would receive a share of the proceeds in excess of developer's own actual cash equity, ranging anywhere from 15 to 50 percent. This "equity kicker" or "mortgage sweetener" may take the form of stock warrants attached to the mortgage, a partial purchase option on the fee title, a prepayment penalty clause, or a joint venture agreement underlying nearly 100 percent financing. Life insurance companies have made extensive use of income and net worth participation loan forms to create credit instruments that are sensitive to inflation pressures and a rising long-term capital interest market but which are usually classified as traditional mortgage loans rather than as "special situations."

The practice of sharing in appreciating equity values began with private placement of industrial financing for which growth firms paid a sweetener in the form of stock warrants attached to industrial bonds. Thus, mortgage loan asset accounts may contain significant but unrecognized potentials for appreciation and investment dividends. Moreover, these types of loans are intensively utilized as part of various joint venture and intrasubsidiary operations.

B. Single-Tax Entity Equity Positions

The form of ownership of a real estate investment can have an infinite variety of attributes and definitions, but it is useful to classify alternative forms as to whether the profits or losses from the real estate are taxed only once in the name of the investor or are subject to taxation twice, once as a business return and again as a dividend to the investor. The question is broader than the position of individuals versus corporate ownership, for the Supreme Court has indicated that any enterprise can be regarded as corporate by consideration of corporate characteristics, which are

1. Associates (two or more partners)
2. Business operations for a profit motive
3. Continuity of life
4. Centralization of management
5. Limited liability
6. Free transferability

The first two factors are common to both a single-tax and a double-tax entity. If a partnership or association has three of the last four corporate characteristics, it will be deemed a corporation by the IRS and therefore a double-tax entity.[16] The ease with which ordinary income, capital gains, refinancing surpluses, or tax losses can be carried over to individual tax returns is often of paramount concern, although limited liability or shielding the identity of the primary investor from the public may be countervailing factors.

1. *Individual fee ownership*[17] clearly places revenues, expenses, liability, and continuity in the hands of one owner. But the owner may delegate management to another, although most matters will remain at the discretion or whim of the owner.

2. In *tenancy-in-common*, two or more persons share undivided interests in the property with the same financial results as individual fee positions but with the additional complexity of requiring all significant decisions in regard to sale,

refinancing, etc., to be jointly signed by owners with the exception of estate transfer, since there are no inherent survival benefits.

3. *Joint tenancy,* available in some states primarily for family relationships, represents the same situation as a tenancy-in-common but with the interest of a deceased joint tenant going to the tenant who survives.

4. A *straight partnership* form of ownership varies from tenancy-in-common or joint tenancy because the partnership agreement can control rights of heirship, decision processes, dissolution procedures, etc., but gains these advantages at the expense of unlimited liability of each partner for the acts of any of the associates, regardless of their expertise or agreements within the group as to responsibilities. The partnership agreement can define the proportions of profits and losses allocated to each partner so that the partnership business accounts serve only as a conduit of proceeds and losses to the individual tax returns of the partners.

A Subchapter S corporation[18] permits incorporation of such an arrangement to achieve limited liability for the partners so long as the corporation has 10 or fewer shareowners, all of whom explicitly consent to being taxed as though it were a partnership. However, this option is not available if 20 percent of the gross receipts of the business are primarily from rents, interest, or dividends. Thus, Subchapter S has only limited application in land development or nonincome property situations or business real estate, such as motels.

5. *Limited partnerships* are a popular alternative in real estate investment, as they provide for delegation of management responsibility to one or two with expertise and for limited liability to those providing only capital without active management. The group will need to choose its other attributes carefully lest it enjoy too many of the attributes of a corporation, which would expose the partnership to corporate taxes and a double-tax status.

Elaborate limited partnerships organized and promoted by mortgage bankers or real estate brokers are often referred to as "syndicates."[19] Syndicates are often priced as the present value of the tax-shelter savings plus a relatively minor cash return and are sold by developers and "packagers" to investors who have a fetish for reducing their first-year tax bracket. While many of these limited partnership shares are sound investments, the investor should never lose sight of the profit centers which are retained by the developer, property manager, and mortgage lender which cause possible cash income to be highly volatile.

The limited partner is trusting his money to others who have real or potential conflicts of interest without the liquidity which permits a vote of no confidence as one may do in the stock market by selling one's shares. This year's welcome tax loss could be a very real capital loss next year for the investor in a limited partnership share of a marginal project.[20] Investors must be wary of projects whose only economic justification lies in short-term tax considerations.

While limited local partnerships flourish, regional and national syndicates are fading from prominence because of a variety of management and financial difficulties which can be reduced by utilization of real estate investment trusts, joint ventures, or corporate organizational forms.

6. *Real estate investment trusts*[21] were created by act of Congress in 1960 to provide a single-tax real estate investment conduit with full corporate characteristics to accommodate a number of old-line Massachusetts trusts which invest

in real estate and to provide an alternative to the real estate syndicates, which were suffering a variety of management, financial, and regulatory problems. Both the Internal Revenue Service and the Securities and Exchange Commission, as well as state security commissions, regulate the specific conditions of REIT operations, which greatly reduce the discretionary alternatives of management. Some of the significant regulatory constraints include

1. The trust avoids income or capital gains taxes if it pays out 90 percent of taxable income.
2. Beneficiaries are taxed on distributions of ordinary income and pay capital gains taxes on capital gains.
3. Ownership must be distributed among a minimum of 100 persons, and no five persons can control more than 50 percent of the ownership.
4. Seventy-five percent of the total assets must be represented by real estate assets, including mortgages, cash, and government securities.
5. No more than 30 percent of annual income can be from short-term trading in stock or real estate.
6. The trust is prohibited from active ownership or operation of a trade or business, which rules out profit sharing, property management, sale of services to tenants, or ownership of more than 10 percent of stocks, assets, or net profits of a lease.

The REIT can be further classified as a first-generation trust (i.e., real estate ownership), a second-generation trust (i.e., a mortgage investment trust, described earlier as an MIT), or as a mixed trust (i.e., some equity during a transitional phase into mortgage lending).

7. *A land contract or contract for deed* provides for equity ownership and possession, if desired, in the present with legal title to follow in the future upon completion of certain financial and management obligations. If worded correctly, the liability of the buyer is limited to loss of the property and any payments made prior to default. In the meantime, the buyer under this purchase installment contract enjoys the right of depreciation deductions and has opportunities for all four of the potential cash returns from ownership with a minimum downpayment and financing by the seller.

8. *The option to buy* is a specialized form of ownership. If the property appreciates or another buyer at a higher price can be found, the capital gain goes to the owner of the option. An option which is not exercised represents a tax-deductible expense. While the option is in effect but has not been exercised, the seller continues to enjoy occupancy, income, and depreciation benefits of the property with a minimum of constraints on his discretion to use the property subject to the contract requirement that he sell upon demand of the option owner.

Options are personal property and generally for short periods of time so that they represent a restricted form of single-entity ownership. Nevertheless, if the investor is specializing in relatively short-term capital gain situations, skillful use of the option may be his best form of ownership device, much like stock warrants offer the maximum speculative leverage in the securities market.

9. *Investment in shares of a cooperative corporation*[22] is not uncommon, particularly in the form of investment in multifamily housing projects or recreational real estate. Ownership of a cooperative share provides voting membership in management of the real estate and generally a proprietary lease of a specific

dwelling unit. Rent on the lease includes a proportional share of cash flow requirements of the corporation, and liability is limited to these rental payments. Actual title, mortgages, and other trade-type obligations are in the name of the corporation.

Should a significant number of corporation members default on their proprietary leases, remaining members must either increase their payments or the corporation will become insolvent and the real estate be sold to satisfy creditors at the expense of possible equities of the member shareowners. The lease form of claim permits broad constraints on the rights of the cooperative member to sell, use, or otherwise transfer his interest.

10. *Ownership of a condominium title*[23] combines direct ownership of a specific real estate space plus tenancy-in-common for certain features of a multiple-unit project. For example, the investor may own his office space outright and be a tenant in common with others in regard to corridors, elevators, lobby, parking, recreation areas, and land. With title to specific real estate, rather than a proprietary lease, the owner can secure his own individual mortgage, transfer title with more freedom than generally found in a proprietary lease, and avoid exposure to foreclosure on his equity due to the default of others who are also in the project. This form of investment was originally applied to residential units but is now being applied to office buildings, medical clinics, parking ramps, and recreational housing that can be rented to others when not occupied by the owner.

C. Double-Tax Entity Forms of Investment

Any real estate investment which can be owned as a single-tax entity can be placed in the hands of a corporate owner so that the real estate investor can choose between closed corporations, unlisted corporations specializing in a form of real estate and traded to some degree over the counter, and listed major corporations with significant commitments to real estate operations. Since 1966, corporate securities with strong ties to land development, prefabrication, construction, or building materials have generally enjoyed excessive market appeal and speculative activity among the investing public, who have generally seen the market potentials for housing without understanding the institutional constraints on realizing a profit with satisfaction of a basic need.

1. *A closed corporation* provides the basic corporate advantages of limited liability, pooling of capital, specification of management responsibility, and modified control on the marketability of share. It simplifies opportunity for merger, estate planning, and all manner of real estate transfers and decision making. Offsetting the potential for double taxation of earnings, taxable earnings can be manipulated to some degree by means of corporate salaries, loans from officers, and partial dissolutions of collapse of corporate structure. Many consider the current investor interest in real estate an opportunity to take profits and expand capital via conversion to a publicly held security.[24]

2. *Joint ventures*[25] in specific real estate projects make extensive use of closed corporations as wholly owned subsidiaries of partners in the venture. For example, an insurance company will create a closed corporation in the state where the real estate is located, and this subsidiary will enter into a joint venture agreement with a similar subsidiary of the partner. The joint venture is a conduit

of earnings under the formula of the agreement to the subsidiaries and, since each subsidiary is 100 percent owned by the parent corporation, a consolidated return can be filed and double taxation avoided while preserving limited liability, public anonymity, and release from certain regulatory constraints.

3. *Publicly held land development companies* can provide speculative investment opportunity in high-growth-potential areas and volatile stock price opportunity. However, net income as a percent of sales for this group of stocks is misleading due to various accounting practices,[26] and return on equity capital varies greatly depending on size of land inventory rate at which land companies turn over their assets. Few if any land companies have found support as investment-quality securities.

4. *Development and construction companies*[27] have gained favor in the stock market since homebuilding and construction firms have merged to provide diverse markets and buying economies that are producing consistency in earning statements. Since 1966, housing development stocks have enjoyed a phenomenal rise in price and ownership distribution, with increasing earnings and dramatic changes in acceptable price-earnings ratios in the market. Large-scale builders improve profit margins by finding new techniques to cut unit costs, and the larger companies have been able to finance with general debentures rather expensive construction mortgages. One key to success is a high rate of asset turnover so that, popular images of construction companies to the contrary, the well-run home construction firm makes no heavy investments in land, presells its production, and avoids ownership of machinery and equipment by relying heavily on subcontractors.

5. *Mobile home manufacturers* were a favorite in the stock market in the late 1960s, as these firms enjoy a high turnover of assets and therefore significantly higher net income as a percent of total investment capital than many other suppliers of real estate–related products. Perhaps 60 percent of lower-priced residences in recent years have been supplied by the mobile home industry, but their product line has been trending toward less mobile, more deluxe packages, including double-wides and full modular construction home units.

However, the supply of available mobile home sites has not kept pace with the production of home units, and the tendency of the resale prices to decline has undermined the attractiveness of mobile home developments as a source of real estate tax base for the community which supplies high-cost city services. Relative ease of entry into the field has further alerted analysts to the possibility of profit margin erosion so that future growth may be inhibited for lack of sites, while margins will be reduced by more extensive competition. Finally, there is some potential for more industrialized housing and significant technological innovations in construction. Thus, investment in mobile home companies must be termed more of a short-term speculation.

6. *Publicly held prefabrication companies*[28] have generally failed in the past to realize public expectations for the technique. Investment profits, if any, are generally made on stock price fluctuations rather than impressive consistent earning power. Prefabrication of homes has been thwarted by the diversity of local building codes, the perversity of construction labor regulations, and the inability to solve the trade-off between transportation efficiency in shipping the finished product and production efficiency in terms of doing the work in the plant

rather than on the site. Prefabrication of industrial buildings has been more successful financially, but the firms are generally controlled by steel companies.

The biggest firms nationally have often made the least amount of money, and their volatility in earnings performance has generally required high equity investment and low leverage. Recently the major firms have been merging with non–real estate corporations to secure the advantages of vertical integration, large capital bases, and research and development capacity to pursue expected industrialized housing breakthroughs.

7. *Building materials suppliers,*[29] such as lumber, steel, and cement products firms, offer an interesting hedge against erosion of real estate equity values due to possible rent controls, rationing of mortgage money, and real estate taxes while providing direct participation in the vast amount of construction required in the 1970s. Many of the building materials companies have extensive holdings in natural resources such as timberland, mineral rights, and related converting industries so that assets are understated and sales are built on diverse product mix.

8. *Traditional corporate giants* on the Wall Street exchanges have also been inclined to venture into real estate.[30] A few natural resource companies in timber and petroleum almost became real estate corporations, with mixed results, and other conglomerates limited real estate to a particular subsidiary. For example, International Telephone and Telegraph purchased the famous Levitt Builders Corporation in 1967, Alcoa Aluminum has been intensively engaged in urban renewal, and the Chrysler Corporation has been developing major residential and industrial areas adjacent to some of its new plants. Listed corporations are primarily interested in a stable growing pattern of earnings per share each year, however, and this requirement does not mesh well with volatile cash cycles and the prolonged time horizon of real estate development.

Moreover, creative real estate often involves talents who do not fit the corporate mold and salary structure very well, so that big corporations have had some difficulty learning to understand and to compensate the development process. It may be that after a shakeout of early corporate adventures in real estate, those who remain will do so because of profit centers in their product mix which may include utility systems, construction equipment, building materials, consumer finance, or other components of the building process.

Thus the real estate investor can choose between single-tax and double-tax entities with a broad array of trade-offs among safety, liquidity, income yield, tax leverage, and market price appreciation. In broad-brush fashion, it might be said:

1. The corporate form is used most often for passive-type real estate investment where business management requires and will be relatively long-range and substantial and the double tax will not greatly exceed the tax if the property were owned personally. The limit on liability may be its most valued characteristic together with divisibility of investment to achieve diversification.
2. The single-tax entity is usually more advantageous when the main objective is short-range tax savings or capital appreciation and properties which have small income, require little management, or contain no significant personal risk.
3. Regularity of return or income favors use of intermediary entities in primarily mortgage lending, while patient risk capital may choose to venture into development securities.

4. The real profits in real estate are the derivative profit centers of controlling its purchases of land materials and services, which implies participation in management. Passive investors should therefore be well diversified, skeptical of projects which offer only a tax advantage or only a capital gain, and resigned to something less than the returns of the popular mythology of real estate.

III. Selection of Real Estate Media

A. The First Level of Decision Making

A critical decision in real estate investment is the choice between direct ownership of productive real estate or indirect participation in real estate by means of the securities that are used as vehicles for real estate capital. Such a decision requires translation of individual or group value judgments and emotional preferences into an explicit statement of investor objectives and constraints.

For example, the trustee of funds feels strongly that he must not lose the capital sum entrusted to him, a value position, but he must translate that into a specific objective in terms of degree of loss potential he is willing to assume. Further, he must convert this objective into a set of criteria. For example, the objective would be a conservative risk position, but the criteria by which this would be applied to investment alternatives might be a low loan-to-value ratio of 50 percent, a low ratio of cash outlays to gross rent of 65 percent (cash break-even or default point including debt service), a loan prohibition against secondary financing, as well as acceptance of a lower interest rate on the mortgage. Such criteria stress safety at the expense of yield.

Thus, the investor must translate his subjective values, business preference patterns, and personal idiosyncrasies, abilities, and weaknesses into a statement of objectives and constraints for the following basic elements:

1. *Strategic objectives* should be stated and ranked. Is it to invest surplus funds? Is it to create a captive market? Is it to reduce taxable income? Or is it to make use of unused borrowing power or management personnel? Generally there is a combination of strategic objectives which need to be ranked.

2. *The time horizon and liquidity preference* for an investment are critical. For example, if the firm wishes to complete the investment cycle in three years, it probably cannot consider a subdivision opportunity, whereas an acceptable time horizon of 25 years permits consideration of a new town project or low-cost acreage at some distance from current population centers. In any event, transaction periods and cost in real estate preclude quick-turnaround deals unless much use is made of the purchase and sale of options and securities.

3. *Property management* duties become another crucial element in the decision to own real estate or real estate securities. The minutiae of tenant relations and property management require a special patience and technical skill while presenting splendid opportunities for terrible public relations. On the other hand, professional property managers provide mixed results unless appropriately supervised and motivated by the owner. Even the servicing of monthly paid mortgages is shunned by many major investors, which explains the rising popularity of collateral trusts and real estate mortgage investment trusts.

4. *Legal regulation*[31] of the investor may provide a further constraint by those agencies which regulate business affairs, including insurance company investment regulations, fair trade and antitrust regulations, Internal Revenue Service rulings, and utility or transportation commission controls. For example, an insurance company wishing to invest in a piece of real estate for capital gains purposes may find that direct ownership prevents valuation recognition on the basis of appreciation over cost to acquire, while indirect ownership through an income security permits revaluation under existing present value of forecasted cash income rules for investment valuation.

5. *Risk management* philosophy must be established for both the dynamic risks of investment and the static risks of physical property threatened by loss due to fire, flood or earthquake, or the other elements of consideration in property and liability insurance. Should one make an isolated real estate investment in the California quake belt or the Mississippi flood delta if 100 percent of the potential loss cannot be shifted by contract to another? More difficult standards must be stated, however, for the degree of acceptable business risk in income forecasting for the real estate in question.

For example, a store building leased for a net rent which left all operating costs as the responsibility of the national credit tenant would produce a very stable net income; on the other hand, a gross lease to a local credit tenant might produce much higher profits at the cost of facing occasional periods of vacancy and cyclical income. The degree to which the loss of original capital investment is acceptable must be specified, as well as the possibility of litigation damaging income tax or estate tax positions. For example, a group of investors in timberland might lose a capital gains tax benefit which goes with the sale of cutting rights if they were classified as dealers due to their subdivision program on a lakeshore.

Direct ownership of real estate often means incurring the risk of loss of political neutrality, as the desire to build a shopping center in Town A may adversely affect Town B or the state highway department or the land value of a major client. These results may be costly in terms of governmental harassment on seemingly unrelated items or the loss of business opportunities in the future. Real estate value is a product of local planning agencies and political power structures, and it is virtually impossible to be an active real estate investor without loss of political innocence.

Related to the problem of political visibility and vulnerability that goes with direct ownership of real estate is the more general risk problem of public image and public relations. A real estate developer is a high-silhouette target for unhappy tenants, disillusioned homeowners, idealistic conservationists, newspapers, and politicians who need a dragon to slay. Even the trust department of a bank which is bequeathed the problem of slum property ownership very quickly can be smeared with the brush of "slum landlord," regardless of why it controls the property, the economic constraints on improving physical conditions, or the powers granted by the trust document. In Illinois, where it is possible to record ownership of property with the anonymity of a trust account number, filing of a court suit requires revelation of the defendant owner.

All of these considerations bear on the decision to own property directly or to participate indirectly in the productivity of real estate capital via one of the business entities which provide professional management, as discussed in Sec-

tion II. If the indirect commitment in real estate securities is selected as the proper course of action, then the techniques of security analysis are far more important than the data-gathering methods necessary for direct ownership of real estate. The balance of discussion below on real estate investment will stress the fact-gathering process relative to direct acquisition of real estate.

B. Elements of Physical Property Management and Analysis

Assuming the investor has a statement of strategic objectives and criteria which favor direct ownership of property, the decision process then begins from one of two points: either a specific parcel that must be analyzed in terms of its market prospects, or a specific merchandising opportunity in need of an optimal piece of real estate. It is impossible to sketch the entire process in a short review, but the basic steps and sources can be outlined and suggested preparatory to more detailed treatment of investment valuation and tax questions in Sections IV and V of this brochure:[32]

1. *Market trends and opportunity areas*
   a. Aggregate data on local population, employment, income, etc. (The city planning department is the place to start in any community to learn the direction of city growth and demography of those who live in it.)
   b. National economic and political policies affecting incentive, timing, and risk. (For example, Congress may provide for a crash program to build nursing homes, or the National Park Service may request private development of campsites, or the space program may decide against solid fuels or launch pad expansion, with the loss of employment accordingly.)
   c. Industry trends relevant to supply and demand. (For example, insurance company home offices may find it useful to decentralize geographically and to leave central cities so that corporate expansion may not directly affect blocks surrounding the home office.)
2. *Alternative merchandising targets for space*
   a. Special micromarkets with space needs. (Monopoly advantages come from merchandising a few unique amenities to a small special group, such as the apartment developer who provides fireplaces to attract previous homeowners, the subdivider who provides a stable to attract those who have horses, or the apartment developer who hires models to sit at poolside in order to rent to the single man, which then attracts the single girl. Real estate is entirely a matter of meeting special needs of special people, and there is always a merchandising opportunity regardless of aggregate market data trends.)
   b. Product and price specification. (The property owner can to some degree control his product design, his price, and his merchandising program to seek a competitive edge while he is relatively powerless to affect external conditions, such as economic trends, city growth patterns, or supply.)
   c. Effective demand for the product at a price. (Too many real estate developers are former contractors who are production oriented rather than marketing oriented. To control risk, one must determine what a market

segment can afford to pay and derive the maximum costs permissible with a profit for development.)

d. Preferred merchandising methods. (For example, some investors may prefer to rent a project while it is under construction by means of brokers, while others may prefer to secure a tenant with a special need and design the project to suit.)

3. *Legal-political constraints and alternatives*
   a. Regulatory constraints on the parties at interest. (For example, banking or insurance auditors and investment rules may prescribe character and scale of property ownership, not to mention utility commissions, transportation commissions, or powers in the corporate charter.)
   b. Regulatory controls on site and space development. (Plans for a small subdivision will involve approval by city planning, engineering, service, and traffic departments plus review by state highway, health, and resource development boards before submitting plans to planning commissions and city councils having jurisdiction. Government financing may add several layers of federal review. Utility companies may have underground easements, or the airport commission may control land use below flight approach zones.)
   c. Exogenous political structure influencing alternatives available. (A community may not permit rezoning for apartments if it believes transient tenants would undermine precinct voting patterns, overload schools, or create social service costs or threaten the peace of mind of abutting property owners and of vested political interests.)
4. *Physical-technical constraints and alternatives*[33]
   a. Space user requirements as to location and improvement. (The new tourist in town may require a motel to be visible to the interchange, reached by right-turn maneuvers only, and a national franchisee, while a dentist may need linkages to the high school set or medical clinic areas.)
   b. Site attributes satisfying elements of item 4a. (At a minimum, the investor should know soils, topography, permissible vehicle access points, available utility services, existing easements, zoning and master plans for the area, and existing or potential positive and adverse land uses on its borders and approaches.)
   c. Physical improvement attributes. (Structures and other improvements must be tailored to the space requirements of the user, and they can be very subtle. For example, an office building on a five-foot grid plan is often not efficient for doctors, as five feet is too narrow for a treatment room while 10 feet is too wide and therefore wasteful of space. If the window pattern does not permit a partition splitting the five-foot grid, or if air conditioning will not work with a partition stopping circulation, a prospective doctor tenant will look elsewhere for space despite handsome architectural appearances.)
   d. Other engineering considerations. (A building is a machine of unique design which must accommodate the site, the climate, the tenant and his clients, the building codes, and the investors. The alternative is the purchasing of existing repetitive-type units, such as six-family apartment buildings.)

5. *Aesthetic/ethical constraints and alternatives*
   a. Project impact on immediate community of nonusers. (For example, it may be possible to rezone a marsh area for apartments, but how does that affect wetlands for conservationists, or the appearance of the community, or the school budget?)
   b. Project obligations to space users. (For instance, there is always a compromise to be made between original cost and operating efficiency and maintenance over the years, between sound and visual privacy and density, between long-term comfort and short-term merchandising fads.)
   c. Prime contractor-subcontractor relationships. (There is an obligation for the entrepreneur developing a project or managing an existing building to know his business well enough that he does not trap his associates and suppliers into providing additional equity via collection losses, unanticipated costs, or loss of public reputation through association with the project.)
   d. Client obligations to his preferred personal commitment pattern. (Not only should the investor consider conflicting demands on his time through existing client contracts, family responsibilities, and his own need for rest and recreation, but he should also choose projects compatible with his self-image. A lover of fine architecture may find little satisfaction in low-rent housing, while those concerned with social questions may find satisfaction in delivering spacious, clean apartments at the cost of architectural distinction.)
6. *Financial constraints and alternatives*
   a. The front-door approach to financial feasibility requires, at the least, a preliminary program and improvement plan to provide a basis for financial assumptions. Sometimes the back-door approach to financial feasibility is used as a planning tool, in which the desired financial program is worked backward to determine how much money can be spent for capital and operating budgets, given a certain rent level and desired profit margin. In either event, the assumptions for financial analysis will require
      i. A time line or assumed calendar of financial events
      ii. Capital budget estimates and contingency reserves
      iii. Operating revenue and expense pro formas
      iv. Financing packages and terms
      v. Basic income tax strategy
      vi. Selected measures of yield
      vii. Selected standards of risk
   b. In a total feasibility analysis, the range and variety of considerations involved are seldom done at one time by one individual. Nevertheless, the components give rise to the proper nomenclature of the various reports that are lumped under the general term "feasibility study."
      i. Strategy study: selection of objectives and measurement criteria
      ii. Market trend analysis: economic base studies or other related aggregate data review
      iii. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.

iv. Legal opinions, model contracts or forms of organization, and political briefs
v. Engineering, land planning, architectural studies
vi. Compatibility studies, capital budgets, cash flow forecasts, rate of return analysis, or financial feasibility studies

C. Professional Counseling for Real Estate Investment

The financial and physical complexities of real estate generally require a team of professional advisers, despite some popular mythology that anybody can be an expert on real estate with a modest amount of common sense and shrewd bargaining tactics. Just as it is wise to create an estate plan and then purchase insurance and investments which advance the objectives previously defined, it is useful to have a real estate lawyer, income tax lawyer specialist, or certified public accountant participate in the decision and documentation process of a purchase from the beginning rather than limiting their contribution to correcting, so far as possible, the errors and omissions of the all-purpose expert after the fact.

Professional education and ethical standards are as critical in the real estate industry as in the insurance industry, particularly so because entry into the real estate business is seldom screened by trained corporate personnel specialists or audited by corporate computers and fieldmen. Licensing standards are minimal, and the industry depends on the self-policing of its professional organizations. Those who have earned a professional designation, such as CLU or CPCU, will appreciate the intensive education and experience requirements of the following organizations and should prefer dealing with those so designated:

1. *American Society of Real Estate Counselors* (CRE) bestows its designation by invitation only on those men who have won recognition in multifaceted aspects of property development, valuation, and investment counseling. There are fewer than 500 members, and their directory can be obtained by writing the executive secretary at [430 N. Michigan Avenue, Suite 500, Chicago, Illinois 60611].

2. *The Society of Real Estate Appraisers* is an international organization of appraisers and analysts, and their highest designation of *Senior Real Estate Analyst* (SREA) requires a five-year review of qualifications and performance for recertification. Information is available from the home office [225 N. Michigan Avenue, Suite 724, Chicago, Illinois 60601].

3. *The Society of Industrial Realtors* (SIR) maintains a national network of specialists who broker, manage, and finance industrial and corporate real estate. A division of the National Association of Real Estate Boards, the executive secretary is located at [777 14th Street, N.W., Washington, D.C. 20005].

4. *The National Institute of Real Estate Brokers* (NIREB) is the major division of NAREB and has a smaller, elite group of commercial brokers with strong educational programs in real estate investment analysis. Qualifications for membership are available from the office [430 N. Michigan Avenue, Suite 500, Chicago, Illinois 60611].

5. *The Institute of Real Estate Management* offers an intensive program leading to designation as Certified Property Manager (CPM) which emphasizes leasing and investment property operations while providing background in land

economics and valuation. An affiliate of NAREB, the executive director is at [430 N. Michigan Avenue, Suite 500, Chicago, Illinois 60611].

D. Appraisal Organizations

The field of appraisal is highly technical and formal in its methodology and, since the opportunities for error in appraisal are virtually infinite, there is great incentive to use the best talent available. There are three major organizations with which the investment counselor should be familiar:

1. *The Society of Real Estate Appraisers* has the largest membership of the major appraisal organizations and presently offers three levels of certification, the Senior Residential Appraiser, the Senior Realty Appraiser (SRA), and the Senior Real Estate Analyst (SREA). The first designation is being phased out, as its members are required to upgrade their abilities from home appraisal to income property appraisal as well. The SREA is limited to those demonstrating exceptional experience with investment properties and requires evidence of professional growth for recertification each five years. Information is available from [225 N. Michigan Avenue, Suite 724, Chicago, Illinois 60601].

2. *The American Institute of Real Estate Appraisers* is an affiliate of NAREB and the older appraisal organization, offering a junior designation for the residential appraiser (RM for Residential Membership) and a senior award (MAI, signifying Member of the Appraisal Institute). For government work and courtroom testimony, the designation MAI is as well known as the CPA for accountants. Current membership lists are available from [430 N. Michigan Avenue, Suite 500, Chicago, Illinois 60611].

3. *The American Society of Appraisers* (ASA) is less specialized in real estate and emphasizes instead such specialties as machinery, jewelry, and balance sheet asset appraisals—in short, personal property more than real property. Further information is available from the national office at [P.O. Box 17265, Washington, D.C. 20041].

All of these professional organizations sponsor continuing adult education programs at the community level through special seminar events administered by local chapters or through cooperation with state university extension services. Seminars on valuation of income property, investment analysis, or even home purchase investments can provide the CLU with valuable contacts among investment influence centers as well as with aggressive individual investors alert to the value of financial planning.

IV. Basic Strategies for Income Tax Planning for Real Estate Investment

A. Tax Advantages in Real Estate Investment

Real estate investment over the years has enjoyed an oblique subsidy in the form of significant tax advantages which are particularly useful for accelerating capital growth, i.e., estate accumulation. These opportunities have involved deferral of income tax, conversion of income to capital gains, indefinite postponement of capital gains taxes, and options to expense or capitalize portions of the investment. Indeed in recent years, investments were often justified solely

on the basis of tax advantages to high income tax bracket investors solely on tax gambits.

As a result, the House Ways and Means Committee considered the dealing in tax losses to be an abuse of the intent of depreciation rules, so that the 1969 Tax Reform Act substantially modified many of the tax ploys available in real estate, particularly for the developer and large-income investor. The tax advantages of low-income housing development have succeeded in producing housing but at great cost in terms of deferred income tax, and it can be anticipated that the electorate will press for further tax reforms in the near future. The Canadian tax law serves as an example of a possible future reform in the U.S., where losses on one real estate property cannot be applied to taxable income from another source, the prime tax advantage of accelerated depreciation.

There is no reason to structure a real estate investment position entirely on the present income tax law, as it is anything but a fixed point on which to build future plans. Nevertheless, the tax law for the present gives significant advantages to the middle-income investor who will accept the use of real estate equities as complementary to a portfolio of securities or a temporary tax shelter for professional earned income.[34]

B. Classification of Investor and Real Property for Tax Purposes

The degree and character of federal income, estate, and gift tax inroads on real estate assets will vary depending on classification of the property holding and classification of the investor. Somewhat different rules apply to each of the following real estate situations:

1. *Real estate held as a personal residence* is not permitted any deduction for maintenance expenses. However, as a subsidy to the community, residential real estate taxes are deductible, and as a subsidy to the concept of family homeownership, the interest on the mortgage debt is deductible. Capital loss in event of sale is not deductible, but capital gains are taxable and postponable by purchase of a new home equal to or greater in price than the price realized on the old.

2. *Property held for investment* which does not produce any significant income seeks a profit through capital appreciation. For economically viable farms, the investor is permitted to use cash accounting to deduct all the expenses of management and conservation, including modest improvements such as fencing, drainageways, ponds, surveys, and the like. For unimproved property, the owner may elect to expense outlays for carrying charges and professional services as tax deductions or to capitalize carrying costs to reduce the future capital gain. However, the investor is not permitted to take depreciation deductions. Professional farm managers can be of assistance in selecting opportunities for investments which yield fun as well as profit in Christmas tree farms, catfish farms, cattle feeder operations, hunting preserves, and so on.

3. *Real estate held for the production of income* enjoys opportunities for the paper losses of depreciation, even if in a particular year the property does not generate any income. Depreciation is a function of the depreciable basis of the investor, the percentage considered depreciable, the useful life of the asset, and the permissible depreciation method. These various components have been

greatly modified to produce tax deductions more parallel to the economic decline of the property (assuming stable dollars), but there is still opportunity for very favorable investment utilization of income property.

4. *Real estate held for a trade or business* combines the potential for depreciation and capital gain if held for six months with the opportunity to take short-term losses against net operating income, even if it means a carryover of the loss to a prior or succeeding tax year.

5. *Real estate held for sale to customers* is always treated as ordinary gains and losses, just as a merchant treats merchandise inventory. The problem is compounded by the classification of the investor, for if the investor is determined to be a dealer in regard to a specific investment, the capital gains tax is virtually not available and the burden falls upon the dealer-investor to justify his investments for income or capital gain as outside the scope of his ordinary real estate business. Further, the owner can deduct only expenses incurred to maintain and carry the property being held for sale in the ordinary course of the business, and is not entitled to deduct for depreciation unless the property is producing an investment income during the holding period and there is no sale during the tax year for which the deduction is claimed.

Related to the classification of real estate for tax purposes is the tax character ascribed to the investor. The investor may be an investor for use, an investor for regular income and capital growth, or a dealer. Real estate brokers and subdividers are in the business of buying and selling real estate and classified as dealers so that there is a presumption their property is held for sale to customers and not entitled to capital gains or possibly depreciation treatment.

Subdividing to liquidate an inheritance or surplus corporate property may enjoy a capital gains treatment, however. An individual can be an investor for use relative to his office quarters, an investor for income relative to an apartment house owned for reasons related to his ordinary business, and a dealer in regard to all other property which passes through his hands. However, other people can be classified as dealers as well because of the number of their transactions, the nature of the real estate, such as a subdivision or sale of a number of condominium units, or association as a partner with someone who is a dealer.

Thus, the classification is incurred on the facts in each particular case, and the tax consequences should be anticipated. The investor-for-use is self-explanatory, and the investor-for-income is defined relative to the facts unique to a particular acquisition rather than as a classification affecting all transactions of a single individual. It is important that the records of the taxpayer indicate the intent or circumstances surrounding the acquisition and economic logic of its eventual sale.

C. Deferral of Income Tax through Real Estate

Real estate investment provides several techniques for postponement of income taxes by adroit use of accelerated depreciation accounting, installment or deferred sales contracts, or indeterminate value sales contracts. With real estate held for investment or business use, the owner can take deductions for depreciation against income earned from the property or other income from

earnings for securities. Land cost is not depreciable, but the largest proportion of investments in improvements to land are.

In general, any improvement that has a limited useful life, including a building structure, paving, or fruit tree, is depreciable. The base for depreciation is the acquisition cost rather than only the dollars supplied by the investor. Depreciation travels with the equitable title to the property. In addition to the straight-line method of depreciation, the real estate investor has been favored with accelerated methods of depreciation to provide more writedown in the early years with smaller deductions and more income taxes payable in the later years of investment productive life.

1. *Accelerated methods of depreciation* tend to focus on 200 percent or 150 percent declining balance methods, sum-of-the-years' digits formulas, or itemized classification by the useful life assumptions. It is possible to accelerate depreciation to a point where income properties show significant taxable losses during the early years, and these tax losses can be applied to reduce taxable earnings from other sources, thus reducing tax outlays of the investor. Accelerated depreciation means a rapid decline in the capital gains basis of the property, so the effect is to understate the income from the investment and to overstate the capital gain if the property is sold, with eight years of double declining balance depreciation often being the optimal holding period.

In 1966 this ability to convert profit dollars at the marginal income tax rate to capital gains at the capital gains rate was modified by the introduction of the recapture provision by which depreciation taken in excess of straight-line amounts was taxable as ordinary income in the event of sale for a profit. The amount subject to recapture would decline with time, so that the 1969 law[35] requires full recapture of excess depreciation if sale occurs within 100 months of purchase and then reduces recapture by 1 percent a month until the end of 200 months.

The 1969 law succeeded in reducing the amount of excess depreciation available from newly constructed, depreciable property (other than new residential rental property). New property such as an office building or industrial plant is eligible for a maximum of 150 percent declining balance depreciation, while used nonresidential buildings all are limited to 100 percent straight line. However, this applies to used properties acquired after July 24, 1969, so that acquisition of stock rather than the asset would permit continuance of existing depreciation plans for more recent transactions. Moreover, it is still possible to depreciate various classes of components of a building on individually computed cost allocations and useful lives. The 1972 investment credit reinstatement provides further modifications in favor of business property.

However, to subsidize and channel more investment to residential rental property, investors in new multiunit buildings are still eligible for double declining balance or sum-of-the-years' digits methods for property located in the U.S. or its possessions. Even used residential property can be treated with 125 percent declining balance if the useful life of the structure is 20 years or more. For residential property constructed under federal middle-[36] or low-income[37] subsidy programs, the investor would further enjoy the use of the old recapture rules.

A new feature favoring rehabilitation of low-income housing permits a rapid five-year tax write-off of rehabilitation costs in excess of $3,500 and less than $15,000 per dwelling unit, not including original cost of existing building. No

changes were made by the 1969 act relative to personal property such as furniture, so that all the accelerated methods encourage development of furnished apartments, etc. Recapture provisions were extended to farm properties, soil and water conservation properties, and livestock, as these elements of investment had been used by investors as tax shelters in the same manner as real estate.

2. *The installment sales contract* is another method for redistributing taxable income over time. Under Section 453 of the Internal Revenue Code, a taxpayer has the election to report a gain realized from sale of a property on a time payment plan as if a pro rata share of the total profit were realized upon collection of each payment scheduled under the sales contract. If 25 percent of the sales price represented a taxable gain, then only 25 percent of each payment received on the contract would be taxable, thus spreading the profits over the life of the installment sale agreement, a leveling which is particularly valuable to those paying under progressive tax tables, or to those anticipating a decline in other taxable earnings, or to a remote few speculating on a reduction of income tax rates.

To qualify, an installment contract must avoid receipt of more than 30 percent of the total sales price by the seller in the year of sale, including both downpayments and subsequent installment payments. Further, the seller must elect the installment method in the year of sale. Dealers as well as sellers may use the installment method, but the dealer will be unable to segregate that portion of his installment profit which is capital gain from that part which is ordinary income (such as interest on a land contract) which is available to the investor. The installment contract can be sold to accelerate the capital gain or simply be used as collateral to provide use of the balance due, while taxes would be paid only as the pledged contract was repaid according to its installment terms.

3. *Deferred payment sale* is an alternative to the installment method of deferring recognition of taxable profits. This approach allows the seller to first charge installment payments with collection of his basis so that no gains are taxable until the downpayment and installment received equal his unrecovered basis and transaction expenses. The leveling feature of installing sales methods is lost, but no gains are reported until after the unrecovered investment has been returned. It is the same option that is available to those who purchase a lifetime annuity contract; they may apply initial annuity payments against the purchase price until it is fully recovered, or they may prorate the purchase price against the actuarial present-value benefits to be received.

To qualify, the sales contract must call for payment of installments in one or more future taxable years, and the treatment of these proceeds must be consistent with the seller's normal method of accounting. Precise analysis of cash and accrual and accounting principles will affect different types of sale contracts.

4. *Sale for an indeterminate price* involves use of a formula to determine eventual sales payments based on a percentage of sales, a multiplier of average annual net income over a period of years, a multiplier of unit sales, or a private annuity agreement. These sales are accounted for in the same manner as a deferred payment sale. For example, an office building of a certain type might sell for 10 times earnings. However, the buyer and seller cannot agree whether the average earnings for the next five years would be $45,000 or $50,000. Thus, the

seller might agree to sell for $450,000 plus 10 times the earnings in excess of $45,000 and less than $50,000, payable at the end of five years when the results were actually known.

Where an annuity is payable by an individual or corporation not engaged in the annuity or the insurance business, the courts have held the annuity could not be valued, for the seller must assume the risk of continued solvency of the purchaser and his own long life.

D. Deferral or Avoidance of Capital Gains Taxes

When structuring a real estate transaction, it is possible to modify the normal operation of capital gains taxes in a number of significant areas in addition to installment or deferred sales contracts discussed above. Among the available strategies one should be familiar with are opportunities for allocation of tax basis, involuntary conversion situations, and tax-free exchanges of real property.

1. An *allocated capital gain* is the difference between sales price of a parcel and its capital basis as determined by allocation of original cost, allowable depreciation, and capital improvements made since its original purchase. One factor not treated above is the allocation of original purchase price to defer a capital gain tax. For example, the investor in a five-acre corner parcel might acquire the entire parcel for $100,000 and sell a one-acre corner site to a gasoline station company for $80,000. It could be possible to allocate $80,000 to the filling station site and pay no tax until the remaining four acres are sold. Conversely, the basis could be allocated to the rear four acres to reduce capital gains taxes on sale of the four, and the filling station site could be leased rather than sold, thereby avoiding a tax on its capital value indefinitely.

Thus, subdivision of a site or a building, segmentation by use, or prorated market value provides rationales for adjusting the basis for any partial sale. Significant appreciation in income property may be converted to cash which is tax free by means of refinancing with a high-ratio loan to be amortized from future income receipts.

2. *Involuntary conversion* of real estate offers the investor valuable elections to avoid, or to profit from, the capital gains tax: the disposition of any title of a property due to involuntary conversion resulting from destruction, theft, seizure, requisition, condemnation of the property, or sale or exchange under threat of condemnation. Should an old factory building be destroyed by fire, the building owner could receive tax-free proceeds from his fire insurance if he rebuilt the plant or could elect to pay a capital gains tax and receive a new depreciation basis. In the long run, the latter might save more in income taxes than he paid in the capital gains tax.

More fortunate than loss due to disaster would be loss of an investment property due to condemnation. In these cases, the investor can reinvest all of his sale proceeds in real estate or qualified real estate securities by the end of the second tax year following the year of conversion. An older building almost fully depreciated, with little debt outstanding, may be taken for an expressway, permitting the owner to use the proceeds on a new building at a better location with good leverage. While avoiding the capital gains tax, the owner transfers his tax basis from the old property to the new, which is then adjusted upward for

any net increase debt outstanding as a basis for depreciation or a future capital gains transaction.

Thus, through sale to a condemnor, capital gains tax is indefinitely postponed on the transaction. If the owner dies after conversion but before replacement, his estate may secure the benefits of the election as to reinvestment. Investors may deliberately place their purchases in the path of expressway or university expansion, manage the properties intensively to maximize market value, and then take the proceeds of the condemnation award to further accelerate tax-free estate accumulation by reinvestment in real estate.

3. *Tax-free exchanges* are commonly used by real estate investors. For real estate classified as held for investment or use in a trade or business, it is possible to defer the potential gain realized on sale by exchanging the property for another parcel of real estate considered to be "of a like kind." These tax-free exchanges are not available for personal residential properties or property held for sale to customers. Each party to a trade transfers his remaining basis to his new property and this basis is adjusted by the net change in any debt involving his acquisition.

Often a purchaser of a property will acquire another property of the seller's choice and trade, while in other cases real estate brokers will build a series of exchanges in order to provide each participant with the proportion of property and cash sought. Cash received for adjustment purposes in such trades is referred to as "boot" and is taxable to the degree that it exceeds basis.

Trading can also be used to increase leverage or to reduce liability exposures. For example, the owner of a $40,000 four-flat with a basis of $20,000 might trade with the owner of a $120,000 building with a $40,000 equity. The owner of the smaller building would trade up and receive a basis of $20,000 plus the $80,000 of debt outstanding, or $100,000. The owner of the larger unit would avoid the burden of the mortgage and, to the extent that the value of the debt obligation transfer did not exceed his basis, he too would avoid a capital gains tax. Note that the borrowing power of accumulated equity is not diminished by payment of the capital gains taxes at the time of the trade, so that the rate of estate accumulation may exceed that possible with other forms of investment.

E. Tax Preference and the Real Estate Investor

Two major innovations in the 1969 Tax Reform Act will have significant economic impact on real estate investment plans in the future, specifically the limitation on interest deductions attributable to investment indebtedness and a minimum tax on tax preference cash flow items. Both innovations are designed to curb use of two tax strategies of progressive value to those in higher tax brackets.

1. *The limitation of income tax deductions* first became effective on December 31, 1971, and applies to noncorporate entities only. The limitation is on interest paid or accrued to purchase or to carry property held for investment, as opposed to property used in a trade or business. A major factor in determining whether income is from a passive investment or from a business is the proportion of that income paid for expenses.

Presently, the IRS permits the assumption that an investment is active rather than passive if expenses exceed 15 percent of revenue. This distinction has placed a significant disadvantage on the old institutional favorite of ownership, say of a supermarket, leased on a long-term basis to a retail chain store firm on a net lease, under which the tenant pays all the expenses, real estate taxes, and possibly structural maintenance. Such a deal would clearly be classified as a passive investment, so that the interest on the owner's mortgage would fall under the investment interest limitation. On the other hand, ownership and operation of an apartment house or motel would be classified as a business operation, so that mortgage interest would be deductible without limitation.

At this writing, there is some confusion as to the distinction between real estate ownership which is used as part of a managed business and real estate held as passive investment. As Internal Revenue rules are published and tax-court cases establish further guidelines, these rules may drastically alter large-scale real estate practices and lease forms. Nevertheless, the formula for the interest-deductible limitation still favors the smaller investor, because a taxpayer will be allowed to deduct interest incurred for investment purposes only by computing the sum of the following:

a. $25,000 ($12,500 in the case of a separate return by a married individual; zero in the case of a trust)
b. "Net investment income"
c. The amount by which net long-term capital gains exceed net short-term capital losses for the taxable year (before the 50 percent long-term capital gains deduction)
d. 50 percent of the amount by which investment interest exceeds the sum of a, b, and c

Net investment income has two components, gross income and total investment. Gross income would include rents (excluding rentable income and expenses from managed rental real estate), royalties, interest dividends, net short-term capital gains, and depreciation recapture. The costs to be deducted would include real estate taxes, straight-line depreciation, depletion computed on a cost basis, investment management costs, and bad debts. Considering that the basic deduction is $25,000, the majority of taxpayers will feel little crimp in their ability to borrow. Even at 10 percent interest rates, loan balances must exceed $250,000 against passive investments. There will be some competition between insurance purchase loan plans and real estate investments for utilizing this minimum level of full-deductible interest.

Of greater import may be the definition in the law that passive investments include those in which the expense ratio for necessary business operations is less than 15 percent of rental income. Much long-term real estate leasing has been done on a net basis, which leaves little or no expense to the investor, so that in the future such leases may be less desirable and subject to significant contractual alterations or renegotiation. In short, the delayed impact of the interest-deductible limitation rule cannot be clearly foreseen but represents a significant financial planning constraint.

2. *The minimum tax on tax-preference items* strikes directly at investors who play the tax game. Since 1970, there has been a 10 percent tax on certain tax-preference items in excess of $30,000 plus the regular income tax payable.

The items the financial planner will have to investigate relative to the investment tax include

a. Accelerated depreciation in excess of straight-line depreciation on real estate
b. Interest on loans to acquire passive investment property in excess of the deductible limitation
c. Depletion allowances on mineral properties in excess of cost
d. Special write-off privileges on certain government incentive programs relative to defense, pollution control, and transportation facilities
e. The 50 percent long-term capital gains deduction for individual taxpayers implicit in either capital gains option
f. Stock option spreads between fair market value and option price at the time the option is exercised

3. *A variety of miscellaneous provisions* in the 1969 Tax Reform Act will also affect the conventional wisdom as to tax deals available in real estate. A few caveats may alert the financial planner to the significant change in attitude toward investment built on tax items which are reflected by the 1969 act. Real estate investments which are inherently unprofitable, such as weekend farms or "hobby" properties, will be carefully reviewed, and tax losses may be denied. Charitable gifts of high-appreciation properties more likely will be judged on cost rather than market value, and further penalties will be imposed on gifts of land to private foundations. Real estate investment companies that have made cash distributions as capital dividends largely from dollars sheltered by accelerated depreciation methods will be required to use straight-line depreciation in determining the taxability of dividends for years beginning after June 30, 1972.

The Tax Reform Act of 1969 and the credit crunch for real estate in 1970 might have been expected to have some sobering influence on patterns of real estate investment and on real estate sales techniques, which have often stressed short-term tax gimmicks rather than income quality of the real estate relative to cost to acquire. Presumably resale prices on investment properties would have fallen in the absence of adequate financial and tax leverage. In general, however, this has not been the case. A number of factors can be suggested as contributing to maintenance of investment property:

a. Real estate professionals have a vested interest in transactions rather than long-term profitability to the investor, so that the investor is still actively solicited to participate in the mythology of wealth through real estate.
b. The housing shortage plus the tax incentives for residential property plus the infusion of federal mortgage credit subsidies sustain urban land prices and construction volume.
c. The fear of inflation persists at the same time that the stock market has disappointed many in full view of those who read the market quotations. The disappointments of those in real estate are generally well screened from public view, and the costs and delays of sale discourage overreaction by telephone to the broker.
d. Inflationary construction costs place a competitive umbrella over rents required on buildings built at lower costs and lower interest rates only a few years previously. Indeed, the cost to build new structures favors the search for older mismanaged buildings, which can be acquired at a discount, updated, and aggressively merchandised at lower rents than newer structures.

e. The space shortage, the recapture considerations, and the increasing advantage of established structures in location and cost all work to discourage resale, thus reducing the supply of sound salable properties relative to demand.

V. Investment Valuation and Forecasting Methods

A. Investment Decisions—Buy or Sell at a Price

Most decisions for real estate investment ultimately require estimation of the probable market price at which property could be bought or sold and the investment yield which might reasonably be expected as a result of the decision to buy or sell. Unlike an industrial bond for which cash income, capital recapture, and the time calendar are determined by contract, for which current prices are determined from national market quotations, and for which purchase or sale is virtually instantaneous via telephone and teletype, real estate investment offers no fixed points for investment income, recapture, timing, or transaction speed. Still, all of these factors are necessary for precise prospective computation of yield. Price and yield are necessary assumptions for real estate investment decisions relative to[38]

a. Acquisition or disposition of ownership or changes in control
b. Extension of credit on the pledge of real estate
c. Compensation for loss in the value of real estate
d. Levy of a tax on the value or the productivity or real estate
e. Development or redevelopment of real estate
f. Modification of management policies in the operation of a real estate enterprise

The function of this primer can be only to sketch the important pricing methods and yield formulas and to introduce some key financial ratios and concepts indicating the quality-risk level of the investment, particularly risk relative to estimated yield.

B. Real Estate Brokerage Pricing Concepts

The majority of real estate investment decisions are influenced by the techniques of the real estate broker, techniques with roots in the basic sales tradition of oversimplification to avoid confusion or multiplication of alternatives for the buyer–decision maker. Often the decision rules of the real estate broker as to "fair market price" use conventional wisdom or rules of thumb and static concepts of net income and cash accounting.

1. *The gross rent multiplier* (GRM) is a popular rule of thumb which suggests that market price is a function of gross rents. For example, small unfurnished apartment buildings may sell in a certain community for 6.5 times gross rent. If gross rents were $10,000, the building would sell for about $65,000. For many types of properties, this approach to forecasting sales price is very accurate,[39] and practitioners adjust the multiplier downward for furnished apartments, which have higher maintenance costs, or upward for new prestige buildings, etc. However, the gross rent multiplier can be misleading, as it may not allow for

difference in operating cost ratios among different buildings, vacancy rates and turnover in different neighborhoods, or changes and trends in interest costs and expense factors. In some strong ethnic neighborhoods, prices remain stable because everyone continues to apply the multiplier long after net income has disappeared due to rising operating costs or mortgage costs. The multiplier gives no hint of yield on equity capital, but it is a workable model because it uses simple data for sales price and gross rents which can be found in the marketplace and because over the years it has worked as a forecasting tool.

2. *The net income multiplier* (NIM), which is similar to the price/earnings ratio of the stock market analyst, is generally inverted in real estate and stated as a capitalization rate. For example, the Realtor will speak of an investment building which "caps out" at .085, when he means that the net income multiplier or price/earnings ratio is 12. The net income multiplier is an improvement on its cousin, the gross rent multiplier, because it explicitly recognizes that operating costs may vary. Since net income is not adjusted for debt service, income tax gains or payments, or downpayments, NIM still is not a very precise tool for comparison of alternatives or evaluation from the investor's viewpoint on a specific property.

3. *Sale price multipliers* based on analysis of market transactions over time are invented by the Realtor as standards. For example, apartment land may sell for $1,500 times the number of permissible units under zoning for the site, or a retail lot may sell for $1,000 per front foot.

It can be seen that brokerage multipliers stress price comparison rather than yield comparison and carry the implicit assumption that other buyers knew what they were doing when they purchased within the range of acceptable market multipliers. Given the pervading influence of the broker on local markets, multipliers have a tendency toward self-fulfilling prophecy in regard to price but leave the riddle of yield unanswered.

C. Professional Appraisal Evaluation Methods

The professional real estate appraiser has prescribed an analytical approach to value which requires each valuation problem to be investigated from three different but related viewpoints of value: *the market comparison approach, the income approach,* and *the cost to replace approach* to value, in order of their appraisal preference and reliability.[40] The appraiser is expected to resolve the different conclusions resulting from each approach through "synthesis and correlation" and provide his client with a single value estimate of market value on a given date, assuming buyers and sellers all have relatively equal alternative courses of action and are reasonably informed on the real estate market and their own space needs.

In a written appraisal report, the appraiser will attempt to specify the financial moods of the country and the real estate investor, the trends in population, employment, and income which affect the metropolitan region in which the property is located, the neighborhood and use attributes of the physical property which affect its productivity and marketability, as well as specific application of the three approaches to value.

1. *The market approach to value* is a comparison of the property under appraisal with similar properties which preferably have been recently sold or are

currently available for purchase. The appraiser attempts to define the marketplace according to the buying pattern of the group of buyers most likely to consider the subject property. For example, there is a national market for large office buildings, and sales may be used from several localities, while the marketplace for a certain type of homebuyer may be a few square blocks, thus excluding sales from other parts of town as appropriate comparables. Since generally each property is unique, the appraiser makes adjustments to the sales price for significant physical differences and conditions as well as for terms, timing, and location differentials in each transaction.[41]

2. *The income approach to value* follows a basic truism that stabilized projected annual income divided by a financial capitalization rate will equal the present capital value of future returns. Rents are established by review of a comparable rental market rather than by reference to actual rents, which may exceed the competitive market level due to existing leases or may lag the market due to poor management or unexpired leases.

The appraiser is concerned with economic productivity of the asset rather than just the present value of the various claims on cash income. Thus, he constructs an expense statement based on accrual accounting and reserves for repair and replacement of assets with a shorter useful life than the property as a whole before arriving at "stabilized" net income of a property, his measure of productivity. This net income figure is then divided by a capitalization rate which is devised according to a number of different theories, depending on the appraiser and the nature of the property. The most legitimate of these alternatives is the Ellwood method of determining a mortgage equity rate,[42] which is an investment band approach to a weighted average return on invested capital (purchase price). It allocates net income to meet financing requirements, amortized resale loss, and a required cash dividend on investor equity on a pretax basis with recognition of the influence on yield of deferred capital appreciation.

This technique recognizes the impact of financial leverage on value and yield as well as the variations on yield possible depending on resale value. It does not recognize after-tax considerations, while it presumes a continuous income function for the forecast period, instant investment, and instant sale. It is a net present-value technique created as a device to accept or reject mortgage loan opportunities and is less than accurate when evaluating development situations, erratic periods of interspersed incomes and outlays, or the influence of purchase price alternatives on yield. Still, it is a sophisticated appraisal technique and a reasonable indicator of appraisal professional competency.

3. *The cost approach to value* first requires estimation of current replacement costs of the improvements, assuming comparable functional utility rather than photographic reproduction. The method used is generally a shortcut estimating system, although occasionally full-scale construction estimates are used. This cost estimate is then adjusted by deducting dollar amounts judged by the appraiser to represent curable and incurable physical deterioration to the improvements, functional obsolescence of the improvements, and economic obsolescence relative to outside conditions affecting the use of the space in question. To this reduced balance the appraiser adds the value of the site, determined generally by means of market comparison assuming the land cleared, vacant, and ready for building.

This approach has the deceptive appearance of objectivity, but in fact it is drastically affected by appraisal judgments and techniques relative to depreciation adjustments. Highly favored for property tax, income tax, and fire insurance purposes, the cost approach is of little use to the investor for price and yield analysis.

There is a minority among professional appraisers who feel that the full standard appraisal approach is too stylized and too concerned with remaining "objective" and generalized to be of use to the investor without interpretive use or sophistry in the internal execution of the report.[43] These appraisers would rely on more exhaustive analysis of market transactions relevant to a property under appraisal or, lacking appropriate market data, simulation of the investment decision techniques of the most probable buyer or buyer group. Value conclusions would be stated as a range within which sales price would be negotiated and conclusions would be tested for reasonableness, in light of yield and risk requirements of probable investor profiles. These appraisers often operate more as counselors, who not only value a property but aid and recommend alternative courses of action for their clients. For these services, the traditional appraisal report is a valuable prerequisite element of research and analysis.

D. The Great Debate—What Are Income, Yield, and Risk?

It was stated in Section II that the rational investment returns from real estate investment consisted of after-tax spendable cash from operations, capital gains on sale, refinancing surplus, and tax savings on other income. Unfortunately, the different segments of the real estate industry that advise real estate investors tend to prefer significantly different and incompatible decision rules. The real estate brokers prefer a cash accounting viewpoint after leverage and taxes but without benefit of projections of returns beyond the first year. The appraiser anticipates projections by depending upon accrual accounting and average revenue and expenses, while shunning consideration of the income tax. The investment counselor is more concerned with explicit year-by-year cash flow projections on an after-tax basis, with careful application of compound interest techniques to reflect the financial characteristics of the investor. Thus, there are a variety of inconclusive measures of yield in common use in real estate, and the issue is further confused by the absence of standardized accounting or reporting forms, such as those that characterize public security markets.

1. *The broker's rate of return*[44] is simply to divide first-year net income before interest and depreciation by the purchase price. This ratio may be modified to relate only to the cash downpayment of the investor by adjusting the numerator to represent spendable cash after debt service or spendable cash plus an adjustment for loan balance reductions.

2. *The Inwood method of discounting* is generally applied to a series of reliable income receipt expectations to determine the present value of the income stream after allowing for complete amortization of the investment and a specified rate of compound returns.

3. *Discounted actual after-tax annual cash receipts* is based on five- and 10-year forecasts of revenues, expenses, and other financial events. This method does recognize the time value of money but depends on annual budget estimates for operations, which may be erroneous, and on a specific assumption as to the

minimum acceptable rate of return for discounting. The Inwood discount formula is used, which assumes reinvestment of cash received at the same rate of return as assumed for the project in question.

4. *The internal rate of return*[45] is a very appropriate technique for capital budget decisions in real estate but finds little application in real estate outside corporate institutional offices due to the difficulty of the mathematics involved. Net present value methods, such as items 2 and 3 above, require the user to assume an arbitrary discount rate and determine the maximum purchase price or investment which is justified. The internal rate of return approach assumes the analyst knows both the stream of benefits expected and the stream of outlays required to make the investment and then computes the discount rate, which makes the present value of the outlays equal to the present value of the receipts.

This technique is appropriate for investment trade-off decisions to determine which is the better of two alternatives, such as proper staging of a project or a choice between central air conditioning and window air conditioning, or between a high-rise building on a small parcel and a low-rise building on a larger parcel. However, the internal rate is the same as the Inwood rate in that it assumes immediate reinvestment of cash receipts at the same rate of return at which one is discounting.

The problem of yield is further confused by the need for which the yield calculation will affect the decision. The investor viewpoint may be prospective, looking ahead only to fund commitments for the next year in which he has several choices; or retrospective, looking back after selling to determine the average annual compound rate of return for the entire span of his investment. Correct application of the Inwood method or the internal rate of return is retrospective, as all proceeds must be in or assumed as to the year of receipt before the calculation can be made.

A prospective rate of return is concerned with only the after-tax cash to be received in the following year divided by the net cash equity, assuming liquidation of the investment at the end of the previous year. Net cash equity is assumed sale proceeds adjusted for brokerage costs, debt repayment and penalties, income taxes on recapture, capital gains taxes, and costs of business dissolution. The individual investor has neither the data for long-term forecasting nor the efficiency in reinvestment which characterizes the institutional investor and the assumptions of discounted cash flow or internal rate of return yield analyses.

Moreover, the individual investor does not have a sufficient number of investment exposures that he can give a probability estimate of possible losses or fund a reserve for investment decline. Therefore, instinctively the individual investor favors the prospective short-term view of cash returns and meets risk by first applying these cash returns to recovery of risk capital and then treating these returns per annum relative to the liquidating value proceeds. Projections of cash flows too far in the future will either be wide of the mark, if established by third-party observers, or will be in the nature of self-fulfilling prophecies, if used to establish future management objectives.

Thus, the prospective yield (after-tax cash plus after-tax change in net worth for the coming year divided by liquidating net worth cash assumed for end of previous year) remains the most pragmatic method for comparing an income property to be purchased or sold to available investment alternatives. It focuses

on current alternatives and short-term forecasts, avoiding long-term assumptions and theoretical issues of discounting more appropriate to the institutional investor.

A forecast of outlays and income for purposes of computing yield appears to imply conditions of certainty about the numbers when, of course, these prospects and pro forma expectations are uncertain. Risk is concerned with the potential variance between these expectations, as stated in pro forma forecasts, and actual realization, as represented by year-end accounting reports. The wise investor searches for those financial assumptions in which a variance will cause the greatest disappointments relative to yield or the worst damage in terms of additional cash requirements. Studies have shown that yield on real estate investment is most sensitive to the following items in descending order of importance:

1. Cost to construct or remodel or acquire
2. Loan ratio to cash costs
3. Interest rate and rate of repayment of principal
4. Real estate taxes
5. Operating expenses
6. Cost of land

Risk management would therefore emphasize the need to shift the risk of construction cost variation by contract, to reduce the indirect costs of construction by preleasing of space, while being less concerned with the final nickel paid for the cost of land. Nevertheless, negotiation for land is what many people like more than the fussy detail work of proper construction planning and bidding. Risk control in real estate therefore implies detailed attention to each factor which could cause financial results to vary from initial financial assumptions.

This type of patient discipline distinguishes professional investors from the boys at the office who decide to pool their lunch money for a flyer in real estate. Risk in real estate can be controlled by careful contract drafting, patience, and a policy of always providing escape clauses at some acceptable point of loss. Yield is an arithmetical relationship of outlays and receipts, and has nothing to do with risk.

5. *The modified internal rate of return* is perhaps the best of the capital budget and discount methods for real estate *equity* valuation. Equity returns in real estate generally exceed 15 percent, perhaps should exceed 25 percent, and on properly leveraged successful developments may approach 100 percent compounded annually! (Rates of return are deceptive until the dollars of investment and dollars of profit are stated; one can starve to death on a 100 percent profit on a $5 investment.) It is unlikely, however, that the investor has a continuous flow of such opportunities. Typically, the investor will pocket his profits at the savings and loan at 6 percent until he has another downpayment accumulated and a good opportunity to employ it, or perhaps a corporation will reemploy the money in its retailing business at an annual return of 15 percent.

In short, the reinvestment assumption of Inwood or the internal rate of return is not very realistic and can seriously distort comparisons between two investments which have a different pattern of outlays and receipts or where the investor has limited resources and a rising marginal cost of additional capital. Therefore, it is recommended that discount rates be applied in three stages:

a. First, the outlays scheduled over time during the process of acquisition and development should be discounted back to the beginning of the time line at the opportunity cost of capital, such as 6 percent for the individual above or 15 percent for the retailer.
b. Secondly, the annual receipts scheduled over time should each be compounded forward at the appropriate reinvestment rate to the end of the forecast period.
c. The third step would be to compute the internal rate of return which makes the present value of the outlays equal to the present value of the sum of compounded returns.

E. Investment Real Estate Counseling Guidelines

An illustrative apartment house investment case is provided in Figure 2. The first essential requirements of investment analysis are assumptions as to acquisition and remodeling cost allocations, income and expense patterns, depreciation bookkeeping for tax purposes, and the terms for financing purchase. All of these have been drawn from the facts of the case presented and then placed into the computer model.[46] These inputs are summarized in the first part of the output, but the financial analysis is presented in the second part. While the annual pro forma income statements and net worth statements are generally self-explanatory, the counseling value of the ratios and values derived needs some discussion:

1. *Percent initial equity payback after tax* is a measure of risk exposure of the equity investor. His measure of risk is the amount of equity capital exposed to loss, that is, unrecovered cash outlays. The equity ratio indicates he has recovered 52 percent of his original outlay by the end of the fifth year, so that only 48 percent of his original investment might still be lost due to some unforeseen natural or financial disaster. With his refinancing of the project in the sixth year, he has recovered 100 percent of his capital. While a five- or six-year recovery span of capital is common, many investors would look for a more rapid recovery by reducing the downpayment in order to cover the smaller equity exposure from spendable cash more quickly. This cumulative payback ratio is an index of risk to the equity position.

2. *The default ratio* is a measure of risk to the creditors indicating the cash break-even point as a percent of gross rent. Expenses, real estate taxes, interest payments, and principal payments are all included in cash requirements. An acceptable default ratio may be .85 on low-rent apartments, for which there is always a need, or .50 on unproven motel operations. In this case, refinancing is excessive in years eight to 10.

3. *The net income to market value ratio* is the broker's yield or the appraiser's overall capitalization rate or the inverse of the price/earnings ratio.

4. *Bonus interest rate* measures the cost of supplementary interest loans relative to average loan balance outstanding. In this case, the new loan obtained in the sixth year is presumed by the analyst to contain a supplementary interest clause to be 4 percent of gross rents in addition to a basic contract rate of 8 percent. While 4 percent sounds excessive, the computer analysis shows that the dollars paid represent about 1.2 percent additional interest on the average yearly balance outstanding.

FIGURE 2

ANALYSIS FOR PURCHASE OF APARTMENT HOUSE INVESTMENT*

1. Assume you wish to analyze the investment value at alternative purchase prices of a 24-unit apartment building, located at 2575 University Avenue, Madison, Wisconsin. The building has 12 two-bedroom apartments that each rent furnished for $140 per month and 12 one-bedroom apartments that each rent for $125 per month. The building is five years old, unfurnished, in need of maintenance, and available as is for about $225,000.
2. The building is well located, and vacant land in the area is selling for about $1,700 per unit. This means that $40,000 of the purchase price could be designated as land value. In addition to the land and building, the purchase price could be allocated to include $12,500 for the elevator and $7,200 to the parking stalls.
3. Market analysis indicates that the building would rent very well if all the units were carpeted and furnished. For this work, it is estimated that it would cost $600 per two-bedroom unit and $500 for each one-bedroom unit, or a total investment of $13,200 by the prospective buyer.
4. The total capital expenditures could be allocated for depreciation purposes as follows, keeping in mind that the prospect would be a second user and therefore entitled to only a maximum of 125 percent declining balance, except for his new investment in furnishing. The percent depreciable and the number of years of remaining useful life are reasonable estimates, given some knowledge of the practices of the Internal Revenue Service and the condition of the building:

Land	$ 40,000	No depreciation allowed
Parking	$ 7,200	50% 10 years 125%
Furnishings	$ 12,500	90% 7 years sum of the digits
Building	$165,300	100% 35 years 125%
Transaction costs	$ 1,800	100% 35 years 125%

5. After completion of repairs and refurbishing, it is anticipated that the two-bedroom apartments will rent for $170 a month and the one-bedrooms for $150 per month. The gross rent roll of the building would then be

$$\$170 \times 12 \times 12 = \$24{,}480$$
$$\$150 \times 12 \times 12 = \underline{21{,}600}$$
$$\$46{,}080$$

6. During the first year of changeover in ownership, refurbishing, and re-leasing, you estimate that each unit will be vacant about two months, that is, about one-sixth of the time (i.e., a vacancy of 17 percent), so that your average occupancy will be 83 percent of potential for the first year. Thereafter you anticipate a normal vacancy rate of 5 percent, or an occupancy of 95 percent. Thus, first-year extra expenses include an additional 12 percent of future gross for rental losses.
7. The current real estate and personal property taxes to be paid in the first year following purchase are estimated to be $9,000. The normal current operating expenses, excluding real estate taxes but including management fees, are determined to be $8,400.
8. The property has been poorly maintained and will require additional expenditures of $2,100 in the first year to justify the new rent schedule. This deferred maintenance charge will be added to the normal operating expenses of the first year.

*University of Wisconsin, Real Estate Investment Teaching Model Demonstration Case Study.

FIGURE 2 (Continued)

9. The buyer is considering this property because his accountant suggested that with his 30 percent tax bracket, including state and federal taxes, he should look for some tax shelter to offset some of his other current income. Using the accelerated method of depreciation, this real estate project should satisfy this requirement.
10. The investor feels that while the normal ratio of market value to income in his community ranges between 8 percent and 11 percent, proper financing should raise the pretax yield on his cash equity to at least 18 percent. The accountant suggests that if the investor considers the cash saved on deferred income taxes due to depreciation, the investor should seek at least 18 percent to 22 percent on his investment annually on an after-tax basis. His opportunity cost is 12 percent, as that is his common stock return including capital gains.
11. The financing available to the investor would initially combine the assumption of a first mortgage with a balance of $180,000 with 240 months to run and a second mortgage taken back by the seller to be repaid in 10 years, in monthly payments. The investor would plan to refinance both loans at the end of the sixth year of ownership when the prepayment penalty would lapse on the first mortgage. The seller feels he should receive $1,000 as points on the second mortgage since that is the discount he will take when he sells the note.

1st mortgage	$180,000 20-year 7.75% 5-year balloon
Private loan	$15,000 10-year 8.5% $1,000 discount 5-year balloon

12. While the seller will pay for title insurance, a survey, and related items, the buyer expects to pay about $800 in professional appraisal and legal fees related to this transaction. These fees plus points in no. 11 equal transaction costs of $1,800, which increase original cash required and must be amortized over life of structure.
13. Temporary cash deficits at the end of any month can be covered with bank notes at a rate of 9 percent per annum and repaid out of positive cash flows when available.
14. The financial plan is to maintain a highly leveraged position and therefore pay off the original loans at the end of the fifth year by obtaining a new mortgage. To discover some measure of influence of such refinancing on yield to equity and cash flows, the investor will assume that in five years the best loan he could obtain would equal $190,000 for 20-year term at 8 percent interest. The age of the building at that time would require granting a bonus interest feature equal to 4 percent of gross rent as of the beginning of the sixth year when the loan begins.
15. In the seventh year it is anticipated that additional refurbishing would be required in addition to ordinary annual replacement expenses. $10,000 is budgeted as additional refurbishing component to start for the eighth year, and it is expected that appliance dealer terms will be at 9 percent and 18 percent constant, that is, $150 a month.
16. Over a period of time, rents, expenses, real estate taxes, and resale value of the property could be expected to shift due to age of the property and inflation.

➔

FIGURE 2 (Continued)

a. Rents are determined to increase at a rate of 2 percent per year of first-year rents, thus indicating a relative loss of growth as the property ages.
b. Operating expenses excluding real estate taxes have also generally increased in the community at a rate of 2 percent per year relative to first-year costs.
c. Real estate taxes, however, have increased at a rate of at least 5 percent per year for the last five years in the community, and no relief is immediately in sight.
d. Extraordinary expenses in the first year will include $2,100 of deferred maintenance, which can be deducted as an expense rather than capitalized. In addition, rents are overstated pending completion of remodeling in the first year and a return to normal vacancy of 5 percent of gross. The difference between an expected vacancy of 17 percent and 5 percent is 12 percent of gross, or $5,525. To adjust net income accordingly, extraordinary expenses are therefore the sum of $2,100 + $5,525, or $7,625.

17. A conservative expectation for resale price of this apartment building, which will be 15 years old at the end of the 10-year forecast, is $275,000, or about 115 percent of the original investment in the property. However, the cost of sale for broker's fees, etc., would be at least 5 percent, so that the investor might receive net liquidating sale proceeds of about 110 percent of the original investment. Thus, the growth rate in liquidating sale proceeds is assumed to be about 1 percent a year. For example, at the end of the second year it is assumed that the investor could sell at 106 percent but, considering a 5 percent transaction cost, he would realize a net market value of 101 percent of his original investment.

It should be pointed out that while such a factor for inflation seems modest, in a highly leveraged position the impact of an optimistic resale price on equity yield can be very misleading in the early years. (Caveat: If the building is a good investment under conservative assumptions, it is a better investment if more capital gains and income are realized than anticipated. It is less risky to make money with sound buys than with dreams of good sales.)

ANALYSIS OF 24-UNIT APARTMENT BUILDING—CASE 1

Components	Pct. Depr.	Begin Use	Useful Life	Depr. Method	Cost
Land	0.00%	1	0.00	0	$ 40,000
Building	1.00	1	35.00	3	165,300
Elevator	0.80	1	9.00	3	12,500
Furnishings	1.00	1	7.00	5	13,200
Parking	0.50	1	10.00	3	7,200
Transaction Cost	1.00	1	35.00	3	1,800
7th Yr. Refurbish	1.00	8	7.00	1	10,000
Total Initial Investment					$240,000

Gross Rent	$46,080	Rate of Growth of Gross Rent	0.0200
Expenses	$8,400	Rate of Growth of Expenses	0.0200
R. E. Taxes	$9,000	Rate of Growth of R. E. Taxes	0.0500
Income Tax Rate	0.3000	Rate of Growth of Project Value	0.0100
Vacancy Rate	0.0500	Working Capital Loan Rate	0.0900
Equity Discount Rate	0.1800	Extraordinary Expenses	$7,625
Staging Yr. (0) Factor	0.0000	Cost of Equity Capital	0.1200

FIGURE 2 (Continued)

CASE 1 (Continued)

	1	2	3	4	5
Cash Equity Required	$45,000.00	$45,000.00	$45,000.00	$45,000.00	$45,000.00
Financing Plan					
First Assumed Mortg. $180,000	Monthly Payment $1,477		Interest Rate .0775		Starts 1
	1	2	3	4	5
Principal	$ 3,919.00	$ 4,234.00	$ 4,574.00	$ 4,942.00	5,339.00
Interest	13,812.00	13,497.00	13,157.00	12,790.00	12,393.00
Balance	$176,080.00	$171,845.00	$167,270.00	$162,328.00	$156,989.00
Seller's 2nd Mortg. $15,000	Monthly Payment $185		Interest Rate .0850		Starts 1
	1	2	3	4	5
Principal	$ 994.00	$ 1,082.00	$ 1,178.00	$ 1,282.00	$1,396.00
Interest	1,236.00	1,148.00	1,053.00	948.00	835.00
Balance	$14,005.00	$12,922.00	$11,743.00	$10,460.00	$9,064.00
Refinanced First $190,000	Monthly Payment $1,589		Interest Rate .0800		Starts 6
	1	2	3	4	5
Principal	0	0	0	0	0
Interest	0	0	0	0	0
Balance	0	0	0	0	0
Refurbish Chattel $10,000	Monthly Payment $150		Interest Rate .0900		Starts 8
	1	2	3	4	5
Principal	0	0	0	0	0
Interest	0	0	0	0	0
Balance	0	0	0	0	0

	6	7	8	9	10
Cash Equity Required	$50,000.00	$50,000.00	$50,000.00	$50,000.00	$50,000.00
Financing Plan					
First Assumed Mortg. $180,000	Ends 5		Bonus Interest .0000 of Gross Rent		
	6	7	8	9	10
Principal	0	0	0	0	0
Interest	0	0	0	0	0
Balance	0	0	0	0	0
Seller's 2nd Mortg. $15,000	Ends 5		Bonus Interest .0000 of Gross Rent		
	6	7	8	9	10
Principal	0	0	0	0	0
Interest	0	0	0	0	0
Balance	0	0	0	0	0
Refinanced First $190,000	Ends 10		Bonus Interest .0400 of Gross Rent		
	6	7	8	9	10
Principal	$ 4,016.00	$ 4,349.00	$ 4,710.00	$ 5,101.00	$ 5,524.00
Interest	15,054.00	14,721.00	14,360.00	13,969.00	13,546.00
Balance	$185,983.00	$181,634.00	$176,924.00	$171,822.00	$166,297.00
Refurbish Chattel $10,000	Ends 10		Bonus Interest .0000 of Gross Rent		
	6	7	8	9	10
Principal	0	0	$ 938.00	$1,026.00	$1,122.00
Interest	0	0	861.00	773.00	677.00
Balance	0	0	$9,061.00	$8,035.00	$6,913.00

FIGURE 2 (Continued)

ANALYSIS OF 24-UNIT APARTMENT BUILDING—CASE 2

	1	2	3	4	5
Gross Rent	$ 46,080.00	$ 47,001.00	$ 47,923.00	$ 48,844.00	$ 49,766.00
Less Vacancy Allowance	2,304.00	2,350.00	2,396.00	2,442.00	2,488.00
Effective Gross Income	43,776.00	44,651.00	45,527.00	46,402.00	47,278.00
Less Real Estate Taxes	9,000.00	9,450.00	9,900.00	10,350.00	10,800.00
Less Expenses	16,025.00	8,568.00	8,736.00	8,904.00	9,072.00
Net Income	18,751.00	26,633.00	26,891.00	27,148.00	27,406.00
Less Depreciation	11,469.00	10,537.00	9,640.00	8,775.00	7,940.00
Less Interest	15,049.00	14,646.00	14,210.00	13,739.00	13,229.00
Taxable Income	-7,768.00	1,449.00	3,039.00	4,633.00	6,236.00
Plus Depreciation	11,469.00	10,537.00	9,640.00	8,775.00	7,940.00
Less Principal Payments	4,914.00	5,317.00	5,753.00	6,224.00	6,735.00
Cash Throw-Off	-1,213.00	6,669.00	6,926.00	7,184.00	7,441.00
Less Taxes	0.00	434.00	911.00	1,390.00	1,870.00
Cash from Operations	-1,213.00	6,234.00	6,014.00	5,794.00	5,570.00
Working Capital Loan (Cum Balance)	1,213.00	0.00	0.00	0.00	0.00
Spendable Cash after Taxes	0.00	4,911.00	6,014.00	5,794.00	5,570.00
Tax Savings on Other Income	2,330.00	0.00	0.00	0.00	0.00
Market Value	242,400.00	244,800.00	247,200.00	249,600.00	252,000.00
Balance of Loans	191,298.00	184,767.00	179,014.00	172,789.00	166,054.00
Net Worth of Property	51,101.00	60,032.00	68,185.00	76,810.00	85,945.00
Capital Gain	10,253.00	20,506.00	30,759.00	41,013.00	51,266.00
Capital Gains Tax	1,537.00	3,075.00	4,613.00	6,151.00	7,689.00
Income Tax on Excess Depreciation	1,084.00	1,890.00	2,426.00	2,702.00	2,729.00
Percent Initial Equity Payback after Tax	0.0517	0.1609	0.2946	0.4233	0.5471
Net Income/Market Value Ratio	0.0773	0.1087	0.1087	0.1087	0.1087
Return on Net Worth before Taxes	0.1086	0.3052	0.2511	0.2318	0.2158
Return on Net Worth after Taxes	0.1290	0.2372	0.2196	0.2061	0.1933
Cash Return or Original Cash Equity before Tax	-0.0269	0.1482	0.1539	0.1596	0.1653
Cash Return on Original Cash Equity after Tax	0.0517	0.1091	0.1336	0.1287	0.1237
Default Ratio	0.9763	0.8339	0.8054	0.8029	0.8004
Lender Bonus Interest Rate	0.0000	0.0000	0.0000	0.0000	0.0000
Present Value of Project before Taxes	$238,306.00	$242,903.00	$245,505.00	$247,329.00	$248,531.00
Present Value of Project after Taxes	$238,058.00	$240,050.00	$241,378.00	$242,202.00	$242,600.00

5. *Cash returns on original cash equity,* either before or after taxes, measure the prospective rate of return for the individual investor. Note that in the first year, tax savings on other income provide a positive yield after taxes of more than 5 percent even though pretax returns are negative. In the sixth year, a refinancing surplus of nearly $24,000 drops into spendable cash after taxes, and therefore cash after-tax yield is much higher than pretax yield, which does not recognize the refinancing surplus. While the approach in this ratio follows real estate

FIGURE 2 (Continued)

CASE 2 (Continued)

	6	7	8	9	10
Gross Rent	$ 50,688.00	$ 51,609.00	$ 52,531.00	$ 53,452.00	$ 53,374.00
Less Vacancy Allowance	2,534.00	2,580.00	2,626.00	2,672.00	2,718.00
Effective Gross Income	48,153.00	49,029.00	49,904.00	50,780.00	51,655.00
Less Real Estate Taxes	11,250.00	11,700.00	12,150.00	12,600.00	13,050.00
Less Expenses	9,240.00	9,408.00	9,576.00	9,744.00	9,912.00
Net Income	27,663.00	27,921.00	28,178.00	28,436.00	28,693.00
Less Depreciation	6,762.00	5,942.00	7,729.00	7,144.00	6,571.00
Less Interest	17,082.00	16,785.00	17,323.00	16,881.00	16,398.00
Taxable Income	3,818.00	5,192.00	3,125.00	4,410.00	5,723.00
Plus Depreciation	6,762.00	5,942.00	7,729.00	7,144.00	6,571.00
Less Principal Payments	4,016.00	4,349.00	5,648.00	6,127.00	6,647.00
Cash Throw-Off	30,510.00	6,785.00	15,206.00	5,427.00	5,647.00
Less Taxes	1,145.00	1,557.00	937.00	1,323.00	1,716.00
Cash from Operations	29,365.00	5,227.00	14,268.00	4,104.00	3,930.00
Working Capital Loan (Cum Balance)	0.00	0.00	0.00	0.00	0.00
Spendable Cash after Taxes	29,365.00	5,227.00	4,268.00	4,104.00	3,930.00
Tax Savings on Other Income	0.00	0.00	0.00	0.00	0.00
Market Value	254,400.00	256,800.00	269,200.00	271,600.00	274,000.00
Balance of Loans	185,983.00	181,634.00	185,985.00	179,858.00	173,211.00
Net Worth of Property	68,416.00	75,165.00	83,214.00	91,741.00	100,788.00
Capital Gain	61,519.00	71,773.00	83,455.00	95,329.00	106,757.00
Capital Gains Tax	9,227.00	10,765.00	12,518.00	14,299.00	16,013.00
Income Tax on Excess Depreciation	2,401.00	1,828.00	1,362.00	663.00	0.00
Percent Initial Equity Payback after Tax	1.0797	1.1843	1.2696	1.3517	1.430
Net Income/Market Value Ratio	0.1087	0.1087	0.1046	0.1046	0.1046
Return on Net Worth before Taxes	0.1510	0.1978	0.3093	0.1676	0.160
Return on Net Worth after Taxes	0.1406	0.1939	0.1762	0.1665	0.155
Cash Return or Original Cash Equity before Tax	0.6102	0.1357	0.3041	0.1085	0.112
Cash Return on Original Cash Equity after Tax	0.5873	0.1045	0.0853	0.0820	0.078
Default Ratio	0.8204	0.8185	0.8508	0.8484	0.846
Lender Bonus Interest Rate	0.0122	0.0110	0.0115	0.0114	0.012
Present Value of Project before Taxes	$247,609.00	$247,992.00	$255,579.00	$255,349.00	$255,001.00
Present Value of Project after Taxes	$241,500.00	$241,748.00	$246,686.00	$246,477.00	$246,115.00

investor attitudes relative to original cash equity and thus avoids speculation as to resale value, a more accurate prospective cash return could be obtained by comparing cash throw-off (pretax cash) or spendable cash after taxes to the liquidating net worth of the property at the end of the previous year.

6. *Returns on net worth before and after taxes* include both cash and net worth gains and the prospective rate of return analysis. In order to include change-of-net-worth in the numerator, it is necessary to assume a resale value

net of transaction cost, and here there is room for debate. Some analysts might forecast steady appreciation due to inflation, as in this case, while others might assume market value might remain constant; still others, such as many insurance companies, depreciate market value or yield calculations on a straight-line basis regardless of actual market prices. If market values were to match those of the assumptions in this case, the return on net worth after taxes would be typical of real estate investments even after deduction for taxes on sale, including both income taxes recaptured on excess depreciation and capital gains taxes on the recognized capital gain, which are computed in this problem in the line "taxes on sale."

The opportunity for estate accumulation in real estate is in some ways similar to that in whole life insurance. The life insurance contract is often explained as a device by which one first creates an estate and then saves to accumulate it. To the degree that mortgage loans to purchase real estate can be financed from the property itself, income real estate also offers the possibility of creating an estate and then saving to accumulate it, using depreciation relative to amortization to provide a tax advantage similar to the interest assumption built into life insurance premium costs.

7. *The present value of the project before and after taxes* is the Inwood approach to discounting and a retrospective view of yield. Traditionally, the real estate appraiser has used Inwood rather than the internal rate of return because the mortgage lender used Inwood, which is appropriate to single outlay level periodic returns types of fixed dollar. The Inwood method also assumes immediate reinvestment of collections at the same rate as the discount rate, which may be true for the institutional investor but is seldom the case for the individual. Reinvestment at the same interest rate is plausible, as mortgage rates once fluctuated slowly over a range of less than 1.5 percent and the error factor is not serious. However, when applied to higher discount rates, such as 20 or 30 percent on equity, the possibility of reinvestment in a volatile market immediately at the same rate is remote and capable of producing significant mathematical errors. Nevertheless, at this time the real estate fraternity generally applies the Inwood discounting method to both the credit and the equity positions.

8. *Equity rate with cost of capital* at 12 percent is the internal rate of return modified for cost of capital as defined in D(5) in the previous section. Note that the true rate of return falls below the desired 18 percent after the fifth year, suggesting that the real estate is of declining investment quality, although the present net value system suggests that its maximum value is reached somewhere in the eighth or ninth year. Reference from cash return on original equity cash after tax shows that from the eighth year on, it is less than the reinvestment opportunity rate at 12 percent and thus suggests its strong influence on the falling modified internal rate of return.

In this case, the present value of the project after taxes represents the sum of original mortgage balances (which are the present values of debt service payments), plus the present value of spendable cash after taxes and tax savings on other income, plus the present value of the net worth less taxes on sale for any given year. This sum must equal or exceed the original total investment if the project is to produce the assumed minimum yield desirable to equity of 18 percent (in this case).

Thus, the bottom line of the output suggests the investor must hold the property at least three years and then sell for a net of $242,000 before he can reach an 18 percent annual compound yield and have 100 percent recapture of his $40,000 downpayment. The investor must relate 18 percent yield to the relatively slow payback of equity in this case, the modest cash returns on equity each year, the potential range of error in his forecast of remodeling costs and operations, and the doubtful likelihood of netting $244,800 after payment of $16,000 for brokers' 6 percent commissions three years after acquiring the property.

This investment could be compared to several alternative buildings available on the market analyzed in the same fashion. Obviously, the investment yields indicated depend upon all the assumptions made for one run of the model. The yield indicated is therefore only one possible outcome, and the case is used to suggest the needs and limitations of cash flow forecasting when little is determined by contract or predictable in amount.

F. Real Estate Investment Value Conclusions

Careful study of the cash and valuation forecast for the 24-unit apartment building case will suggest a basic fact in real estate investment planning, specifically, that the investor makes his money with a good purchase price rather than a lucky sale. Moreover, the tax advantage in real estate is largely in the relationship between principal payments and depreciation allowances which permit repayment of debt with pretax dollars. Tax savings on other income is often overrated and oversold, particularly with the increasing impact of the 1969 Tax Reform Act.

Finally, it should be noted that manipulation of financing, income tax alternatives, and various approaches to yield and risk all presume that the real estate property in question is inherently productive and will remain so. Nevertheless, as suggested by the economic characteristics of real estate and the dilemmas of a price economy in which it must operate, real estate in the decade 1970 to 1980 must be regarded as highly unstable in its operating character. For the decade ending in 1980, real estate will be the stage upon which some major technological, financial, and legislative dramas will occur.

Building techniques and land development patterns will accelerate functional obsolescence of existing properties, the capital markets and further changes in the tax laws will reshape real estate finance, and the need for intensive regulation of land use for environmental control and social evolution will further expand the prerogatives of public control. The definition of a "real estate equity" is elastic and volatile. Real estate investments are therefore difficult for those who like to use rules of thumb.[47]

Notes

1. For further discussion see Charles M. Haar, ed., *Law and Land: Anglo-American Planning Practice* (Cambridge, Mass.: Harvard University Press and M.I.T. Press, 1964).

2. For a nontechnical discussion of the relationship between population growth and urban construction patterns, read Serge Chermayeff and Christopher Alexander, *Community and Privacy: Toward a New Architecture of Humanism* (New York: Doubleday & Company, 1963).

3. The psychological impact of space is reviewed in readable fashion in Edward T. Hall, *The Hidden Dimension* (New York: Doubleday & Company, 1966).

4. Arthur M. Weimer, "Real Estate Decisions Are Different," *Harvard Business Review*, November–December 1966.

5. Sherman J. Maisel, Financing Real Estate: Principles and Practices (New York: McGraw-Hill, 1966).

6. Howard F. McCloy, *Managing Corporate Real Estate* (New York: American Management Association, 1967).

7. For a short prose and visual presentation of transportation choices, see "Transportation and the City," *Architectural Forum*, October 1963.

8. Lee Grabler, Louis Winnick, and David Blank, *Capital Formation in Residential Real Estate* (Princeton, N.J.: Princeton University Press, 1956).

9. James A. Graaskamp, "A Practical Computer Service for the Income Approach," *The Appraisal Journal*, January 1969.

10. Roy P. Drachman, "The High Cost of Molding Land," *Urban Land*, October 1968, pp. 10–12.

11. *Savings and Loan Fact Book* (Chicago: United States Savings and Loan League, 1970).

12. William F. Leahy, "Collateral Trust Issues," *The Mortgage Banker*, February 1969.

13. Kenneth D. Campbell, "The Real Estate Investment Trust—New Wonderchild," *Real Estate Review*, Winter 1972. For a more extensive treatment of the complex subject, try Kenneth D. Campbell, *The Real Estate Trusts: America's Newest Billionaires* (New York: Audit Investment Research, 1971).

14. John C. Opperman, "Lender-Development Participation," *The Mortgage Banker*, September 1968.

15. Ibid.

16. For a thorough introduction and reference book on federal taxes and real estate, see John O. McCoy, Harry A. Olsen, et al., *Federal Taxes Affecting Real Estate* (Chicago: National Institute of Farm and Land Brokers, 1971).

17. The best source for basic real estate law written for the layman is Robert Kratevil, *Real Estate Law*, 5th edition (Englewood Cliffs, N.J.: Prentice-Hall, 1969).

18. For a more thorough introduction into forms of ownership, acquisition, and disposal of real estate, see Paul F. Wendt and Alan R. Cerf, *Real Estate Investment Analysis and Taxation*, Chapter 4 (New York: McGraw-Hill, 1969).

19. Paul Bernstein, "Limited Partnerships—Their Use in Real Estate Syndications," *Taxes, The Tax Magazine*.

20. Sheldon Schwartz, "How to Find Tax Shelter as a Limited Partner," *Real Estate Review*, Summer 1971. See also Peter M. Fass, "The Regulated World of the Real Estate Syndicates," *Real Estate Review*, Winter 1972.

21. For a listing of major real estate investment trusts, use National Association of Investment Funds, *The Handbook of Member Trusts* (Boston: Author, 1970).

22. National Association of Housing Cooperatives, *Cooperative Housing* (Washington, D.C.: Author, Fall 1963).

23. Daniel Berman, *How to Organize and Sell a Profitable Real Estate Condominium* (Englewood Cliffs, N.J.: Prentice-Hall, 1966).

24. "The ABC's of Going Public," *House and Home*, May 1970.

25. "Equity Participations" (Joint Ventures), *The Mortgage Banker*, June 1968.

26. For a critical review of land development companies, see Abraham J. Briloff, "Castles of Sand?" *Barron's Weekly*.

27. For an excellent demonstration of comparison techniques for housing and real estate securities, refer to Kenneth D. Campbell, "How 43 Publicly Owned Housing Companies Fared in 1967," *House and Home*, August 1968.

28. For a critical review of the economic flaws in prefabrication and "Operation Breakthrough" sponsored by the Department of Housing and Urban Development, read the entire issue of *House and Home*, February 1970.

29. John Flanagan, "Pacific Northwest Forest Products," *Financial Analysis Journal*, January–February 1969.

30. Samuel L. Hayes III and Leonard M. Harlan, "Real Estate as a Corporate Investment," *The Harvard Business Review*, July–August 1967.

31. R. Bruce Ricks, *Recent Trends in Institutional Real Estate Investment*, Research Report No. 23 (Berkeley, Calif.: University of California Center for Real Estate and Urban Economics, 1964).

32. For an expanded treatment of feasibility studies, see James A. Graaskamp, *A Guide to Feasibility Analysis*, 2d edition (Chicago: Society of Real Estate Appraisers, 1972).

33. The best handbook on design trends and research with mailing addresses to hundreds of sources of special-use property data is J. Ross McKeever, ed., *The Community Builders Handbook* (Washington, D.C.: ULI–the Urban Land Institute, 1969).

34. A good summary of real estate investment implications of the 1969 Tax Reform Act is "The Tax Reform Act of 1969 as It Affects Real Estate," *The Real Estate Appraiser*, March 1970, pp. 5–14.

35. The 1969 law on accelerated depreciation applies to buildings acquired or constructed after July 24, 1969.

36. FHA 221(d)(3) residential rental projects.

37. FHA 236 subsidized interest. Limited dividend rental projects for low-income families.

38. Richard U. Ratcliff, *Modern Real Estate Valuation* (Madison, Wis.: Democrat Press, 1967).

39. Richard U. Ratcliff, "Capitalized Income Is Not Market Value," *The Appraisal Journal*, January 1968, pp. 33–41.

40. For a thorough treatment of the appraisal of income property, see William N. Kinnard, Jr., *Income Property Valuation* (Lexington, Mass.: Heath Lexington Books, 1971).

41. For more detailed explanation, see Alfred A. Ring, *The Valuation of Real Estate*, Chapters 9 and 10 (Englewood Cliffs, N.J.: Prentice-Hall, 1970).

42. James E. Gibbons, "Mortgage Equity Capitalization: Ellwood Method," *The Appraisal Journal*, April 1966, pp. 196–202.

43. Paul F. Wendt, "Recent Developments in Appraisal Theory," *The Appraisal Journal*, October 1969, pp. 485–500.

44. For an expanded discussion, see Wendt and Cerf, *Real Estate Investment Analysis and Taxation*, Chapter 2.

45. For a more thorough and readable explanation of "modified internal rate of return," every real estate analyst should be familiar with Robert H. Baldwin's article "How to Assess Investment Proposals," *Harvard Press*, May–June 1959, pp. 98–104.

46. The demonstration is a teaching model developed and used by the University of Wisconsin School of Business Computer Center. A variety of commercial models are available from time-sharing computer centers throughout the country.

47. Samuel I. Hayes III and Leonard M. Harlan, "Caveat Emptor in Real Estate Equities," *Harvard Business Review*, March–April 1972, pp. 86–96.

Notes on the Organization and Investment Attributes of Limited Partnerships

(Class Notes)

I. *The limited partnership has undergone a variety of transformations in the real estate investment area.*

   A. *It is used at the local level for small groups of passive investors providing capital for land banking, investment clubs, and group investment packaged by a local real estate broker.*

   B. *For a time a number of specialists packaged partnerships, often combining securities in a French plan. When a well-known syndication plan called SIRE faltered because it was unable to pool its cash resources legally to save a motel project, a number of other operations, such as that of Marvin Kratter, converted to public corporations and lost their exclusive real estate orientation. Indeed, Kratter Corporation went into the business of sports franchises, shipbuilding, etc.*

   C. *By 1959 the idea of large-scale limited partnership operations was thought to be unwieldy, and the Real Estate Investment Trust Act was expected to provide corporate characteristics for a tax conduit for the small investor. However, the Internal Revenue Service required that the trust be passive and that losses could not pass through to the investor, so that it is an imperfect conduit and cuts off the investor from participation in the creative aspects of real estate investment.*

   D. *As the tax shelter became popularized and mortgage money became tight or too expensive, developers saw a way to finance equity requirements by use of the limited partnership. Popularity was underscored by the 1969 Tax Reform Act, FHA program, and the poor performance and bad press given the stock market, mutual funds and, in some cases, cattle and oil tax-shelter devices.*

E. *In the last five years, a new breed of real estate financier has appeared—a packager of real estate syndicates. These packagers have a number of motivations:*
   1. *Creation of a market for a property in which they have other profit centers such as construction, land, or mortgage financing, but which they don't want to own.*
   2. *For a company with expertise and rapid expansion of branches, syndication has many advantages over franchising or simple internal financing because it can obtain 100 percent financing, retain control as a general partner, and receive profits according to a distribution schedule with incentive kickers.*
   3. *A syndication has interesting applications for funding high-risk business interests with a lower break-even point as interest on the money invested is contingent on earnings, while even losses in the early years are attractive to certain types of investors.*
   4. *For the commissions and profits involved in buying wholesale and selling retail, there is a variety of profit cuts which can be taken.*

F. *Packaging involves a very complex process for both the promoter and the investor. There are two basic forms of syndication. In one, the property or properties are specified from the outset, while in the other the actual property is unspecified—often termed a "blind pool syndication"—and it is of growing popularity.*
   1. *For the specified asset syndication, the promoter first finds a desirable property to control with an option or conditional purpose while he goes through a period of securing regulatory approval and raising investor money. An unpredictable and prolonged process at best, sellers demand a higher price than they would receive with a quick closing.*
   2. *The blind pool fund reverses the timing problem by first raising the money and then seeking the property, presumably providing more efficient acquisition. Critics maintain that cost savings are not as cheap because fund managers are under pressure to show immediate results and therefore cannot play a waiting game or be too discriminating, since the care with which they structure a deal won't make or break it for the investor.*

G. *The many activities of the packager would include*
   1. *Extensive search and analysis of alternatives*
   2. *Negotiating for control and purchase option*
   3. *Structuring investment for financing, including second mortgages and leasebacks, careful arrangement of tax implications (particularly for front-end deductibility), and determination of indirect cost of syndication*
   4. *Preparation of a detailed prospectus for full disclosure*
   5. *Securing of regulatory approvals, including*
      a. *Securities and Exchange Commission*
      b. *State blue-sky agencies*
      c. *Clearance for prospectus and advertising with National Association of Securities Dealers*
      d. *IRS for tax opinion*

6. *Planning and execution for a promotional campaign*
7. *Proper training of security sales force*
8. *Selling the interest to investors*
9. *Implementing a control system for investor funds, documents, escrow funds, etc.*

II. *There is an infinite number of syndication terms and features with which the investor must be familiar, and a few of the problem areas are suggested below:*

A. *Although many limited partnerships involve a one-time commitment of funds, some involve contributions in two or more time periods.*

B. *A partnership agreement should address the problem of assessment for additional contribution, as this represents a serious chink in the presumed armor of limited liability. Agreements may contain*
   1. *A stipulation of mandatory assessments to provide additional funds for unexpected negative cash flow. These provisions provide penalties for those partners unwilling or unable to make additional contributions if called upon to do so. These may reduce proportionate ownership or deny opportunities to participate in future cash flows until payback of assessment is complete. There may also be a ceiling for the assessment for any one year or on an accumulative basis.*
   2. *A stipulation of no assessments*
   3. *A provision that partners may loan funds to the partnership, either the general or the limited partnership*
   4. *A provision for sale of additional limited partnership shares, with original partners having right of first refusal*

C. *The compensation to the syndicator is of three kinds:*
   1. *Money at the front end as reimbursement for specific costs, as a flat commission for money raised, or as a percentage on assets acquired*
   2. *Fees for managing the property*
   3. *Participation in the venture*
   4. *The most popular fee is the real estate brokerage commission acquisition fee, or management fee, as a percent of assets acquired. This may be a sleeper, as it may be paid to a brokerage subsidiary of the syndicator by the seller. There can be terrible potential conflicts of interest and, since the syndicator performs a different function than a broker, it seems his compensation should be on a different basis. Obviously the syndicator is interested in selling a property on which he has a listing and a commission and not the property best suited for the investors.*
   5. *The preferred form of a front-end compensation is a straightforward fee and a percentage of money raised. Given the expenses of syndication, it is difficult for a syndicator to make money on a small volume basis without taking excessive front-end fees or unless he has other profit centers in the project. An underwriting commission can contain an override on commissions paid dealers.*
   6. *Real estate is highly leveraged. On a deal with a 75 percent loan, a 6 percent commission will represent 25 percent of the equity raised or 60*

percent on an FHA deal with an FHA loan, as opposed to an underwriting commission of 10 percent on the equity raised.

7. *The management is often payable to the general partner, who is also the syndicator. There are substantial expenditures for services, and often the general partner will provide these for additional compensation, including insurance, furniture and appliance rental, and maintenance labor.*
8. *Syndicators can give themselves a promotional interest in a variety of forms. They could receive a straight percentage interest with equal status to the investor, such as capitalizing at $100,000, selling $80,000, and keeping 20 percent of all future receipts. Another form would be the right to a certain percentage of cash distribution or a subordinated interest, with investors receiving a certain minimum first.*
9. *Some syndicators use a wraparound mortgage or all-inclusive trust deed. In short, the syndication pays the syndicator an interest and principal payment, while the syndicator in turn pays an underlying mortgage which generally has a lower interest rate and shorter amortization. The spread between interest rates and the difference in the balance amortized by the syndication provides a profit spread for the syndicator.*
10. *The syndicator can sell it to investors or can sell his option for more then he paid for it. Some syndicators argue the markup won't change cash throw-off and will actually increase tax depreciation. For example, a million-dollar building with a cash throw-off of $110,000 could be sold for $1,100,000 and still show a 10 percent return. If the improvements were eligible for 200 percent declining-balance 25-year depreciation, the extra $100,000 would actually produce an additional $8,000 in tax-shelter depreciation.*
11. *Syndications often involve a leaseback of the property to the syndicator. For a new rental property, this represents a rent guarantee whereby the syndicator is providing a certain minimum cash flow over a period of time. On an established building, a leaseback gives the syndicator the opportunity to keep the increase in net income over and above the lease terms.*

D. *The promoter's participation interest provides an infinite variety of opportunities for profit or variance control, either for the developer or the investor. Participation interests for the general partner involve precise definitions of such things as his return, investment, and proceeds from the sale as well as questions of priority, cumulative features, and pretax or after-tax viewpoints. The number of opportunities for skimming that this presents is endless, but properly structured they represent incentives of the general partner which are in the best interests of the limited partner.*
   1. *Define return, sales proceeds, refinancing, or investment*
   2. *At the very least the general partner's participation should be subordinate to the limited partners' on no less than one of the following:*
      a. *A specified return on their investment*
      b. *A return of their investment*
      c. *A specified return on their investment plus return of the investment*
   3. *There are two variations on how the general partner's subordinated participation is calculated. The net method uses the balance remaining*

after the limited partners have received their preferential return as the base. The gross method uses the total return and is adjusted for any claim in excess of proceeds. For example, consider a cash distribution of $100 where the general partner receives 10 percent of net or gross after subordinated partners have received 6 percent on their $1,000 investment. The net method would be

$X = G[D - (R)(I)]$
$X = .10[\$100 - (.06)(\$1{,}000)]$
$X = .10[\$100 - \$60]$
$X = .10[\$40]$
$X = \$4$

If the gross method were
$X = (G)(D)$ *if* $[D - (R)(I)] > X$
$X = (.10)(\$100)$ *if* $[\$100 - (.06)(\$1{,}000)] > X$
$X = \$10$ *if* $[\$100 - \$60] > \$10$

Notice the substantial impact of a subtle shift in terminology in the prospectus.

4. *Similarly, consider that how the priority of the return to the limited partners is defined will have a significant impact. Assuming the following:*

   $I = \$1{,}000$, *the initial investment*
   $P = \$1{,}300$, *the sales price*
   $C = \$200$, *cumulative return distributed to limited partners*
   $T = 5$, *investment period in years*
   $R = 6$ *percent, the specified annual rate of return to the limited partners*

   Specified return on
   $X = P - [T(R \times I) - C]$
   $X = \$1{,}300 - [5(.06 \times \$1{,}000) - \$200]$
   $X = \$1{,}300 - [\$300 - \$200]$
   $X = \$1{,}200$

   Specified return of
   $X = P + C - I$
   $X = \$1{,}300 + \$200 - \$1{,}000$
   $X = \$500$

   Specified return on and of
   $X = [P - I] - [T(R \times I) - C]$
   $X = [\$1{,}300 - \$1{,}000] - [5(.06 \times \$1{,}000)] - \$200]$
   $X = \$300 - [\$300 - \$200]$
   $X = \$200$

5. *Up to now we have not considered the implication of the general partner's participation on a limited partner's tax position. Taxes complicate the problem.*

E. *If distributions to the general partner were classified by IRS as expense, they would reduce the net taxable income or increase the net taxable loss or tax shelter. Since the tax shelter is a prime advantage of the partnership*

investment, this is significant. On the other hand, in the American tradition those who take no risk of loss should take little share in the profit. Thus it is significant as to whether the general partner participates in a percentage of net profit or in net taxable income, as the former excludes losses.

1. *The issue is whether the general partner is considered an outside party or an equity position as regards the partnership. A subordinated interest is not a credit obligation and therefore an expense. However, if it were carefully designed and named as an incentive management fee, a strong case could be made for classifying such a payment as a deductible expense so that it should increase and not dilute limited partners' tax shelters.*
2. *The typical limited partnership subordinates the general partner to a preferred return on a before-tax basis, which could leave the limited partners with less cash than was required to pay taxes where tax shelter was declining. The formula for returns may need to assume an arbitrary income tax factor (such as 50 percent) in order to eliminate a general partner share in nonsheltered cash.*
3. *If the general partner participates in the net, he receives return only on the last marginal dollars. For example, consider a cash flow of $70 with the general partner to receive 10 percent subordinated to a 6 percent return, or $60 to the limited partner. If the general partner receives on a gross basis he will get $7, but on a net basis he receives $1. If he is sharing in the net tax loss, it is clear that the general partner receives something only because of the accelerated depreciation. It could be argued that if the general partner receives disproportionate benefits from the use of accelerated depreciation, he should bear a disproportionate burden of the ordinary income tax on recapture. The general partner is probably a dealer and is indifferent to taxation of his proceeds as recapture of excess depreciation.*
4. *Upon liquidation and sale, a fee to the general partner will reduce the gain to the limited partner, thus reducing the capital gains tax. Thus, the actual cost of paying the general partner is less than a full dollar because of the tax effect.*
5. *Other tax questions could involve sale proceeds which could include prepaid expenses or prepaid interest, and such a refund is a taxable event. Should the general partner pay taxes on these funds if he did not benefit from the original deductions? These problems suggest the necessity of explicit definition of how the tax shelter and cash flow proceeds will be divided and the care that is necessary in determining the base to which percentage participation is applied.*

   In highly leveraged real estate, a small amount of variance in the forecast has a tremendous marginal effect on benefits. Moreover, marginal revenue and marginal costs are extremely sensitive to management ability so that incentive systems for the general partner are of critical importance. Moreover, participation interest is becoming more prevalent as regulators crack down on front-load compensation.

III. *The marketing of limited partnerships has become a complex process. Regulators are spawning new hurdles daily, effective channels of distribution are*

lacking, and the complexity of the investment and lack of public sophistication require tremendous education of both the sales force and the customer. A real estate limited partnership interest is a security fine-tuned to the federal tax and dependent on the highly selective characteristics of real estate assets—a potential bummer if there ever was one. Syndication interests can be marketed by direct selling in the traditional real estate manner, by the seminar approach, or through channels as a security.

A. *The traditional approach involves a salesman prospecting and then working directly with the client, which includes visits to the syndicator's office, special presentations, inspections of the property, and so on. Essentially the same process is followed as if one were selling the building instead of $5,000 or $1,000 of shares. The amount of money raised per prospect does not justify time and expense required.*

B. *Since the selling process involves considerable preliminary education, the seminar approach seems a logical solution. The syndicator advertises a seminar or teaches an adult education program, serves refreshments, and establishes credibility with a panel of experts. The costs of the whole show are extensive and you may be treating your competitors as well as the curious to an education, and the syndicator may not be very effective at recognizing serious prospects.*

   In April of 1971 the federal court in California enjoined the Firestone Group from holding seminars, as they precondition investors to purchase future unregistered securities. A syndicator was distinguished from an investment banking house on the basis of the number of offerings which it had. A regular investment banker offers a wide variety of investment alternatives even though he uses seminars to condition his prospects, while the Securities and Exchange Commission felt the syndicator was improperly gaining credibility for a single project in which he was both salesman and prime contractor, and thus biased.

C. *Given the SEC position against educational seminars and the falloff in credibility for seminars, the third approach treats securities in the same way that mutual shares are fund-marketed. It features mailing of a prospectus, plus certain promotional material, plus telephone solicitation. A Wall Street brokerage firm thus enjoys the significant edge over a syndicator, who must establish his own sales force and public image.*

   A basic marketing problem is the fact that security salesmen may either be affiliated with NASD member brokers-dealers or with real estate brokers, but not with both, as NASD regulations prohibit members from participating in nonsecurity offerings. Thus the wire houses have a competitive edge and an appetite whetted by their involvement with investment trusts.

D. *Advertising for partnership securities involves one of several philosophies:*
   1. *A specific investor offering through a tombstone ad*
   2. *A specific offering with an ad carrying a summary of information from the prospectus*
   3. *A general educational piece on benefits of syndicate shares and the professional ability of the syndicator. Often the approach is to "reveal"*

tricky pitfalls in order to establish credibility and frighten the flock into your corral.

IV. Syndication financing strategies are expanding from the one-property, one-interest pattern of earlier years. Innovations occur daily and revolve around problems of divisibility of profit centers, time line, and variance control by means of guarantees and incentives.

A. Among the important considerations concerning the details and strategy are the following:

1. *Should the portfolio consist of single or multiple properties?*
2. *Should the properties to be owned by the partnership be specified or not specified?*
3. *Should the partnership terminate with the sale of its original assets, or should there be provisions for the acquisition of additional properties?*
4. *What provisions should be made for liquidity?*
5. *Should there be one classification of partnership interest or multiple classifications of partnership interests, each serving specialized objectives?*
6. *Use of guaranties, earnouts, leasebacks for control of variance of projected return*
7. *Open- or closed-end registration*

B. Incentive arrangements have included such things as

1. *Developer's profit via an earnout which is voided if rents do not realize a certain level in 36 months*
2. *A guarantee by the developer against negative cash flows during the first 42 months of the project*
3. *A management fee of 5 percent subject to a downward adjustment at the end of periodic intervals if certain expenses have increased at a greater rate than gross rental income*
4. *The permanent mortgage is a balloon mortgage in 20 years at 9 percent interest and 10 percent constant and is not prepayable for 15 years. Lender participates in 15 percent of the increase in gross over a minimum.*
5. *To protect against construction of a competitive unit on an adjacent property, the partnership has an option for 36 months to purchase the adjacent property if it's improved with a residential apartment building and after that time the option becomes a right of first refusal on any sale by the developer prior to 1980.*

Notes on Real Estate Investment Trusts

(Class Notes)

I. *Origins*

Financial institutions evolve on old frameworks which may or may not cramp their style. Savings and loans are an interesting anachronism of mutual or co-op home organizations. The real estate investment trust (REIT) has a most interesting genealogy.

A. *Old Massachusetts law prohibited a corporation from owning real estate other than what is incidental to its business. Thus the Massachusetts Investment Trust was used by 1886 to permit small investors to participate in real estate growth in frontier America.*

B. *When corporate income taxes were introduced by constitutional amendment in 1917, the real estate trust was considered exempt, but in 1936 a federal court removed the exemption.*

C. *When corporate taxes became significant during World War II, the REITs began a long fight to have the same tax position as mutual funds under the investment company acts of 1938 and 1940.*

D. *The public scandals which upset broad-ownership syndication, SIRE, and others dramatized the need for a conduit with pooled investors, and the IRS would not relent until the REITs gave up the right to pass through accrued losses or the right to be active in the development process.*

E. *In 1960 the Real Estate Investment Trust Act was passed. In between 1961 and 1967 about $350,000,000 of REIT securities were sold to the public, more than half in 1961 and 1962. The great majority of these trusts were conver-*

sions of some that survived from earlier days of real estate corporations and took ownership positions.

F. These trusts have a very slow growth in terms of assets, earnings per share, and share pricing for a variety of reasons:

1. The public did not understand real estate operations with hidden appreciation in book value and understated earnings.

2. Many trusts had older properties with inadequate depreciation. Law required payout of 90 percent of taxable earnings so that it was difficult to amortize mortgages without tax shelter, and thus the trust did not enjoy full leverage.

G. In 1961 a little trust was formed called Continental Mortgage Investor and, unlike its cousins, CMI invested in mortgages and construction loans which it financed with low-rate long-term debt. It showed an earnings growth rate per share of 20 percent a year through 1971, while its assets grew from $25,000,000 in 1962 to over $400,000,000 in 1971.

H. The tight money of 1966 and 1969 as well as the investment notice which CMI had attracted suddenly caused a revolution in REIT growth so that total REIT assets grew from $1 billion at the start of 1969 to almost $5 billion at the end of 1970. During the easy money of 1971, trust assets increased by $3 billion more.

II. Strategic and tactical operating strategy of the mortgage loan REIT reflects an interesting change in management concepts and the opportunities inherent in arbitraging between sectors of the capital market. The real estate market has to do with asset management, while Wall Street is concerned with opportunities in liability management.

A. Asset management is concerned with the land, buildings, and loans involved in development. Construction and development loans were a bank specialty and mystery, and thus enjoyed a high spread of five points or more above prime. By 1968 interest rates on C&D loans were higher than equity returns in new properties.

B. Liability management is concerned with the opportunity costs of money, and the REITs discovered they could borrow using long-term debt, commercial paper, or bank lines, depending on the trend and level of interest rates, and maintain or increase the spread between their asset investment rate.

C. The equity trust could not leverage its assets or realize its appreciation in assets without selling the property, and if it sold it could not find another property that would do as well. Even if it could sell, IRS ratio tests limited the earnings that could come on resale and the frequency with which it could turn over assets. Thus, equity trusts sell on a yield basis of cash throw-off and almost always sell at a discount from book value as a closed-end trust.

D. However, a mortgage investment trust could invest in long-term mortgages in 1969 and 1970 which were yielding 9 percent and use these mortgages to secure credit lines for additional money to be lent as construction and development loans at 14 or 15 percent effective yield. Since mostly construc-

tion loans would be self-liquidating due to a permanent financing commitment, these loans would be funded with short-term debt. A big C&D loan may be on the books for several years but

1. *On a J-shaped interest curve the trust could refinance its commercial paper as the interest fell, increasing its spread on existing commitments. Toward the bottom of the trough, it would convert to long-term debt. If commercial paper went too high, it would switch to bank loans. The use of short-term paper to move from one interest level to another is called "bridging."*
2. *As earnings would rise with falling interest rates or increasing leverage, the market began valuing trust shares as growth stock. This made possible equity leveraging, or a strategy called "contradilution." A trust could sell a $10 share which would earn $1. If it borrowed another $10 for 50 cents, the yield on the share would go up to $1.50, and if it borrowed $20 the yield would go to $2 and a price of $20 a share. A second sale of stock at $20 would increase book value to $15 and increase the borrowing power of the trust, which would further increase earnings.*

E. Thus the successful mortgage trust requires two capabilities: the ability to increase the supply of mortgage opportunities on demand, and the ability to operate successfully in the commercial paper market.

III. The incentives to organize and manage an REIT are diverse and subtle and a good example of a profit center viewpoint in the approach to real estate.

A. Ownership of REIT stock could convert interest income through a capital gain, but most REIT advisers own very few shares of the trust they manage.

B. The advisory management fee is a percentage of assets ranging between 1.2 and 1.5 percent. Since a trust is closed-end, the only way it can lose assets is through writedowns or reduction in leverage, and so the basic fee is a steady source of income. There can be incentive fees, such as 10 percent of all capital gains or 10 percent of all income in excess of some minimum dividend rate for investors. Operating expenses generally amount to less than .75 percent, so the adviser should have a profitable contract unless some serious management oversight occurs.

C. To establish a trust, a management firm takes the risk that its organization expense will not be covered because the sale of shares is rejected by the market. Once the shares have been sold, the organization expenses are charged to the trust. Thus the adviser gains a handsome stable return on a negligible investment once the underwriting hurdle has been passed.

D. A trust usually complements an adviser's existing operation, although it may compete to some extent; for example:

1. *It provides a captive correspondent for the mortgage banker.*
2. *It provides a spread of fixed costs for insurance company staff when the insurance company is not making loans.*
3. *It permits institutions to make loans for which it lacks capacity or regulatory authority.*

4. *It provides a captive source of credit such as hotel investor REIT which was started by Hilton and Marriott.*
5. *It expands the services which can be offered by a bank, etc.*

E. *A constraint of this money machine is therefore the problem of selling new shares. Increasing public interest has been met with a flood of issues, and in November 1971 one of the best, CMI, announced it was about to announce its first earnings decline. Uninformed investors are skittish investors, and trust share prices fell drastically. Prices have since recovered, but investors nevertheless foresee a slow rate of growth and more marginal opportunities to make loans. Indeed, the traditional spread on construction loans has fallen drastically. Thus, the ability to issue shares today largely depends on the name and reputation of the sponsor.*

IV. *What are the risks to the investor in REIT shares and to the trust industry in its present growth pattern?*

A. *The theory of contradilution will work only as new money is willing to invest in trusts so that supply is short of demand and prices will rise because the PE [price/earnings] ratio is rising. New issues have tended to cause supply to at least keep even with demand and, since many convertible trust issues have been sold or warrants attached to private lines of credit, there is real opportunity for dilution.*

B. *The earnings curve may flatten out for a variety of reasons:*
1. *A declining spread on specialty loans because of the supply of money available.*
2. *A declining spread should the trust be caught bridging in a rising interest market as was prudent for many real estate investment trusts.*
3. *Loss of earnings due to a cumulative reduction of cash flow as a result of a frozen asset in default or a reduction in paper outlets and increasing dependency on bank loans.*
4. *Failure of a stock issue required to refund debt, necessitating discount sale of a loan interest.*

C. *Disqualification of the trust for tax exemption due to breach of the IRS ratios, redefinition of "passive investors," or lack of 100 independent shareholders, etc.*

D. *The interrelationship of advisory firms, insurance companies, and banks leaves open numerous opportunities for conflict of interest.*
1. *Variety of provisions such as first right of refusal, 50 percent participation, right of nonaffiliated directors to make contracts, etc., reduce chance of direct adverse selection of mortgages.*
2. *The conflict of interest is more subtle in terms of how fast the adviser expands the trust in pursuit of equity leveraging when it will compete more and more with the original sponsor's market opportunities.*

Don't Buy Real Estate—Buy a Set of Financial Assumptions

(Class Notes)

There is a mystique to the ownership of land and a misleading permanence to brick and mortar which motivate investors in real estate enterprises to their disadvantage. The product in real estate is artificially manufactured space over time, a room for a night in a motel, an apartment for a month, or square feet of office space for a year or more. The usefulness of this product depends on a very complex and volatile relationship between characteristics of a site, characteristics of the improvement to the site, and attitudes of those who both use and manage the product.

People's preferences for both building styles and locations are very volatile and quick to change and are affected by the attitudes of project management. As a result, the improvements are often too durable relative to the lifestyle or social activity to be housed, the improvements are inflexible and difficult to remodel to new uses, and the site is fixed and cannot be moved to where the people now want to be. As a result, the improvements are shopworn and obsolete merchandise for much of the site's physical life, and sites come and go in public favor.

However, the product *of real estate is not to be confused with the* business *of real estate. The business of real estate is a cash-cycle business, going from money in the bank to goods-in-process (construction) to inventory (property management) back to cash. In real estate the cash cycle is much longer in time than would be true of a pushcart flower peddler, a retail store operator, or a manufacturer. The problem in real estate investment is to convert* space-time *of the product to a forecast of* money over time *for proper business management or investment.*

When investing in a bond, it is possible to know the cost and date of acquisition, the amount and date of the interest coupon, and the amount and date of repayment if the bond is called or matures. All the elements for determining yield on a bond

are fixed by contract and transaction documents. In real estate almost none of the elements necessary to forecast yield and risk are provided by the nature of the transaction, and it is necessary to supply these elements by assumption. A proper set of financial assumptions for a real estate investor about a proposed venture should include

- *Time line of financial events for investor*
- *Profit centers available within time line*
- *Capital budget, including deficits*
- *Operating pattern of receipts and expenditures*
- *Financing package*
- *Basic tax strategy*
- *Selected measures of yield comparison*
- *Selected measures of risk qualification*

To make assumptions about all these details about a product as volatile as real estate, to expect all of them to be achieved, is unrealistic. Risk in a real estate investment is the variance between an acceptable set of assumptions and realizations that might occur. Risk management is concerned with anticipating alternative outcomes and providing features to control or prevent variance and tolerance to accept variance. Thus, a real estate investor should buy a set of financial assumptions which have some ability to survive, absorb, and adjust to variation in results.

If you can't "buy" the assumptions as presented, you cannot afford the real estate product about which those assumptions were made, no matter how "good" the site and "attractive" the building.

Strategic Planning Approach to Major Real Estate Decisions

(Unpublished Essay)

A strategic approach to real estate investment, much like any decision process, moves from value judgment toward explicit objectives and then to detailed specifications, screens, or standards with which to measure and compare the degree to which objectives are met. The latter elements of yield, risk, and dollar allocation issues are not the subject of this essay. Instead the intent is to focus on the somewhat more abstract but critical issues of investment positioning.

Investment positioning grows out of recognition of certain attitudes about future trends and tolerance for external interference in the investment process. Positioning recognizes that there is little an individual investor can do to thwart the forces for change at work in the economy, but that most investors are unwilling to accept the systematic risks of a statistical marketplace passively and stoically. While the surprises of the future may reveal that each real estate investor is placing his chips on a roulette board or million-dollar slot machine, the typical major investor feels guided by some intuitive perceptions (when playing roulette or real estate). It is useful if the investor can articulate this extrasensory perception into attitudes which might suggest strategic positions which will bias, if not control, real estate bets.

For example, the following convictions, which may still be difficult to document statistically or to accept as foregone conclusions, may suggest certain positioning of a portfolio and forms of ownership:

1. A capital-shy economy, due to both a shortfall in savings and an era in which all major problems require capital-intensive solutions, will lead to selective credit allocations by government and very high interest rates on nonpriority capital goods, such as luxury hotels and home office buildings for institutions. Such a perception leads to policies which will capture assumable mortgages,

100 percent funding of luxury hotels with contingent-interest limited-partnership devices, or aggressive acquisition of property futures from those unable to provide estate liquidity to meet estate taxes when buyers have little access to credit.

2. Another scenario might be gradual decline of consumer discretionary income for restaurants, travel, and entertainment as a result of forced saving for retirement, higher food and shelter costs as a percentage of income, and the necessity of capitalizing household transition to energy-efficient systems. Not only will that pressure rent structures but may necessitate modernization expense of the existing supply of rental units while undermining the current boom in build-to-suit restaurant leases for regional chains.
3. Shifting demographics and the increasing number of acceptable alternative lifestyles for younger families, together with an increase in the number of families eligible for retirement, could significantly undermine the broad-based behavioral values placed on a home in the suburbs—factors which could undermine the retirement values suggested by paper equities accumulated in the existing housing stock. Should an investor anticipate a change of zoning which would permit subdivision of larger homes to condominiums as a form of urban compression and equity liquidation for the detached homeowner?
4. The differential between the sun states and the balance of the Midwest and Northeast states is leading to increasing levels of economic warfare relative to energy taxes, government spending for defense versus economic redevelopment, immigration rules, and so on. This new war between the states can't help but further tilt the economic differential in favor of the sun states and further tilt the shift of younger skills in the same direction. That could suggest investment in facilities for older citizen service, etc., or sale and leaseback of facilities which will depreciate inversely to the age of the population. Or it could suggest investing in school buildings jettisoned by school districts with declining enrollments.
5. On a smaller scale, consider the continual looting of the United States Treasury and the citizens by the union wage policies of postal workers. It might follow that the only counterforce to labor extortion would be permitting private mail services to expand beyond the current parcel and air express system. In that case, the federal post office would abandon or fail to renew many of the leases which currently depress values of thousands of properties across the country. Such an intuition would lead to a positioning of a portfolio which bought up buildings encumbered by federal leases at current discount rates in order to capture a significant increase in rental income when the existing post office leases were not renewed.
6. Assuming a decline in manufacturing in the Midwest and continuing increases in the value of exportable farm commodities, it would follow that long-term investment should be in rural farm service communities and transportation hubs to anticipate an extension of the urban exodus back to true farming country rather than the urban fringe.

Attitudes are dangerous for positioning investments unless the investor is confident that he can understand his state of mind. Without some objectivity implied by "Know thyself," attitudes are really rationales for unspoken fears of change, stylish cynicism within a social circle, convenient rejection of current

business patterns in response to paranoia, feelings of inferiority, or fading energies. One way to factor attitudes into smaller components for better understanding is to set up a hierarchy of subfactors which begin to profile strategic preferences for investment opportunity.

In our experience, the following general hierarchy typically reflects priorities of both institutional and individual investors, although certainly any particular investment portfolio may rank these factors differently. Nevertheless, positioning will consider the following elements:

- Degree of exposure to political risk
- Degree of market control or channeled demand
- Degree of management intensiveness required
- Financial characteristics in economic terms
- Sequence and cost of escape points
- Suitability of tax parameters for preferred tax ploys
- Suitability for estate planning program

The sharpness of a vision, perception, or attitude about the future will depend on what level the strategist perceives that the implication is inherent in the conventional wisdoms listed above as the significant strategic concerns. Therefore, it may be useful to quickly sketch, with only a suggestion of line and watercolor, some of the themes to be found at different levels.

The *degree of exposure to political risk* begins at the first level, with all manner of land use control laws and the degree to which expected investment uses are vested, are unique relative to alternative sites, or are yet to be determined, with all the uncertainties that reside in something called due process and civics.

The first level may be reasonably apparent, but at the second level there is a concern for the degree to which effective demand is vulnerable to political control. For example, dairy farms ultimately depend on the parity price for milk, and Midwest agribusiness may depend on foreign policy relative to grain exports, etc. Subsidized housing depends on the inclination of HUD to extend or cancel the annual contributions contract due to budget constraints or the shift of rent supplements from HUD to welfare programs. An alteration in public transportation subsidy will alter trade areas for shopping centers or dependency on subway, light rail, bus, or car. Homebuilding ultimately depends on the willingness of government to subsidize credit for the homebuyer or tax deductions for the vacation homeowner and so on.

Level three is more subtle, because it has to do with the direct and indirect political subsidy of competitive supply. For example, in Alaska huge sums paid to the Native corporations in cash have meant the opportunity cost of money available for investment in Alaska has overpriced hotels, overbuilt recreational facilities, as well as exaggerated homebuilding at the expense of rental property. The lack of political control on capital efficiency of financial institutions permits financial institutions to build office buildings with features that could not be justified in terms of market rents.

This double standard for capital efficiency has now spread to the public sector, so that the New York Port Authority can build World Trade Centers and community economic development agencies can provide less-than-market interest rates to medical clinics or any other employer with negotiating ability. As a result, the most skillful and profitable developers currently pursue those kinds

of projects for which they can seduce some legislative council or agency for a political subsidy, knowingly or unwittingly.

The *degree of channeled demand* is a euphemism to avoid the stark truth that free enterprise is the art of creating your own monopoly to avoid price competition. The best way to create a monopoly today is by shaping government regulations, such as land use laws or bidding eligibility to create a legal monopoly. Failing that, there is the opportunity for an identity of interest between user and investor, such as the doctors who own and occupy their own clinic buildings. Failing that, there is the time-honored American way of reciprocity between the owner of the building and his creditors, which explains why the bank's law firm, accounting firm, or stockbroker is so pleased to be a tenant in the bank's building. Reciprocity may be difficult to distinguish from the tie-in contract.

The best way to create some reasonable control of a market is through careful research of market segmentation. It is well known that markets are segmented demographically, but only in the 1970s have we begun to segment within a demographic cell in order to reach a particular lifestyle or set of behavioral codes. Market segments in American real estate are highly programmable, and it is critical to develop an ideal of that program as a prearchitectural or premarketing management scheme. Capital efficiency requires that monopoly, by finding a need through market research and filling it, become the preferred method of channeling demand.

Degree of management intensiveness begins at the first level with project dependency on a unique personality or talent, such as a chef, resort personality, or close relative of the mayor. The second level of dependency may be on persons with high technology levels and skills, whose sudden departure would leave the project floundering. Some real estate demand is tied to a short-term, high-turnover tenancy which is responsive to service rather than location, so that rental income lacks the stability or inertia of apartment homes. Much real estate really lacks product differentiation, and thus requires a constant stress on fictitious differentiation through advertising. Fungible real estate spaces do lend themselves to all the investment strategies of conventional commodities. A land contract for future delivery of Class A office space 10 years hence is a straddle position, a call on appreciation, and a put to the seller if future income will not support the closeout price.

Financial characteristics in economic terms begin at the first level with recognizing particular real estate enterprises as high-fixed-cost, variable-revenue enterprises such as hotels and restaurants, or highly stable revenue and cost entities such as triple-net leasebacks of industrial buildings, and so on. Obviously these characteristics are interrelated with the degree of management intensiveness, and at the second level it becomes useful to distinguish which revenue dollars are attributable to space attributes of the real estate, which are attributable to services, and which are attributable to peripheral enterprises. Parking revenue by the floor at a lease price to a parking operator is real estate income, while retail revenues from stalls and observation decks are from peripheral marketing enterprises. Is income from retailing electricity actually real estate income or a peripheral enterprise?

At the third level of analysis is the tolerance of the real estate revenue and capital structure for risk or surprise in future operations. Cash break-even points

or the maximum exposure to total loss of investor equity is suggestive of this level of risk tolerance. The fourth level is into the legal framework, which shifts variance in operations from the initial investment assumptions to others, absorbs variance in portfolio construction, or neutralizes variance through various hedging devices in the money market or even in the markets for fungible construction materials.

The ultimate risk management process is the *sequencing of decision points*, which will permit escape from the venture at an acceptable cost. At the first level, we have options and land contracts which explicitly recognize contingencies which call for escape. At the second level, investors may have maximum levels of sunk cost which can be incurred before making a firm commitment or rejection of an opportunity. The cost to abort before closing contracts which do not contemplate default as an acceptable option is typically minimal. At a third level, the project may be designed for diversion to alternative uses, such as the tennis club which might become an industrial warehouse or discount retail outlet.

It is wise to anticipate that most investment structures will outlive the uses for which they were originally intended, so that flexibility in adaptation to other uses in terms of floor-loading capacities, utility chases, ceiling heights, and column spacing may represent additional costs at the front end that represent the risk escape route for the investor facing obsolescence in the marketplace. At the fourth level is the objective of liquidity through sale, say, anticipating conversion to condominium retail financing of the rental apartment in a rent-control area, buying down loan commitments which can be assumable by the next purchaser, or life insurance funding of cross-purchase plans, etc. At a still lower level is the art of negotiating contracts in which the penalties for cancellation or liquidated damages are well within the investor's acceptable payoff matrix, although that fact may somehow not have been communicated to the other parties.

Income *tax parameters* should never be the primary basis for real estate investment, although they must be considered in generating tax-equalized dollars and ratios for comparative analysis. Certainly the income tax options available are going to be rather volatile during a presidency of economic experimentation and legislative majorities in a state of flux. For the individual, and ultimately for his institutional shadows, the *estate planning* tax considerations will be far more significant in positioning real estate investments.

The real estate tycoons created by the urban explosion since World War II are just entering a time of accelerated actuarial liquidation. It remains to be seen how the liquidity required for estate taxes and the structuring requirement for administrative efficiency and continuity may trigger considerable transfer of investable properties to younger investors and institutions still in the accumulation phase. Estates represent a major source of investment properties in the future for financial institutions or insurance companies that can provide instant cash. Investment pools will have a significant edge in acquisitions if they position themselves to do so by means of stock exchange, convertible loans, purchase payment with flower bonds, or life insurance in exchange for first right of refusal, or fixed-option price on demise of the property owner.

In short, positioning is the degree to which the investor wishes to depart from systematic diversification to avoid all nonsystem risks and to perform at a par with the market. It is explicit introduction of a bias to acquisition and

management decisions based on some rational scenario of long-term movement and feedback systems that the investor sees "through a glass darkly." Positioning may be rational, but Mr. Keynes pointed out that rationality for investors in an irrational world leads to disaster, so that positioning may well reflect solitaire, gypsies, or the insights of a very attractive psychic.

Pension Fund Management: Is Small Beautiful?

Mike Miles and James A. Graaskamp*

Pension funds are now established real estate investors and, if the U.S. Department of Labor estimates are accurate,[1] they promise to be even more influential in the future. This promised future influence has spawned a multiplicity of investment managers, and pension funds can now invest their reserves with a wide spectrum of managers, ranging from good old boys to three-piece suits.[2] The managers offer all sorts of analytical competence: traditional real estate analysis, capital asset pricing model adaptations, and all manner of combinations and permutations.

For some, the selection of an investment manager appears quite simple. James A. Kujaca put it succinctly in *Pension World*.

> A pension fund will want to select a real estate investment manager who has an impeccable reputation, an excellent performance record, a thorough knowledge of property evaluation and property management, organizational depth, reasonable fees, no conflict of interests, and who is financially sound and able to locate prime, profitable properties on a sustained basis.[3]

Unfortunately, the Herschel Walker of real estate investment managers has not yet appeared from the playing fields of American business schools. In fact, the selection process is sufficiently difficult that a number of consulting firms are now selling "search" services that purport to assist pension funds in choosing an investment adviser.

We believe that the search process contains within it a combination of financial and motivational factors that not only influence the search but suggest

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that there may or should be structural changes in the organizational form of real estate asset managers that pension funds employ.

Real Estate and Portfolio Theory

Real estate investment management for pension funds starts with a stock and bond mentality because the pension fund client is today primarily a stock and bond investor. Pension fund executives are usually individuals trained in the MBA financial analysis tradition. Thus, their formal training is one that assumes a rather efficient market and a fair game assumption in return behavior. They are familiar with the traditional measures used to rank the risk-adjusted performance of alternative investments.

Real estate is different. The asset is by definition heterogeneous due to its unique location. Real estate markets are characterized by local orientation, infrequent trades, private transactions, expensive and often nonpublic information, illiquidity, imperfect divisibility, and property-specific financing. These differences describe markets that are less efficient than the markets for stocks and bonds, markets in which comparative advantage is possible. In such markets, investment management is important, and the management costs more than the management of securities.

Still, because pension portfolio management involves allocations among stocks, bonds, and real estate, management of real estate investment must involve a blend of capital market logic and traditional real estate analysis. The admitted difficulties of applying modern portfolio theory to real estate do not justify ignoring the portfolio attributes of real estate.

The pension funds want better risk-adjusted returns, and the risk adjustment should be in portfolio terms. This means simply that the pension funds want to invest in properties that improve the return and/or reduce the risk of their overall portfolios.

Although the academic and professional literature on real estate returns is limited and suspect in many respects, it does appear to demonstrate that real estate (except when purchased through REITs) offers higher absolute and higher risk-adjusted returns than stocks or bonds.[4] Equally important, real estate returns appear to have a low correlation with stock and bond returns and a high correlation with inflation. Thus, real estate investment may help the pension fund achieve desired results in two ways:

The real estate properties may be individually better investments than the market average. (This is the natural implication of a less efficient market.)

The returns of real estate investments may have low or negative correlations with those of the pension fund's existing stock and bond portfolios: consequently, the combined portfolios may have less risk for any given level of return.

The Difficulty of Evaluating Investment Managers

There are several serious problems involved with the ex post facto performance evaluation of real estate investment managers.

Accounting and appraisal inconsistencies can materially distort performance evaluation. The National Council of Real Estate Investment Fiduciaries

(NCREIF) is working on a standard appraisal engagement letter and fuller disclosure of accounting differences, but the possibility exists today for investment managers to affect IRR by means of maintenance policy, leasing strategy, and so on.

The turnover of personnel in investment management firms is quite high. Since most of the real estate management firms (or investment management functions in large institutions) are composed of a small number of key people, high turnover makes historic comparisons difficult. (Turnover is a particularly difficult problem because real estate investment managers are typically compensated on the basis of the volume of assets under management. Strong past performance may mean that the volume of assets under management grows, and investment policy changes because there are clear operational economies of scale in investing in larger properties. The result is a "second-order" form of incentive compensation that may well be paid after the key people have moved to another firm.)

Billions of dollars of investments and the complexity of most real estate investments create a paper mountain for anyone trying to ascertain how a particular investment manager's portfolio would perform under different economic scenarios. Although many search firms claim to do forward-looking financial analysis, the amount of work involved in rigorously modeling lease expectations leads one to suspect that most are simply asking the investment managers about leasing strategy. This is a far simpler and less reliable approach than auditing leases.

Although many pension funds are actively seeking "inflation protection," few are certain whether they mean actual inflation, anticipated inflation, or unanticipated inflation. Since protection against anticipated inflation can be purchased in the capital markets, one presumes that they wish to be protected against unanticipated inflation. But, if so, the search firms may be using the wrong analyses.

Ownership structuring and special allocations of tax benefits, like alternative leasing strategies, offer a way for investment managers to alter the risk/return characteristics of underlying real property. There are potential benefits from this flexibility that do not have a stock market parallel. There is little attention to, or disclosure of, these facts in annual reports.

Most investment managers advertise the benefits of diversification across property types and geographic regions. However, the classifications in both cases are so gross that research to date shows insufficient benefits from such diversifications to justify the related costs (primarily collection of market information and property management).

How Are the Search Firms Searching?

Some of the national firms that now do searches for pension clients undertake largely qualitative efforts, while others use more quantitative techniques that follow stock market traditions adjusted to fit the real estate product. In almost all cases, the search service involves some education of the pension fund client. On the qualitative side, the searchers examine the people and the investment strategies of the management firms. On the quantitative side, the search firms analyze return rates. One search firm claims that there are nearly 1,000 basis

points difference between the high and low performers that it has studied. More remarkably, it claims that the same firms stay at the top and at the bottom year after year.

In addition to examining rankings of return rate, the search firms try to establish which investment managers achieve the best portfolio balance for their pension clients.

Several search firms are looking for smaller investment managers that have specialized operations (say, managers that invest only in new retail properties in the Sunbelt) and that do their own "homemade" diversification for the pension client. The searchers examine the client pension fund's existing portfolio and then try to find an investment manager whose real estate investments produce returns that show low correlation with the existing stock and bond returns. Note that when the search firm does this, it is offering the pension fund diversification of the pension portfolio. This is quite different from offering the pension fund a diversified real estate portfolio.

Looking to the future, it appears logical to expect the search firms to become more quantitative as the data improve. Because the real estate product remains different from the stock and bond market, the searchers will probably continue to do more financial analysis than traditional performance evaluation. Because the pension funds' goal is overall portfolio performance, it makes sense to expect either the pension funds directly, or the search firms acting for the pension funds, to look for opportunities for homemade diversification, i.e., to achieve risk diversification by using an appropriate combination of specialized investment managers. Since the pension funds must deal with the allocation decision between stocks, bonds, and real estate, the additional step of allocating between real estate investment advisers is a small one.

The Structure and Personnel of Successful Real Estate Management Firms

If there is room for comparative advantage in real estate investment planning (i.e., if the quality of the investment manager is truly important), then the pension funds want to look at the internal operations of the investment managers and ascertain what type of organization is most likely to perform best. We believe that the following characteristics are important:

1. *Incentive reward for performance.* The investment manager (the individual, not necessarily his firm) should be compensated in a way that rewards good performance and punishes bad. Structuring the incentive is not easy, because pension funds may make honest men millionaires while flirting with ERISA restrictions regarding risk avoidance and conflict of interest.
2. *Creative innovation.* The investment manager must be able to "see" deals. The ideal environment not only fosters such innovation but also protects the innovator from hasty condemnation during the periodic downside stages which are inevitable in such endeavors.
3. *Dealmaking.* The investment manager must be able to negotiate and to close purchases or sales quickly.

4. *Administration.* The investment manager must have plan and budget discipline. He should be in a small enough organization to have close contact with his ultimate customers and the high level of informal communication often associated with success in such ventures.

Since it seems unlikely that one individual would possess all of the last three qualities, the ideal investment management firm is probably a team. On the other hand (despite exceptions), few large organizations are innovators, expeditious negotiators, or able to offer their personnel truly performance-based compensation. The conclusion is that a small entrepreneurial team with defined spans of control would be most likely to exhibit the traits that best enable investment managers to exploit market inefficiencies. Note that smaller teams are consistent with the specialized fund concept which has already been shown to be best suited for homemade diversification.

Conclusion

There are two types of potential benefits to pension funds from real estate investment: higher returns for a given class of risk and diversification of risk. The type of investment manager best able to provide both benefits is the small (but not one-man) specialized entrepreneurial firm. Both search firms and several of their pension clients today tend to look for this type of manager. It is therefore logical to expect a trend toward such firms in the real estate investment management industry.

This does not argue that the giants will fade away. Prudential and Equitable could quite easily establish a series of specialized smaller funds, supplied with products from their existing inventories and staffed from their stables of trained managers. Thus, a pension fund could start down the learning curve, employing first a large diversified real estate investment manager and then moving to specialization without ever leaving the one institution.

Nevertheless, there is substantial reason to believe that modest-sized operations are best able to provide pension funds with the two basic benefits of real estate investment and that consequently the industry will move toward that format.

Notes

1. The U.S. Department of Labor estimates that total pension fund assets will grow to nearly $3 trillion by 1995. This growth (from $8,000 per working American to $30,000 per working American) is certainly substantial in relation to the magnitude of the nation's tangible wealth. On the other hand, $30,000 still isn't much to retire on, and that says something about the need to maintain the work ethic as the population ages.

2. A recent Greenwich Research Associates study showed 71 percent of Fortune 100 pension funds hold equity real estate, but only 36 percent of the Fortune 1000 do so. The median percentage allocation of those that do invest was around 6 percent, and for all pension funds surveyed, the amount devoted to property was less than 3 percent.

3. James A. Kujaca, "Choosing a Real Estate Investment Manager," *Pension World*, April 1981, pp. 26–31.

4. This counterintuitive result (higher risk-adjusted returns) is probably due to the faulty definition of risk (variance of returns), which neglects liquidity risk, skewness (real estate returns appear nonnormal), and/or agency problems (the human decision maker has a different perception of risk than the institution).

Identification and Delineation of Real Estate Market Research

James A. Graaskamp

Every real estate project is a cash-cycle enterprise which depends on customers willing to spend dollars in their own self-interest. Not only is each real estate project an individual enterprise, it is also a subsystem within a network of collective interdependent enterprises, each of which must be persuaded that their own needs and goals are furthered by interfacing with certain real estate.

In the broadest sense, market research investigates any factor influencing communication, persuasion, or recognition of needs and motivations in the transactional interface of enterprises in the real estate network. This includes local political controls on entitlement to new entrants, the bargaining power of customers and suppliers, and changing land use patterns and technologies affecting land use.[1]

In the narrower sense, market research is concerned with securing a customer's commitment to the enterprise with a high degree of predictability to control the variance in cash flows, growth in values, and other indices of financial performance derivative of a customer. To paraphrase Peter Drucker, once business has created a customer, everything else it does may be redundant. Certainly the critical element of a business strategy is coping with competition.

Market Enterprise and Monopoly

In a market system, free enterprise is the art of creating one's own monopoly, at least for a moment, in the mind of the customer for partial protection against price competition and the necessity of sharing a limited market. Free

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enterprise, as the art of creating one's own monopoly, leads to the following premises for this essay:

1. For products, monopoly requires at least one element of control in terms of raw material, location and political entitlement, relevant design, unique service, control of distribution channels, or good timing.
2. For services, monopoly requires control of the customer through behavioral conditioning or consumer inertia toward an opportunity to change habits.
3. Real estate is a combination of product and service, and therefore real estate monopoly has the greatest number of options to exploit when shaping marketing efforts of the firm.
4. The long lead time required to change supply to meet demand creates unique opportunity for developing a monopoly by decision-making finesse relative to politics of location, timing of financing, and delivery and forecasting of demographic shifts and changing consumer preference.

Marketing research involves any investigation that permits focusing of a real estate project on selected segments of consumers with a unique unfilled product and location requirement (market gap) and a point in time when supply alternatives are limited (market window). Because discount rates contain a lower load for market risk, the ultimate objective is to stabilize cash flows and maximize values.

The Real Estate Enterprise

The goal of imperfect competition is consistent with an enterprise management and systems view of the real estate process, and the appeal of real estate to the entrepreneurial mind—particularly if one believes the firm should prevail to some degree over socializing and collectivist forces in the environment. In general, abstract characteristics of an enterprise are that it is an organized undertaking with rational goals and standards which continually screen opportunities consistent with goals, focus limited resources on selected opportunities, and formulate, implement, and operate programs to capture the perceived opportunities. In the dynamic process one writer[2] has postulated that

1. The form of an enterprise, in terms of both its physical configuration and social behavior, eventually represents a negotiated consensus between two general sources of power—the power of the environment to dictate form and behavior of the organization, and the power of the organization to decide for itself what will be its characteristics and behavior.
2. Real estate is a space-time unit with physical form and a service enterprise with intangible formats intended to enclose a social activity so as to minimize the adverse influence of external forces and maximize the internal goals of the activity to be accommodated. Parameters of space and time are set by political entitlement.
3. External forces determining the configuration and behavior of the real estate are goals of the collective political forces, anticipations of future users, motivations of producer groups, and preferences of those controlling infrastructure enterprises. These forces define the context within which requirements of potential real estate occupancies can be met. These forces limit both the choices of the ultimate consumer and the ultimate solutions put forward

by the real estate enterprise responding knowledgeably and sensibly to a group decision process.

Market Research— The Intelligence Gathering Unit

Real estate market research is called upon to provide information for real estate enterprise decision making in the general areas of

1. Defining the framework of external factors having ascertainable influence on the generation of customers and revenues for the enterprise, i.e., power to shape product/service/price.
2. Inventory of strengths and weaknesses of the decision-making enterprise which must influence the enterprise deciding its product characteristics and marketing behavior.
3. Classification of factors having influence on customers and revenues as controllable or uncontrollable because of the presence or absence of skills available to the enterprise to manipulate external factors and control internal talents.
4. Providing cost-effective data for decisions relative to controllable variables influencing customers and revenues.

The patterns of these decisions generally emerge as a set of initial marketing premises, hypotheses, assumptions, and design controls on the project that are referred to as strategic and tactical positioning. Strategic positioning generally relates to how the enterprise will utilize or neutralize uncontrollable external market forces. Tactical positioning has to do with implementation of the strategy through manipulation of the controllable variables in a specific market situation. Strategic planning might try to provide housing for the elderly as a growing cohort in the market pushed by circumstance to relocate, while tactical planning might market supporting services and lifestyle in congregate housing while avoiding nursing care responsibilities.

Market Research and Modeling Market Behavior

Real estate market research is ultimately behavioral research, but still a science, not an art. Other sciences have less data than real estate. Indeed, real estate and urban planning seem to be inundated with plausible data points, and the problem is to discover the pattern and the causal factors leading to the powers of forecasting. Therefore, market research is not aimless, but rather is focused on defining hypotheses, confirming assumptions, and contributing facts, which in turn provide the enterprise with a strategic and tactical position in the marketplace with strong, monopolistic overtones.

Models of Market Behavior

To simplify the structure and analysis of behavioral research on economic matters, it is typical to provide a model of relationships that is, in essence, a hypothesis about market segmentation, motivation, and the elements that com-

bine to create effective demand. Models for behavioral research and enterprise decision have been characterized by Dilmore as based on truth, beauty, or change.[3]

1. Models based on truth reflect normative premises about economic motivation and simple decision criteria such as optimizing. Truth tends to make clear distinctions between market factors and merchandising tricks of promotion. Models based on truth tend to rely on proof by assertion, are deductive, and basically rely on secondary data such as Reilly's gravitational models of retail draw.
2. Models that stem from beauty are intuitive, reflective of sensitivity from a person's experiences, and gain credibility from elegance. As Dilmore pointed out, $E=MC^2$ was initially based on the speed of light because the concept was elegant, and it was only years later that empirical data supported the model. Models based on beauty are not always persuasive since beauty is in the eye of the beholder or communicated by means of the aura and trustworthiness of the communicator. For example, George Writer segmented the upper end of the Denver single-family housing market as the Gucci shirts, the Pendletons, and the Brooks Brothers' button-down. The Ray Ellison folks depend on Professor Lazlo and lifestyle groups.
3. Behavioral models of chance exploit the increasing credibility of statistics in scaling, forecasting, and ranking consumer preferences. Statistics can be inductive, generated from focused primary research instruments, honest in measuring the degree of fuzziness in the resolution of focus, and abused in terms of power to communicate disinformation between enterprises.

Six Critical Elements of a Model

Whichever model genre or format is selected, there are six elements to the model, the research, and the decision that may follow. These are recognized as 1) the question that needs to be addressed; 2) data availability with plausible relevance; 3) the hypothesis with which to edit, structure, and focus the data on the question; 4) skills of the analyst that can be applied with reliability and understanding of the opportunities and pitfalls; 5) the decision maker's ability to convert the inferences of the research model to appropriate action; and 6) cost-effectiveness of the modeling process relative to the economic significance and risk of loss in the action taken.

As a general observation, models concerned with external aggregate forces tend to be fragmented, deductive, and oversimplified because the complexities are so great, research budgets so small, time is in such short supply, and the larger systems are not yet well understood. The science of meteorology has more data points than it can manage, and its models still tend to rely on assertions and logic to bridge the gaps in understanding. Nevertheless, the weather cycle is reasonably predictable, and so is the demand and supply for carefully defined real estate units. Even basic models provide an adequate basis for timing picnics and office building, spring planting and ground breaking. Disappointment with aggregate data most often occurs because the user misfits the data to the problem and not because the basic model never anticipated some unique phenomenon.

On the other hand, with internal, controllable variables, the real estate market analyst has the means to develop inductive, statistical models with a great deal of reliability in the control of internal decisions relative to the enterprise response to external forces. An explosion of software systems simulates parking demand by hour, day, and season correlated to building tenancy. Energy consumption can be correlated to building shape, materials, and site orientation. Linear programming models optimize elevators, installations, land use mix, and all the other controllable design variables and financing options. Of course, there are significant dangers in too much precision on data-rich small problems and data-poor forecasts subject to wide ranges of variables. In some ways, today's market research techniques suffer the same problems as the excitement over the Ellwood technique two decades ago, when capitalization rates could be computed to six decimal places, but only two significant numbers were in the normalized net income forecast.

Still, the scope and format of real estate market research is limited only by the inventiveness of the researcher in modeling new connections of easily available data points and then capitalizing on these market insights throughout the hierarchy of roles for market research.

The Functional Concerns of Market Research

The real estate enterprise must market concepts, credibility, and cooperation, as well as product, to three major sets of enterprises. In order of importance, these groups are consumer enterprises, public infrastructure enterprises that provide entitlement and off-site networks of supporting services, and finally reactive enterprises supplying capital, expertise, and material. Consumer enterprises are further subdivided among those who actually rent or buy, those enterprises which coalesce temporarily to influence political decisions, and future users who must be anticipated in the flexibility of product adaptation to changing times or who will be represented by self-appointed proxies for environmental conservation.

Market Research Objectives

Although random interactions of these groups and the interplay of their negotiations may be of interest to the market researcher, critical questions to be answered by market research models must focus on the following basic topics, which represent the building blocks of market strategy and positioning: potential market gap opportunities consistent with enterprise abilities to capture that particular segment; profile of prospect psychographics; proportion of population meeting prospect profile; profile of competitive supply meeting prospect needs; profile of supply historically provided in each period (absorption rate); product and service standards (defining competitive standards); product and service differentiation (providing competitive edge); product and service pricing matrix; potential elasticity of revenue; pace and phasing of production, including economies of scale required for pricing; penetration required into prospect profile

group as a percentage of period supply (capture rate); profile of political power segment within entitlement process; psychographics of the voting constituencies determining entitlement; preconditioned mind-set of the capital sources financing the real estate decision; psychographics of the enterprise's personnel in terms of suitability to the task at hand.

Other Peripheral Objectives of Research

Real estate marketing research is systematic information gathering from investigation of any factor influencing communication, persuasion, or specification of needs and dissatisfactions among the various interacting decision makers. Wherever there is a potential protagonist/antagonist relationship, the protagonist researcher must carry out some degree of research for data that will contribute toward a reduction in resistance, avoidance of resentment, dissolution of misinformation, and motivation of constructive response. The responsibility of market research for the real estate enterprise only recently has been correctly expanded to include every aspect of anticipation and control of the behavioral interfaces which represent in total the external forces shaping the enterprise and the internal communications within the enterprise which shape its response.

Market Research for Public Planning

Although market research always has been identified by consumerism, market research also has become a major data input for planning in the public sector. Planning, like management of a real estate enterprise, is an effort to deal with sets of interacting problems as a whole. The new emphasis in planning, as Ackoff[4] has suggested, is not just dealing holistically with a number of interacting problems, but doing so with a perspective orientation. Market research is now the planners' (rather than their own) way to discover the perspective that is appropriate and the market momentum which can be harnessed to advance public plans.

Planners have learned to give public segments what they want, rather than what the planners want. Planners compete for capital by tapping demand-generated cash flows rather than pillaging tax revenues. Thus, market research has been expanded to serve the external forces imposing on the real estate enterprise by researching the collective social ethics, values, and peer group perceptions that influence the political process of providing entitlements by means of land use control and capital allotments from both public funds and regulated capital markets as a precondition of any private real estate enterprise.

Formal and informal survey research is required of large and small constituencies, including contiguous property owners; organized neighborhood tenant associations; constituencies sharing common interests such as age, schoolchildren, religion, professions, etc.; community power structure and media bias; formal political district boards and councils; public boards regulating community infrastructure; public boards regulating financial institutions.

While the search for market opportunity may be in researching the degree of effective demand for a specific set of benefits, access to that opportunity depends on first marketing the idea to those who fear they may pay so that others

may benefit. The cost/benefit impact study is a whole new class of market research for products and services with high public profiles—such as real estate, medicine, transportation, and energy.

Classification of Market Research Forms

Convenient classifications for marketing research are somewhat arbitrary categories of competitive strategy formulation; market, merchandising, and political research; and promotional studies. These categories parallel the enterprise decision process for which the data are required.

1. Setting enterprise goals, talents, and opportunity search standards (competitive strategy studies)
2. Reviewing trends to identify suitable opportunity areas (market study)
3. Selecting a consumer target group within an opportunity area (merchandise study)
4. Formulating a technical program to capture the opportunity
   a. Securing entitlement in the public sector (political research)
   b. Defining competitive standards and conditions required for entry (competitive project analysis)
   c. Finding competitive differentials in the private sector (consumer research)
5. Implementing the program designed to capture the opportunity (promotion studies)
6. Operating the program over time to realize the goals of the program
7. Generating feedback of data with which to modify and improve implementations of numbers 1 to 6.

Note that marketing research in some format is involved in all seven steps except the implementation and operating phases, called Property Development and Management. These phases are omitted only because the feedback process is separated from operations.

Market Research

Market research is defined as research of secondary data sources to define trends, patterns of geographic fragmentation, and clusters of market segmentation which scale the size of any enterprise opportunity and provide a link between site and marketplace. Shifts in the demand/supply equilibrium of space-time units will be derivative of changes in demographic trends, psychosocial value trends, available investment capital allocations and interest-cost trends, technological trends, environmental trends, energy-cost impact trends, locational preferences, and income redistribution through federal fiscal budget and tax policy.

Secondary data are seldom in appropriate scale for a proposed project and must therefore be disaggregated into a series of smaller subsets by a variety of devices initially generated by primary research. The circumference of a trade area; subdivision of demographic data by age, income, or marital status; or subsets of aggregate data by psychographic lifestyle preferences are all examples of refining the focus of market data to search out a specific target subset, consistent with enterprise goals and monopolistic marketing.

Merchandising Research

Merchandising research is defined as primary research of specified subsets of customers and competitive supplies in order to confirm appropriate ratios for the disaggregation of aggregate data to identify location, space, and amenity needs, and to specify levels of effective demand. (According to a Chicago builder, the market for two-bedroom townhouses may be subdivided among 13 different family status groups.) The objective is always to define a subset with the highest level of interest in the subject matter to maximize survey response rate and intensity of execution of survey formats. Various devices may be used deductively to make the scope of empirical research manageable, cost-effective, and directly involved with market prospects.

Prospect lists may include comparable building tenant rosters, crisscross telephone directories and yellow sections, professional lists, street directories, subscription lists, license numbers, etc. Merchandising research is also concerned with an inventory of supply that is determined to be competitive and therefore defines the competitive standard of attributes taken for granted by the consumer. At the same time, empirical research of the prospects will strive to identify the competitive edge and motivational appeals to overcome inertia and to permit monopolistic pricing for a specific time, place, and group.

Political Research

Political research is defined as primary research of specified subsets of political decision makers and their constituents in order to anticipate and influence legislative decisions, commission rulings, and attitudes of specific political persons and blocs. Projects must be marketed to collective consumers to minimize the generation of political resistance to the project by inadvertently providing features or marketing themes that stimulate negative political action. The only project with building permits on the Kenai River spent its research budget on identifying the environmental concerns and design preferences of area residents so the ultimate land use plan from the outset avoided river bank development and the other clichés of recreational land. The attractions of the Kenai were apparent, and consumers would come under any rules and conditions imposed by local constituents. Land use of any type is first dependent on collective political approval, and therefore real estate concepts must first be marketed to those who control the political process.

Promotional Research

Promotional research is defined as investigation of media channels, messages, and subliminal codes that communicate and motivate the customer. In the case of real estate, the product is so big it envelops the customer as a primary media using forms, colors, textures, as well as spatial layouts to communicate sensitivity to the needs of the prospect. While merchandising and political research identify the potential irritations and misfits of the prospect to existing real estate accommodations, promotion is concerned with communicating how the proposed real estate enterprise combination of space, time, service, and cosmetic attributes will reduce irritation for the activity to be enclosed. Irritation

is both technical and perceptual and stems from the following four fundamental motivations: 1) desire to avoid physical discomfort in accommodating the person to the environment; 2) incentive to profit by reducing economic inefficiency in the use of people and resources in order to improve net spendable cash flow or transferable wealth; 3) need to reduce anxiety and stress for physical well-being; 4) need for enhancement of status and social well-being.

Biological evolution indicates surviving organisms are those which specially adapt so the necessities of survival are accomplished by using less energy, incurring less stress, and enjoying more relaxation and comfort. Similarly, real estate that survives contributes to the enclosed establishment in much the same way.

Technical irritation, which has historically stimulated improved planning, is the objective of merchandising research, while perceptual dissatisfactions existing in the mind of the beholder can be diffused and exploited by means of promotional research. Better merchandising may improve the speed of elevator service in an office building, while promotional research may place mirrors at the elevator floor stop to distract those who might otherwise perceive the elevators to be slow.

Integration of Market Methods and Available Talents

The four convenient dichotomies of real estate market research in the previous section interact with the formation of strategic hypotheses and finally strategic programs for the real estate asset manager. Appropriate techniques, budgets, and objectives of each category of market research shift over the time line of the real estate asset management problem. A preliminary effort to indicate the sequencing and changing content of real estate market research studies over time is provided in Figure 1, a matrix of development staging and research objectives. Figure 2 provides a matrix of research techniques now utilized in market analysis classified as models of truth, beauty, and chance. No mention is made of obsolete terminology such as highest and best use studies, feasibility analysis, or other similar nonspecific types of consulting products.

Naturally, the utilization of the more sophisticated market research techniques is somewhat cyclical, as methods and formats become identified with innovators and successful real estate entrepreneurs. Entrepreneurial egos, cash budgets, and time pressures have tended to prefer research models based on truth by assertion or intuitive beauty rather than carefully crafted statistics of behavioral research. The emergence of more elaborate techniques is highly correlated to the appearance of high rates of compound interest and saturation of generic space markets, so profit margins and survival depend on monopolistic market and pricing. Low-cost data processing was a timely and coincidental aid to this shift of entrepreneurial attitudes toward research. Real estate needs to break the stereotype of report titles and normative formats as well as the presumption that appraisers do market research. Nothing in appraisal training relates to decision theory for enterprises in the real world or modern methods of gathering and interpreting data to facilitate these decisions. Real estate analysis is no longer an exercise in modeling of real estate futures with normative and intuitive models with a generic format and a narrow scope of issues to be

FIGURE 1

OBJECTIVES AND SUBJECTS FOR REAL ESTATE MARKET RESEARCH

		Predevelopment Phase	Subdivision Phase	Project Feasibility Phase
	Objective	Spatial patterns and movements	Absorption rates for land	Absorption rates for space
Market		Statistical studies of economic, demographic, political, technical, and environmental trends	Rate of creation and sale and improvement of urban lands	Focus groups, rates of construction by type and class, and aggregate occupancy of comparable projects
	Objective	Influential person analysis	Capture rate for sites	Capture rate for occupants by product price and tenant profile
Merchandise		—	Research of required amenities	Research of competitive standard and competitive edge focus groups
	Objective	Impact analysis, regional fiscal, environmental, and transportation impacts	Land use control approval process and power structure	Building permit approval process and power structure
Political		—	—	Focus groups
	Objective	Identification of long-term visual and location perception codes	Imagery for neighborhood groups and contiguous property owners	Conversion rate of prospects
Promotion		—	—	—
	Objective	Substitute forecasting skills for risk capital	Substitute presales and public capital to finance public infrastructure	Position for unique project and timing to reduce capital risks
Strategic		—	—	—

FIGURE 1 (Continued)

		Initial Project Marketing	Property Management Phase
	Objective	Timing, trade area data, identification of competitive supply	Rollover rates
Market		—	Monitor competitive supplies and terms
	Objective	Trade-off analysis of features	Tenant canvass for renovations and service innovations and expansion demand
Merchandise		Feedback from model space	—
	Objective	Monopoly of entitlements	Feedback from neighborhood and political groups
Political		Testing for political image	—
	Objective	Define channels of communication and sales	Resigning of tenant lease maturities
Promotion		Testing of advertising effectiveness	Public relations research for building management
	Objective	Price for elasticity matched to scale of production	Estate transfer or corporate liquidation formats
Strategic		To control variable costs	Next user or investor market analysis

FIGURE 2
GENERALIZED ALLOCATION OF MARKET RESEARCH METHODS FOR REAL ESTATE ASSET MANAGEMENT

	Truth (Normative)	**Beauty** (Intuitive)	**Chance** (Statistical)
Market	Gravitational models Input-output Shift-share Census data and planning counts Social prototypes (hierarchy of needs)	Subjective forecasts Delphi studies	Dynamic time-series model for forecasting Regression analysis Cluster analysis
Merchandise	Nonsystematic survey/ research Competitive property inventories Standard plan selection	Focus groups Personal interview Experience logs Marketing diaries	Factor analysis Conjoint analysis Random telephone survey AID analysis Multidimensional scaling
Political	Flow chart of political process	Focus groups Personal interview Expert opinion	Random telephone survey Precinct voting profiles Legislative voting records
Promotion	Standard advertising, channels for distribution, and established building forms and textures	Focus groups Architectural models, testing of visual and tactile codes	Factor analysis Conjoint analysis Random telephone survey

addressed. Nor can one individual span the array of issues within the broad sequence of asset management steps suggested in Figure 1. As a result, real estate market analysis as a cottage industry of generalists is nearly over.

Conclusions

Recognition that market research for real estate requires investigation of a broad front of behavioral interfaces within economic, engineering, and architectural constraints is the first step toward recognition that real estate analysis will become a clinical service of related specialists rather than the province of cottage industry generalists. The shift of investment capital by fiduciaries toward real estate presages large increases in market research budgets for both proposed and existing income property investment, to protect the fiduciary against the consequences of negligence in establishing a marketing strategy for yield and protection of capital.

Bigger fees to protect decision makers against the consequences of bigger mistakes will attract and generate larger firm activities in providing real estate market analysis. For the same reason that accounting firms are taking over appraisal firms, advertising and public relation firms will take over real estate market research. Political science firms and research divisions of large advertising agencies are already playing a role in the application of sophisticated research techniques to large real estate project marketing problems.

Nevertheless, something is lost when those using the new techniques are not well grounded in real estate vernacular, building technique, and the theology of land planning. Therefore, a young generation of statistical analysts will join forces with normative and intuitive problem solvers to provide a clinical array of services as a coordinated team of market analysts. Within that team will be a land planner, mechanical engineer, architect, financial analyst, political liaison specialist, and one or more market researchers. This team will support the developer as employees or as a subcontracting professional firm. The subcontracting firm is socially preferred to facilitate dissemination for an understanding of the market on a cumulative basis to multiple developers. However, currently the creation of value depends primarily on market research that will provide a proprietary, competitive differential leading to a confidential, in-house data base development. The learning curve from research and the experience curve that provides a timing edge will be key to monopolistic operations of institutionalized real estate. The result will be a greatly reduced dissemination of research methods, findings, and demonstrable successes. Almost inevitably, market research firms providing services to the public will evolve into development firms for their own account because the value created through thorough and comprehensive research is so much greater than professional fees currently acceptable for the service.

Notes

1. Michael E. Porter, "How Competitive Forces Shape Strategy," *Harvard Business Review*, March–April 1979.

2. For a thorough introduction to enterprise systems and management concepts that have contributed to the author's own thought development, see John A. Beckett, *Management Dynamics: The New Synthesis* (New York: McGraw-Hill, 1971).

3. Gene Dilmore, "Technology of Information Processing and Data Basing—Implications for Real Estate Value Reporting," in *Proceedings of the 1984 Real Estate Valuation Colloquium on a Redefinition of Real Estate Appraisal Precepts and Process* (Cambridge, Mass.: The Lincoln Institute of Land Policy, 1984).

4. Russell L. Ackoff, *The Art of Problem Solving* (New York: John Wiley & Sons, 1978).

Analysis of Real Estate Market Conditions

(Symposium Notes)

I. *Introduction*

A. *Symposium managers have specified that I have 40 minutes to resolve the following questions:*
   1. *What are the long-term trends in the real estate investment market?*
   2. *How does the changing economic pattern affect investment performance for the next five years? For the next 10 years?*
   3. *What tax changes can be expected and what impact will these changes have on real estate investment?*
   4. *In light of the above, what surefire market strategies should you employ for success?*

B. *Wisconsin economists are institutional economists rather statistical ones. We ask you to think in terms of the conceptual rather than the transactional.*
   1. *Real estate success requires monopoly and spread to buy low, sell high.*
   2. *The next five years will provide opportunity to buy low; the end of the century will provide opportunities to sell high.*
   3. *The increase in value will depend on asset enhancement, on managerial skill, rather than systematic increases hyped with marketing skill.*

II. *Basic reasons to invest in real estate continue to be true and limit downside risk*

A. *Real estate is the most significant investment in the economy, enclosing all basic activity, and is largely invulnerable to external shocks. Life goes on.*

These notes were prepared for an asset manager symposium held in San Antonio, Texas, on February 19, 1986.

B. Demographic pressures promise some continued growth in demand, and experience shows small neighborhood shifts within the community are major factors in the marginal demand for new stocks of real estate.

C. Real estate provides competitive investment returns, portfolio diversification benefits, and sometimes a hedge against inflation.

D. Real estate markets are relatively inefficient and generate large fees for those who can exploit the inefficiency.

E. Real estate investment has a large, emotional attraction magnified by a positive stimulus from the international community.

F. Supply of investment-quality property is declining or is gradually redefined as institutions buy and hold.

G. Super-Keynesianism makes a significant recession or depression with a $250 billion federal deficit virtually impossible.

H. The Federal Reserve Board has lost its power to increase interest rates, trapped by Third World debts to U.S. banks, our negative foreign trade balance, and the need to monetize the defense budget.

III. Threat of economic roller coaster will reappear in 1987 and 1988, but the bad news is longer term

A. As a society, we are unwilling to address curtailment of debt for personal, industrial, or public sectors (see Figures 1 and 2).

FIGURE 1
NET FUNDS RAISED IN U.S. CREDIT MARKETS, 1983–1984, AND ESTIMATES FOR 1985 AND 1986 ($ BILLIONS)

	1983	1984	1985[E]	1986[P]
Total Net Funds Raised	643.0	887.6	862.8	864.3
U. S. Treasury issues	186.7	199.0	205.0	190.0
State and local government bonds	57.3	65.8	93.0	55.0
Corporate bonds	24.6	60.8	78.5	92.0
Single-family home mortgages	115.6	139.2	136.0	132.0
Multifamily residential mortgages	9.4	14.0	14.0	16.0
Commercial mortgages	47.6	58.8	48.5	52.0
Consumer credit	59.8	96.5	120.0	100.0
Business and other loans of banks*	26.7	79.4	12.5	52.0
Mortgage pool securities	66.4	44.4	75.0	65.0
Issues of U.S. government–sponsored agencies**	1.4	30.4	28.0	30.0
Open-market paper and R.P.s	14.4	44.1	35.0	40.0
Loans from federal home loan banks	-7.0	15.7	12.0	10.0
All other credit	40.1	39.5	5.3	30.3

E = Estimated
P = Projected
*Excludes mortgages and consumer loans
**Federal National Mortgage Association and federal farm credit agencies
Source: Flow-of-funds, Federal Reserve Board.

FIGURE 2

NET FUNDS RAISED IN U.S. CREDIT MARKETS, 1983–1984, AND ESTIMATES FOR 1985 AND 1986 ($ BILLIONS)

	1983	1984	1985[E]	1986[P]
Total Net Funds Advanced	643.0	887.6	862.8	864.3
Households	70.9	118.0	99.6	74.3
Corporate business	20.4	22.2	–6.2	10.0
State and local governments	47.7	46.1	63.0	66.0
Foreign investors	27.1	43.4	58.0	52.0
U.S. government	9.7	17.2	5.5	15.0
Financial institutions				
U.S. government–sponsored credit agencies	3.4	28.8	29.0	30.0
Mortgage pools	66.4	44.4	75.0	65.0
Federal Reserve System	10.9	8.4	13.5	11.0
Commercial banking system	136.1	181.9	155.0	150.0
Savings and loan associations	105.4	119.8	65.0	70.0
Mutual savings banks	18.5	10.4	10.5	11.5
Life insurance companies	50.6	57.9	56.0	58.0
Other insurance companies	1.7	9.1	11.0	13.0
Uninsured private pension funds	25.9	24.9	26.0	27.0
State and local retirement funds	16.0	31.2	21.0	24.0
All other funds advanced*	32.3	123.9	180.9	187.5

E = Estimated

P = Projected

*Includes nonfarm noncorporate business, finance companies, credit unions, REITs, mutual funds, money market funds, and security brokers and dealers.

Source: Flow-of-funds, Federal Reserve Board.

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B. Inflation lags debt increases by four or five years when the economy is operating below capacity.

C. Public deficit means that United States will lose out relative to Europe and Japan in long-term standard of living.

D. Tax reform efforts are a fraud. Only honest answer is to raise federal taxes and improve productivity of white-collar employment.

IV. Missed opportunity to reduce deficit through increased taxes.

A. Gasoline tax

B. The Gramm-Rudman Act applies brutal budget cuts to all programs that benefit development and real estate.

1. Loss of federal rebates to states, counties, and cities and to education means real estate taxes will rise from 1 percent of asset value to 5 percent of asset value.

2. Result will be taxpayer rebellion, not unlike Proposition 13, which will shift burden to commercial property.

3. Public services will be shifted to user fees directed toward commercial income property.

4. *State real estate laws will be further modified to permit differential ratios to equalize values by property class to shift the tax burden toward investment properties other than apartments.*
5. *New sales taxes will be extended to leases, construction materials, and real estate transactions.*

C. *Short-term increases in the income tax may be passed through to tenant, but at the time of renegotiation, net effective rental will be reduced or flattened. The 6 percent escalators on income in 1985 appraisals will prove to be a lie.*
1. *Lease provisions will have to be modified to anticipate taxes on leases, financial transactions, or security values.*
2. *Some real estate taxes may be avoided where tenants own office interiors in industrial-type spaces in suburbs which have escaped welfare burdens and redevelopment costs.*

D. *Productivity increases will require a reduction in white-collar employment, i.e., office tenants, and a reduction in the costs of housing white- collar employees.*

V. *Any adjustments to the tax law will be cosmetic or temporary. The loss of investment tax credits and some tax-exempt financing will be damaging to new products but will help vacant projects by reducing the new supply.*

A. *Federal tax rules may explain less than 10 percent of real estate values, according to Roulac and others.*

B. *The need to eventually raise federal income taxes will strengthen the argument for tax neutrality, and taxpayer revolt will crush the real estate lobbies.*

C. *In the future, people will make their money when they buy and how they manage rather than how the political system can be manipulated to create arbitrage values through tax favoritism or nonmarket interest rates. The National Association of Realtors may win concessions in 1986 but ultimately will be shown to be on the wrong side of the issues.*

VI. *A suggested investment strategy to buy well as a basis for resale spread, manage well for operating spread, and market well for a monopoly spread might be to:*

A. *Choose existing properties in firmly established neighborhood trade areas that can be modernized or expanded rather than new properties without momentum or inertia as a stabilizing factor for marketing.*

B. *Invest in areas that have the most sophisticated land use controls to block new supplies and a history of political power structures to facilitate public/ private cooperation on economic development priorities.*

C. *Develop internal organization capacity for management and leasing to maintain monopoly, minimize marketing fees, and maximize spread.*

D. *Greatly reduce debt ratios of well-positioned income real estate with capacity for enhancement.*

E. *Select market areas as a contrarian, relating to long-term trends and economic base, discretionary income, and quality of urban government.*

Equity Investment

(Class Notes, January 1987)

Equity investment typifies the problem of teaching real estate of any form and investment of any kind, simply because last year's lecture notes are never any good the following semester. We've seen a series of shifts in the critical elements—virtually every market is overbuilt in terms of what developers wanted, the results of finance-driven, tax-driven investment philosophy that really never looked at the economic characteristics of real estate.

The Federal Savings and Loan Insurance Corporation faces a deficit this year of over $25 billion. The agency has only $2.5 billion in assets. Congress has to fund the total loss.

Other forms of subsidy have occurred for real estate that have brought us to the current state of affairs. There is a growing recognition among financial institutions that responsibility is not only socially desirable but it's economically necessary to survive—a total demographic shift in population and employment will never use up that much of the space that has been created. We are moving toward a much more selective investment environment than before.

New tax law—"silent crash in real estate." Despite interest rates dropping over 300 basis points over the span of 20 months, real estate went nowhere. Traditionally, prices should have zoomed, but in fact slid.

Stocks and bonds had an incredible performance simply because of the base they were working from. Institutional pressure on real estate to some degree is gone as institutions have focused funds on stocks and bonds. Even if institutions were to divert much of their funds towards real estate over the next few years, the total amount of capital relative to total amount of real estate isn't that significant.

Euphoria that characterized real estate investment process for several years prior to last two years is gone. Individual investor is becoming more selective, rational, and systematic in looking at investment costs.

Major players are becoming institutions, and they have new rules relative to the responsibility of the decision maker for the consequences of his decisions.

Corporate fiduciary is expected to have higher standard of performance because of his expertise. Rose out of two major trends:

1. *Litigiousness of our society. We are expanding personal accountability of our professionals for ability to practice their expertise.*

   Held collectively to higher standard of performance, a professional participating in a prospectus should it carry an error of omission, which is regarded as significant factor. All are equally liable regardless of who made mistake. SEC is rigorous. Common law moving to point that "thou shalt not profit" from an error which was regarded to be malevolent or fraudulent—triple damages in federal court. Malfeasance defined ever more tightly.
2. *Legislative. Disasters of S&L associations and commercial banks, probably some of the pension funds such as the teachers', are probably going to be borne by United States taxpayers—guaranteed by agencies of federal government. The largest single guaranty exposure is that of pension programs.*

ERISA. All pension and many profit-sharing programs are subject to their control. Basic part of legislation is employers' sponsoring of pension plans. Must not only vest the rights to program over five years, but must fund all vested benefits at the time they vest.

Significance. Chrysler was on the ropes and came in for tremendous support by government. It was cheaper for federal government to give Chrysler money than it would have been to fund vested benefits that Chrysler was already committed to which it had not yet funded, because they had been vested under old law when it wasn't necessary to fund it.

ERISA will become the single largest financial guarantor by far of all traditional federal guarantee agencies. Has toughest rules relative to corporate fiduciary responsibility governing all types of conflict of interest for anyone involved or providing expertise to such a fund. They have personal accountability for their failure to observe ERISA's rules.

Example: Irvine Foundation faced with sale of company (no longer permitted to have operating control under tax law). Attorney general of California could announce to the public that if he didn't agree with the price that the foundation trustees accepted for the company assets, the difference between what he could establish and what they sold it for would be paid directly by trustees of foundation.

The rules have changed. The most significant thing that has happened to real estate is that the thrust of the laws is moving back toward personal accountability.

R41(c) makes loan officer partially accountable for failing to procure the appropriate appraisal. If H.R. 4000 goes through this next year, it will apply across the board to everything but ERISA. At the moment the appraiser is not personally accountable for error in ERISA, but trustees are for accepting an inappropriate appraisal.

Corporate fiduciary responsibility is powerful because it's undefined. We now have recourse against bad judgment.

Most of risk in real estate is inadequacy of the data on which one made the decision. Most of data inadequacies are because one wasn't willing to pay the price in dollars and time to find out facts.

Underlying ethical issues relative to real estate—capital rationing—brought into public debate because of excesses of capital diverted to real estate. We are now capital shy.

Example: Why should US Steel, with record of mismanagement, be permitted to raise billions of dollars in capital to acquire Marathon Oil when it does absolutely nothing for our production base—simply monetized or resourced when resource was in fact overvalued and squandered billions in capital that might have been invested in something productive.

Example: Why should investment banking world be driven simply on a fee basis without any requirement that it back the capital we use productively?

Mentality—real estate is beginning to be looked at that way. What will one more shopping center do for us that others can't already do?

What are the cost trade-offs to a society that simply moves with short-term interest-rate fluctuations and manipulated markets by investment bankers not concerned with productive use of capital? Many are arguing that we are moving very quickly toward some other form of capital rationing than simply a federal reserve system which has been corrupted by the banks and an investment banking system which has always been corrupt. Sooner or later we will become a planned economy relative to our major capital allocations.

Real Estate Is by Nature a Futuristic Investment

Basic decisions are driven by irrational attitudes about the future. Irrational, emotional, intuitive, creative attitudes that cannot be validated on traditional scientific rationale basis. Real estate begins with hope (irrational); we almost never look at the future facts that are available and known today.

Example: Population aging; how many people in productive work force will be available to support the number retired or investments underlying retirement?

Example: Twenty percent of children born today are born to unwed mothers who are dysfunctional as parents. What will the size of that population at 15 years old on streets without any adjustment to our society as we know it mean in terms of security and safety of your real estate in urban environment?

Tremendous gap in real estate between future facts about the stability of the social process on which our extrapolations of return are based and the hope that we go forward in terms of committing large amounts of capital to cash flows which have to go through 20, 30, etc., cycles before everybody gets money back. Oil will be gone, but real estate values are based—and values 10 years from now are based—on the fact that the single-family car will continue as we know it today.

If real estate is not futuristic, then opportunistic—take either view. You can buy, sell, trade, arbitrage due to respective ignorances of preferences of a relatively short period of time or invest in the long run. European tradition is to invest in long run—more hopeful than American.

Sam Zell says there are two kinds of real estate—fungible and nonfungible.

Nonfungible is so unique in location and quality, etc., that it will be useful to society for 100 years or more—buy and keep (European families).

Fungible—all the rest, no intrinsic long-term survivor characteristics.

What is the time line as basis for positioning?

Pension fund concerned with feeding people 20, 30 years, etc., down the line. State of Wisconsin Investment Board has a $15 billion portfolio, which expects to go to $25 billion in next five years. How can you be that busy churning, and what are

you going to find to churn into? Difficult to do and meet fiduciary responsibilities and personal accountability.

What is the time line of the single-family home? Time lines are extremely short. Five years, fix up, move to better neighborhood 10 years, move again for high school.

Purchase of single-family home:

Internal Rate of Return (IRR)—forget altogether. I don't think the internal rate of return has anything to do with real estate whatsoever. Concept introduced by finance professors who think real estate is money exchange deal, not the terrarium in which you're going to live and die.

Still time lines:

Example: Columbia, Maryland. Rouse had a hope, he failed, he had a 30-year time line, compound interest bottom. It burned him out. Doesn't mean he wasn't successful in challenging a whole series of city planning concepts and what the quality of life is about. Doesn't even mean Rouse Company wasn't successful. He did all the data on a million dollars' worth of Rouse Company capital and whole series of fees that came in, employing lots of people, doing lots of creative things for a good many years. Rouse Company stock went up continually over period of time.

Example: Investment in a railyard. Maybe not successful for first 40 years, but suddenly it may be the most successful thing the company has going for it. Analyze Northern Pacific as a stock based on the railroad business. It turns out the railroad is worth about $.15 on a dollar of net worth for Northern Pacific. The balance of their value is in their real estate holdings which they got for free and which don't show in their books. They own large parts of the Northwest wilderness, with most of the unexplored mineral base and timber base. So what's successful? Were they successful as a railroad or as one of the great real estate speculations of all time?

You need to understand time lines to measure real estate successes or failures.

Added to the future is the topical. The morale cycle of the investor goes up and down, depending on how he perceives society and politics going.

Appraisals during Jimmy Carter's last years forecasted one cap rate out past Carter and then a lower cap rate when Reagan came in. The values would automatically go up when Republicans came to power.

All of us are affected by either a euphoria or a depression that is sort of a feedback mechanism and that begins to affect our perception of value over time.

Then there's the contrarian who says that what everybody thinks is probably wrong, and so always takes a position counter to the attitude of the majority, i.e., buy when everybody's selling. Somewhat, this works out very well. Can we have a consensus and use it as a stable basis for investment, or do we simply hypothesize?

Certainly the most successful investors have gone independently of what anybody else thought. If you compared that to the norm, you had to argue that they were irrational at the time. Disney was nuttier than a fruitcake when he built Disneyland. If he had gotten 500 of the top minds on Wall Street, they would have dropped the net over old Walt.

Most investors are irrational, and developers are creatively neurotic. But if their antennae are right, they prove to be correct in the long run. They have to be self-supportive in their vision and will have to outmaneuver the majority politically and financially. Most of us are strong-minded about much smaller events that generally go unnoticed. The real estate neurotic generally leaves his mark on a large scale.

How topical is your attitude about the future?

Example: Doom-and-gloom people saying rents will rise 20 percent under the new tax law. How will rents rise if we're already overbuilt? Did the law of supply and demand repeal accelerated depreciation?

Real estate investment may be passive in long term, and in many cases that in itself breeds paranoia.

Example: Single-family home in town you used to live in. When you left Louisville you rented instead of selling your house. You're going to be paranoid about your house because you can't see what's going on as passive investor.

Real estate as passive investment is generally misunderstood. People who are not into the operations day to day can imagine all kinds of fraud going on beyond their sight, and they typically overreact with controls to make that not happen—controls counterproductive because entrepreneurial responsiveness gets crushed—and end up with a custodial property manager who can't do anything.

Example: Shopping center has vacancy in the pet shop. The first item of conversation when the board meets—managing $1.5 billion in resources but worrying about 600 square feet of vacancy. Did we rent the pet shop? Gee, I knew real estate wasn't for us.

Very hard to maintain a long-term view of real estate. Too many irritations along the way to make you mistrust your judgment.

How do I maintain long-term perspective that if I buy right and position right and go away that 25 years from now that investment will in fact justify my faith and judgment? The alternative is to assume that all real estate returns are entrepreneurial and a result of exploitation of opportunity, arbitraging between efficient and less efficient markets.

Real estate has been trying to find compromise, often called joint ventures, many times structured in other ways which allow the institutional investor and the private investor to tippy-toe in with a number of points at which they can jump off the train if they want to, be a creditor on the down side, enjoy equity profits on the up side, and hire developers who have the entrepreneurial neuroses to make it work.

Trying to find institutional mechanisms which recognize this long-term character of real estate and at the same time provide some element of liquidity, so that if our doubt and paranoia overwhelm us we can exit and share some of the up side. Very useful to look at equity investment in that very big picture—our long-term investors really don't think long term, don't even trust long term!

Example: General Motors building its production plant in Mexico and its warehouse on the United States side, then dumping 2,000 workers in one town and 5,000 workers in another town.

Can you make a statement about where the United States will be, and your state will be, and the city of your choice in that state will be 10 years from now? How would that suggest where to invest your money?

Example: Somebody said the major problem facing the United States today is its trade deficit. It will erode the base of the economy, and we will have to respond to it. Response will be steep devaluation of U.S. dollar relative to foreign currency. Bring unskilled jobs back to the United States. Improve competitive efficiency of our heavy industry so they can export. High interest rate is counterproductive relative to our need for low values abroad. Must have low interest rates—interest rates cannot be incentive for savings . . . only incentive for savings is to discourage spending by

consumer. Consumer deficit is two or three times as large as military. Significant to real estate game—consumer interest no longer deductible. Spending in advance of ability to pay is discouraged, next step is to begin to put constraints on banks as to what proportion of assets can be in consumer finance even if you choose to finance and not get deduction for interest. Minimum downpayments will be the next step.

What does that say about retail real estate? Low interest rates are favorable to real estate, but also mean retailing is going to take a hit.

When workers come back, where are they going to go? They're going to go to areas full of unemployed or underemployed nonunionized workers. They will be in the position to pick up jobs we bring home—more likely to be in the South or in areas that have already taken a hit, such as meat-packing or auto industry. Investing in AMC in Kenosha, Wisconsin, for 10 years without getting trapped by unions is the answer.

Start to think of real estate in terms of 10 years. What is inherent product of the capital over a long period of time on the assumption that the context in which capital is operating is good. If they can project 10 years.

Those who position themselves best against future facts as opposed to being worried about what's going to happen next probably do the best. Look at future facts relative to your particular area of expertise and ask yourself how you would position yourself to exploit that in the long run. Real estate is an irrational statement about your hope for the future. It doesn't lend itself to scientific verification.

Real Estate Presumes a Certain Social, Political, and Economic Structure And Value System over a Long Period of Time

Yet if you study our social, economic, political literature, we are presumably in a future society that is changing at an accelerated rate. But it's clear best investments have always been the most generic of our space frames.

Example: Loft buildings in New York are going through fourth generation of uses: originally industrial, they became textile, then became warehouses, and now are high-style residential. More specialized real estate is more vulnerable.

The most vulnerable real estate is retail. What is the sure winner that's a sure loser today? A small shopping center anchored by a grocery store. Groceries have expanded—too large for small mall.

Real estate is space-time product. More specifically fit space-time to particular kind of occupancy, the higher the risk. The more generic, the more adaptable.

Need to look at what are we going to do with it next, as well as what are we going to do with it now.

Can't afford to distribute population over a broader area when we know that in 30 years we can't afford to drive. Must create urban centers that don't depend on automobile or families with children and at the same time create social stability as we increase independence. Real estate investment means capital commitments that can stand up to the future in 10 years as opposed to the deal of the month, which generates a few fees.

Real Estate Investment Portfolio Management

(Class Notes)

I. *Objectives of a real estate portfolio approach*
Theoretical developments in stock and bond investment management relative to risk and return characteristics of an investment portfolio have made it stylish to focus institutional real estate investment strategies in terms of portfolio concepts. There is a tendency to shift the concern of fund managers from the evaluation of individual real estate projects to the portfolio impact of real estate investment.

A. *Security investors have been brainwashed with theories developed by Markowitz and Sharp to the effect that security markets are very efficient and that market price of a given security reflects a return for the use of capital plus a return for compensation of risk.*

1. *Risk is defined as variance in terms of market price of a specific security relative to an index of market prices for all securities.*
2. *Risk is caused by systematic changes which affect all securities as a result of market-related risks and nonsystematic risks which were inherent in specific industries and businesses.*

B. *Since risk was variance in price or value and market price was present value of collective expectations of future income, variance could be controlled by diversification within industry to reduce the mean variance of all investments, and market-related risks could be mitigated by arbitraging among different investment markets if a variance/covariance relationship could be shown to exist.*

C. *Investors have always recognized that you shouldn't put all your eggs in one basket even though it may be possible to have a higher return if you put*

your eggs in one basket and then watch the basket very closely. Safety in numbers and averaging of offsetting errors through safety in numbers are described as naive diversification, and that generally describes the state of art of portfolio management for real estate.

D. *Portfolio people in securities distinguish between safety in numbers and efficient diversification in which there is a scientific statistical trade-off between measures of return and measures of risk, which maximizes investment returns for a given level of investment risk. Ideally, portfolio management could theoretically neutralize business risk.*

E. *To be relevant to real estate, the efficient diversification concept would presumably require the following elements:*
   1. *Standardized time-series data on net incomes and resale prices by property type*
   2. *Efficient exchange of market information among knowledgeable investors*
   3. *Computed measures of systematic and nonsystematic variance comparable to those available in the appropriate securities market*
   4. *Availability of investment units representing a cross-section of the real estate investment market*
   5. *Liquidity of real estate investment to permit instant readjustment of the pricing model*
   6. *All investors' choices based on expected return and risk relative to market means*
   7. *Independence of business management from investment management for individual ownership interests*

F. *Naive diversification in real estate may, in fact, provide a high degree of covariance between real estate investment and security investment, thereby stabilizing market-related risks rather than business risks over intermediate periods of time (Professor Miles and Professor McCue—preliminary data).*

G. *Naive diversification may involve multiple levels of spreading of risks:*
   1. *Regional dispersion*
   2. *Urban neighborhoods*
   3. *Property type*
   4. *Property size*
   5. *Leasing mix*
   6. *Tenant mix by size and industry*
   7. *Age of property*
   8. *Duration of estimated holding period*
   9. *Percent of ownership*
   10. *Degree of leverage*

H. *Traditional methods of real estate risk management are from risk and insurance literature and include*
   1. *Risk avoidance*
   2. *Combination of units to improve prediction of frequency and severity of gains and losses*
   3. *Shift by contract to insurance pool in exchange for small certain loss of premium*

4. *Shift by contract to arbitrage skills or market position*
5. *Limit liability by contract or ownership structure*
6. *Hedge*

II. *Thus, risk management in real estate has generally presumed active asset management by those contracting the web of agreements, contracts, and defined interests in any given project, or by means of naive diversification. The shift toward passive institutional investment and the conditioning of money managers to the fads of portfolio theory have led to the hope that real estate can be treated like other security interests.*

PART VII

THE FINANCIAL MARKETS

Introduction to Part VII

"The selector values of lender and borrower are diametrically opposed and a transaction could never occur if both parties did not perceive ways in which to control the risk attributes of real estate that were in conflict with their objectives."

"An Approach to Real Estate Finance Education
by Analogy to Risk Management Principles"
Real Estate Issues, Summer 1987

"If regulators were to match cash flow assumptions to the ability to repay income loans, loan-to-value ratios would be quickly recognized as irrelevant."

Class notes—Business 850
February 4, 1987

Graaskamp never considered himself a real estate financier. Yet he had a firm grasp of sophisticated financial concepts and an expansive knowledge of financial markets and trends. He delighted in taking a traditional structure or notion and twisting it like a Rubik's cube to come up with unconventional conclusions. These machinations he shared freely with students, colleagues, and real estate professionals, often to their consternation and confusion.

Graaskamp anticipated the problems of the FSLIC and FDIC years before they became apparent. He advocated cash flow evaluation for financial analysis a decade before it became commonplace. And he identified a variety of other trends or concerns well in advance—insightful work for an old appraiser.

Most of the material in this part is from the mid-1970s. Much of it is in the form of class notes covering the gamut of capital markets, mortgages, guaranty insurance, and so on. Jim's clairvoyance is remarkable.

Capital Markets and Real Estate Mortgages

(Class Notes)

I. *Each mortgage lending institution is a combination of several subsystems:*

   A. *A savings-attraction system*

   B. *A mortgage loan preference and transaction system*

   C. *A liquidity system*

   D. *A safety system*

II. *The supply and price of mortgage funds depend on solving the attraction-of-savings problem without damage to the liquidity position of the institution. In short, new mortgage loans depend on the rate at which old loans are paid off (portfolio runoff) minus changes in liquidity reserves plus new savings placed with the institution.*

   A. *Runoff depends on*
      1. *Term of mortgage amortization*
      2. *Rate of prepayment (average life of loan)*
      3. *Prepayment penalties*
      4. *Amount of delinquencies, workouts, foreclosures, and nonaccruing or owned real estate*

   B. *Adjustments to liquidity reserve reflect*
      1. *Volume of existing commitments for future closings*
      2. *Anticipated withdrawals of savings for seasonal or personal needs*
      3. *Expected disintramediation (shifts between lenders)*

4. *Shifts among investment media (disintermediation)*

(The problem of Regulation Q and reform of the savings and loans)

C. *The many variables affecting new savings*
   1. *Discretionary new cash savings (new deposits)*
   2. *Discretionary demand deposits (existing old deposits)*
   3. *Discretionary time deposits (CDs, savings plans)*
   4. *Discretionary contract obligations (premiums, fund shares)*
   5. *Forced saving to repay old debt (principal amortization)*
   6. *Forced saving to anticipate new debt (escrows, prepaid expenses)*
   7. *Forced payment of income taxes (percentage of tax allocated to mortgage money)*

III. *Over the last 10 years the supply of money available for mortgages has fluctuated drastically for a variety of reasons, which has led the government to intervene at every level of the capital market in order to insulate, in part, the supply of mortgage money from the rising interest rates caused by federal mismanagement of both fiscal and monetary policies.*

A. *The withdrawal of major life insurance from residential lending—single-family and multifamily*

B. *The creation of multiple savings plans controlled by Regulation Q*

C. *The creation of GNMA to inject federal funds into mortgages through outright purchase, tandem plans, or insurance of collateral trust*

D. *Subsidy of savings and loans by direct treasury payments to the Home Loan Bank*

E. *Encouragement of state housing finance agencies and direct lending by states for veterans' mortgages, elderly housing, industrial development*

F. *Encouragement of greater consumer savings or special tax deals for retirement of self-employed persons; more regulation of pension funds and life insurance companies*

G. *Subsidy of rents and purchase prices to reduce impact of interest cost for ultimate consumer*

H. *Encouragement of bank holding companies to launch adventures into real estate trusts, mortgage banking, and direct mortgage investment participation arrangements*

IV. *The United States is becoming a capital-short country as all our major problems in terms of housing, energy conservation, pollution control, revamping of transportation system, revamping of our urban education system all require capital-intensive solutions that compete with one another for money.*

A. *In Canada, consumers must choose between housing and other consumer durables or luxuries.*

B. *In the United States, the cost of large residences will rise faster than income because of construction costs, real estate taxes, and energy costs so that there*

will be growing economic incentive to have smaller houses closer to jobs and shopping and bus lines in order to reduce total capital invested in real estate with interest expense so that income could be available for energy, transportation, and recreation, considered to be more satisfying than the prestige of a big house. The ultimate control on interest expense and financial risk is to borrow less.

Making the Residential Loan—A Risk Management Process

(Class Notes)

I. *Shortly we will compare intermediary lending institutions on the basis of four basic subsystems for management control and institutional differentiation:*

   A. *Savings pool attraction system—the form of security and its marketing which generate the pool of investment capital (example—selling whole life insurance, providing savings accounts, cooperative thrift programs, pension funds, etc.)*

   B. *Liquidity systems which cushion long-term investment positions against short-term withdrawals (premium flows, payroll checkoff, liquid investments, interagency loans)*

   C. *Loan transaction preference systems (loan patterns established by regulation, history, management styles, market opportunities)*

   D. *Safety systems to stabilize operating results and solvency in event of natural disaster, economic disaster, or management failure*

II. *Assuming a home loan falls within a transaction preference system, the lending opportunity must be analyzed in terms of the following clusters of interrelated factors, generally ranked in order of significance.*

   A. *Analysis of the borrower to determine both his will and his capacity to repay the debt*

   B. *The nature and terms of the loan agreement as to its investment and portfolio suitability*

C. *The real estate property characteristics to be pledged as collateral as to its ability to provide a bailout on the loan*

D. *The maximum potential loss exposure on the final transaction as it relates to the profit center in the deal*

E. *Keep in mind the lender can choose to use a variety of risk management techniques, which would include*
   1. *Avoidance of certain types of business (through underwriting and marketing)*
   2. *Combination for purposes of predictability (developing portfolio patterns)*
   3. *Reduction of frequency of loss (through underwriting and servicing)*
   4. *Reduction of severity of loss (servicing and property management)*
   5. *Shifting of losses by means of insurance and guaranties*
   6. *Limiting maximum liability (underwriting standard and joint loan participation)*
   7. *Standardizing mortgage investment to permit sale to others for liquidity, better production volume, or for risk avoidance*
   8. *Providing for risk of changing interest rates or devaluation of future money values (short terms, VRM's conditional accelerations, FNMA auction)*
   9. *Loss of seasoned loan business (AMP loans, declining interest loans, closed loans)*
   10. *Exposure to civil suit for usury, truth in lending, redlining, defamation or breach of privacy, minority discrimination*

III. *The home loan is initiated by an application from the borrower which provides family data, job history, financial inventory, references, purpose of the loan, proposed property collateral, and desired amount and terms.*

A. *In many cases the application requires a deposit ($35 to $50) for an appraisal or credit report, partially refundable when the loan is closed. This discourages shopping and reduces the risk of investigation expense which does not lead to an investment.*

B. *The credit report should reveal past payment records, outstanding judgments or law suits, local as well as some national history of applicant, family, etc.*
   1. *It should reveal motivation to repay in terms of past credit record, family history, employment history, and other indicators of stability.*
   2. *The purpose of the loan is also revealing in terms of purchasing a home, financing a vacation, an illness, or a child's education, etc.*
   3. *Age, family status, savings, insurance programs, and personal conduct will also reveal the self-discipline of the applicant.*

C. *Employment history is significant as a means of assessing*
   1. *Income power available for payment of loan*
   2. *Vulnerability of skills to the economic cycle or technological unemployment*
   3. *Stability of personality and loyalty to an obligation*
   4. *Earnings and employment verification is always sought and decisions made as to quality of partner's income, investment income, and net worth values*

5. *Consideration of pledge of other assets suitable for specific performance or damages*
6. *Income power available through savings funds, disability insurance, guaranteed salary plan, and life insurance*

IV. The note agreement classifies the loan as to its loan-to-value ratio, term, interest rate, and format of security in home improvement, conventional, FHA, VA, PMI, or other endorsement by a third party. An additional assignment of assets may also occur.

A. Certain conditions might have been requested in the application, as discussed previously, which may reveal motivation.

B. Special conditions may be added to the note to reflect findings of loan analysis.

V. Analysis of the property reveals not only the usefulness of the collateral, but also the motivation of the borrower. In previous times lenders depended largely on the property pledged, but today high-ratio loans and cost-of-foreclosure administrations force lenders to put primary dependence on borrower and third-party guaranties.

A. However, the threat of foreclosure on a valid equity plus third-party guaranties (contingent on receipt of marketable title as well as old habits) lead to detailed evaluation of the property. Both FHA and PMI have discovered that most losses occur because of faulty credit reporting rather than faulty titles.

B. Control of the property risk begins with correct identification, proper appraisal, protection of priority of claim, inspection of ongoing property maintenance, and insurance against casualty loss.

C. Identification requires correct title description, title insurance survey plan, and blueprints or photographs from a certified appraisal inspection.

D. Appraisal value depends on reliability of the appraiser selected and the adequacy of the required report, typically a form report for $35 to $50 that is then spot-checked by narrative reports of $100 to $150.

E. Site analysis is not only concerned with conformity to local codes but conformity with national flood insurance requirements, since federally regulated lenders will no longer be permitted to lend in floodplain areas or communities that have elected not to qualify for federal flood insurance.

F. Priority of claim depends on title status, possible inchoate interests (such as dowry), and identification of potential lien rights to be waived, proper filing and recording of transaction, and provision for contingencies such as death, guardianship, etc.

G. Destruction of the collateral by catastrophe offset by insurance and special needs for floor, earthquake, or mud-slide insurance (example—seiche insurance or Tiboron homes).

H. Continued property inspection and a note covenant is often needed to provide control of property maintenance. (Used houses and mobile homes

show much higher foreclosure loss in terms of frequency and severity, the latter attributable to inadequate maintenance of waste.)

VI. *The lender must organize all of the above considerations into either an explicit or implicit matrix of the trade-off between maximum potential loss and profit centers potentially available in the transaction.*

A. *Loan opportunities typically exceed loan-making capacities, so that some device must be designed to rank alternatives as to acceptability or unacceptability.*

B. *Of those which are accepted, risk differentials may justify some difference in terms and the price of credit. The sophistication of these decisions varies drastically.*

C. *Some lenders set up basic but simple rejection grids, a binary decision process:*
   1. *Rejecting by type of property (style, construction, age), or location (redlining)*
   2. *By borrower status (depositor, member of co-op, length of residency, etc.)*
   3. *By borrower occupation and age group or marital status*
   4. *By note type (no FHA, no 95 percent loans, no 30-year loans)*

D. *For any loan which receives a rejection above, either no application is taken, or question of risk is passed on to someone else.*
   1. *If FHA will accept the deal, the loan is made and then sold to a secondary market.*
   2. *The onus of rejection may be shifted to the private guarantor, which says no in 24 hours.*
   3. *Marketing process prequalifies applicants or property.*

E. *The FHA attempted to develop a risk-cell classification system which rated the borrower, the property location, loan-to-value ratio, and date of origination in order to forecast loss reserves and balance portfolio risk.*

F. *Your readings contain several numerical scoring sheets with which to make underwriting decisions. These have reflected factor and regression and other statistical studies of particular lender experience.*
   1. *The trick is develop a system which rejects both the clearly unacceptable and the potentially troublesome business without rejecting the good loans. Every one of these systems and studies has reached somewhat different conclusions.*
   2. *The increasing use of computerized records and the research of private guarantors has made possible for the first time statistical studies as a prerequisite of automatic underwriting.*
   3. *The volume of loan files handled through secondary markets and by the private guarantor is forcing them toward automatic review. Freddie Mac has already developed a computerized review process, and MGIC is pushing research and development in this area with great urgency.*

Variable Rate–Indexed Mortgage Instruments

(Class Notes)

I. *The long-term rise in long- and short-term interest rates and the frequent tendency for short-term rates to be higher than long term have exaggerated the vulnerability of savings institutions to withdrawals of existing deposits and loss of access to new deposits. These effects are often referred to as*

   A. *Disintramediation—the shift of funds from one type of intermediate institution to another, such as savings and loans to banks*

   B. *Disintermediation—the bypassing of all intermediate organizations in favor of direct investment by savers, such as those who buy treasury paper*

   C. *Since mortgages are long-term commitments, it takes time to turn over the portfolio and reinvest at current rates, so that the yield on mortgages at fixed interest rates is a long-term moving average. Investors, on the other hand, want to invest at the margin, i.e., at the best rate, and if the current rate is too far above the average rate, the investor will bypass his traditional institutional pooling manager and take the extra trouble to make his own investments.*

   D. *As Americans have become more sensitive to interest rates and money markets have become more efficient, savers have shifted from an attitude of defensive inertia to protect the corpus of their savings to aggressive pursuit of the best income to protect the purchasing power of their savings.*

II. *The variable-rate, or indexed mortgage, may offer practical relief to institutions which invest heavily in mortgages. Of course, it removes the opportunity for transfer of purchasing power from savers to borrowers; there are more borrowers*

(consumers) than savers, so there is strong resistance from organized labor, consumer groups, and even homebuilders who fear the loss of a major incentive to homeownership, namely the rip-off of the little savers with passbooks at the savings and loan.

A. Some borrowers might not qualify for variable-rate mortgages, and others might not be able to manage the financial planning required of rapidly changing loan payments.

B. Borrowers also experience the tilt effect: at the time of purchase they use the maximum part of income to purchase a home, but as incomes rise the constant debt represents a declining portion of purchasing power. Rising income may be the result of inflation, and inflation causes rising interest rates, which could increase mortgage payments and take away the relief of the tilt effect.

C. Over the long run the majority of the borrowers, however, should enjoy more reliable capital flows into mortgages and therefore greater ease in financing a home.

III. Variable-interest-rate mortgages can be developed by altering four major elements of the repayment's terms.

A. The contract interest rate can be real or nominal.

1. A nominal rate is one which includes a premium for inflation, a presumption of current interest rates.

2. A note with a real interest rate excludes any premium and instead adjusts the outstanding principal balance for loss of purchasing power.

B. The contract interest rate can be fixed or variable. Flexible rates should be indexed to some reference rate, and it is here the consumer and the lender cannot agree. Short-term rates are more reflective of the cost of funds but would be undesirable to borrowers because of greater volatility; in the early years they would eliminate any amortization of principal and could cause negative amortization. The latter holds many risks for the lender, including the assumption of loan-to-value ratio, loss of cash flows from the portfolio, loss of rapport with the buyer, etc.

C. Periodic payment can be held constant or modified from time to time by prearranging in the contract.

D. Any combination of the above

E. Each of these various combinations has an acronym among lenders that you should know:

1. GPM—graduated-payment mortgage—you have already seen in the FLIP plan.

2. SAM—shared-appreciation mortgage—the mortgage lender receives a nominal interest plus 50 percent of appreciation in the home price when the property is sold or refinanced.

3. PLAMs—price-level-adjusted mortgages, where periodically the principal balance is adjusted for inflation in some accurate manner. It is common in inflation-wracked countries, such as Brazil and Israel, but is novel to the United States.

4. *VRM—a variable-rate mortgage in which the interest rate is indexed on a nominal base to solve the lender's cash flow problems, but it does not necessarily solve the loss of purchasing power in the long run.*

IV. In the United States, most of the experimentation with VRM has been with the following types:

A. Type E (Vernor) is a variable-rate mortgage in which the monthly payment is held constant but the interest rate is allowed to vary within that level so that the maturity date for amortizing payment is changing. A loan with a 10 percent constant means you would pay 1 percent a month, and the interest could vary between .67 and 1 percent so that for some periods there would be no reduction of principal. Borrowers prefer the stability of monthly payment, and presumably that leaves the risk of default unchanged to the lender. However, sharp increases in market rates may easily exceed the ability to adjust maturity sufficiently to compensate. It does not increase lender cash flow enough to pay substantially higher dividends in the short run. Level payment does nothing to prevent tilting, and modification of prepayment opportunities hurts the sale price in the secondary market.

B. In the United States, the more popular VRM with lenders has been the variable-nominal-interest/variable-payment mortgage, in which changes necessary to the amortization schedule are accomplished in changing the monthly payment. It appeals to the lender because it comes closer to matching current interest income receipts with current interest expense on saving accounts as well as maintaining its resale value against discounts in the secondary mortgage market. The problems are

1. *Sharp changes in monthly payment could increase the default rate*
2. *Selection of the index and the frequency of adjustment must consider the borrower's viewpoint*
3. *An index of long-term rates would be less volatile and might permit quarterly or annual revision. Short-term rates are volatile but more appropriate to savings rates.*

C. California law has had the most effect because it governs state S&Ls, and the largest S&L in the country is Home Savings and Loan, where at least 80 percent of mortgages are VRMs. California law requires S&L VRMs to index the interest rates with a weighted average cost of capital index as determined every six months by the FHLB of San Francisco. Rate increases are limited to 25 basis points maximum, no more frequently than every six months, and borrowers must be permitted prepayment without penalty for 90 days after notification. Note the tie to regional areas and an effort to pick an index which cannot be manipulated by lenders.

D. The finance types are still debating a variety of alternative indexes as appropriate to VRMs. Whichever one they choose will be complex, and then consider the implications in terms of responsibility of the lender to explain the possibilities to the borrower under the truth-in-lending law!

Capital Flows to the Mortgage Market

(Class Notes)

I. *The financial intermediaries which originate or invest in mortgages by their very nature as intermediaries operate in a market for capital inflow (that is, they must compete for the liquid savings of firms and households) and in a market for placement of their capital in earning assets.*

   A. *The access to each market for any type of intermediary is restricted by law and regulation.*

   B. *Competition in each market occurs not only from intermediaries of the same type, but also from other types of financial enterprise. They compete with each other locally and on an interregional basis, so capital may flow between lenders, regions, or security types.*

   C. *In general, savers regard their savings as highly liquid, easily withdrawn, and yet bearing interest at a stated annual rate.*

   D. *There are four functionally distinct subsystems of activity for each of the intermediary institutions, and each has a different set of actors making discretionary decisions:*
      1. *The market-structure system*
      2. *The transactions system*
      3. *The liquidity system*
      4. *The safety system*

   E. *Each of these systems operates within certain constraints of public policy, which include*
      1. *Protecting the assets of the general public*
      2. *Advancing fiscal and monetary policy of economic planning*
      3. *Promoting efficient service to the public*

4. *Advancing special social goals or needs as distinct from economic efficiency—to intervene to make markets perform differently than financial resource allocation would require*
5. *Avoiding the subversion of regulation to monopoly profiteering*

II. *The market-structure system has households and firms as suppliers of the commodity money and as demanders of the same commodity as mortgage money.*

A. *The capital inflow from savers has various degrees of discretionary or compulsive behavior implicit in it—ranked something like this:*
   1. *Discretionary new cash savings (new deposits)*
   2. *Discretionary demand deposits (existing old deposits)*
   3. *Discretionary time deposits (CDs, savings plans)*
   4. *Discretionary contract obligations (premiums, fund shares)*
   5. *Forced savings to repay old debt (principal amortization)*
   6. *Forced savings to anticipate new debt (escrows, prepaid expenses)*
   7. *Forced payment of income taxes (percentage of tax allocated to mortgage money)*

B. *Each of these elements in the savings pattern is a variable that at times is capricious and more often than not out of phase with the market for investment of these resources.*
   1. *New cash savings as a percent of income were declining until 1966, when the public attitudes changed toward the conservative. Several studies of attitudes indicated that the public saw "getting ahead" as accumulating reserves instead of material things. Consider the drop in consumer finance.*
   2. *Demand deposits could be further classified as to mobility or inertia relative to the distribution of business money versus household money.*
   3. *Discretionary time deposits became a major area of competition, with the introduction of bank CDs, insurance premium payroll checkoffs, and mutual fund monthly payment plans.*
   4. *Contract obligations can be modified—particularly life insurance premiums, which may be paid, borrowed, or modified by shifting to a different contract type. In 1966, large-scale policy loans meant unexpected cash flow reverses for life insurance companies.*
   5. *Debt repayment runs ahead of schedule when there is more money than good loans available, and slightly behind schedule when money is in short supply.*
   6. *Forced saving anticipating escrow payments is perhaps the most constant as insurance, tax, or sinking fund dates are generally fixed.*
   7. *Income taxes are a type of forced saving and, to the degree that these taxes are channeled directly into mortgage loans, the function is one of forced saving. Such use of taxes for the supply side of funds is directly responsive to the demand side for funds.*

C. *Competition for saving money in each of these areas is regulated by the power to license the creation or expansion of intermediaries, the rate at which they may pay interest or dividends, and the rules of competition via*

branches, advertising, new account dividends, reserve strength, or management performance.

1. *Banks are subject to national or state regulation, FDIC standards, FRB standards, and the social system within their own fraternity as to good behavior and sanctions against the maverick.*
2. *Savings and loans have state or national charters, FSLIC standards, home loan bank standards, and a private system called the U.S. Savings and Loan League.*
3. *Insurance companies are regulated as to sales practices, advertising, marketing areas, commissions, and price, and here too there are social organizations.*
4. *Investment companies may be regulated by state or SEC regulations. Pension funds are facing new state regulation. Credit unions have state regulation as well as their own self-regulating devices.*

D. *Within these limits the market system operates. Indeed, when the limits themselves are out of balance, the strain can severely damage the institution.*

1. *In the liquidity crisis of August–September 1967, we saw that when banks were allowed to pay 5.6 percent on CDs while savings and loans could pay 4.5 percent dividends, savings began to swing toward banks. At the same time unexpected government bond sales drove the bond rate above the CD rate. In August there was a fear that CD holders would cash in and switch to bonds at a time when bank reserves were not adequate to cover it.*
2. *Disaster was averted in the short run by inertia on the part of the CD holders, relaxation of restrictive bank reserve policies, a reduction on maximum CD rates payable to small accounts, an increase on S&L rates payable as dividends, and some adjustment of federal fiscal policy.*
3. *Nevertheless, banks stopped making loans to generate liquidity for the expected runoff of CDs, interest rates rose so that life insurance reserves became the cheapest money available, and there was a runoff of life insurance cash flows at a time when bonds offered the best buy in years.*
4. *Life insurance companies had expected positive cash flows and had made loan commitments accordingly. Since there was barely enough cash for these commitments as well as bond purchasing, life insurance companies went to the banks for money and stopped making mortgage loans.*
5. *The savings and loans expected that a cashout of CDs in the fall would be followed by a cashout of passbooks in December, the usual date for dividends to accrue. They too stopped making loans to accumulate liquid reserves from portfolio runoffs, and in a few cases to offset large withdrawals.*
6. *When savings lag, loan commitments and bonds are favored over mortgages, and disintermediation threatens, the result is a money crunch or liquidity squeeze. As each intermediary anticipates how discretionary savers may behave, the lending pattern changes even though savings continue to grow.*

III. The transaction system is motivated by desire for profit, safety, and stability.

A. *For example, savings and loans compete with dividend price, convenience, folksy localism, and advertising. When savings rise relative to loan opportunities, the advertising budget falls. If the average efficiency of promotion remains the same, net savings inflow falls.*

B. *Cutting the dividend rate may or may not affect the market. Small account holders are sluggish and insensitive to small rate changes. (A $1,000 account cut from 4.85 percent to 4.75 percent would mean an interest loss of $1 per year.) Interest-rate sensitivity is true only of larger accounts. Physical convenience and local image may insulate some lenders from market leaders. Many small banks still pay 1.5 percent on savings, and local savings and loans may pay 3 percent.*

C. *On the loan transaction side, there is a briar patch of restrictions within which lenders must compete. Regulations are concerned with both standards of individual loans and balance of the total portfolio for risk and yield.*

D. *For all intermediaries except the savings and loans, the mortgage portfolio in terms of risk and yield must compare favorably with all other investment opportunities, so there are three levels of discretion:*
   1. *How much to invest in mortgages*
   2. *What kinds of mortgages to invest in*
   3. *Which individual mortgages to make*

E. *As we will see, the portfolio mix tends to prefer the less risky, less discretionary loan unless the government offers incentives that override the normal transaction mechanism, such as FHA and VA insurance of loans for the financial risk and escape valves for the money risk in FNMA and HLB loans.*

F. *Transaction policy on the part of the lender must match transaction preferences on the part of the borrower, and there are transaction patterns for this group, too.*

IV. *As the attitude of savings and loan officers can change more quickly than the responsibilities of borrowers, radical change in the pattern of any one of the three means a loss of equilibrium and a threat to liquidity.*

A. *The liquidity system of banks, with their controlled power to create money via the FRB, tends to operate more automatically than any other.*

B. *The liquidity system of savings and loans depends on the limited resources of the Home Loan Bank and FNMA.*

C. *The insurance industry depends primarily for liquidity on stability of premium income and normal runoff and turnover of investments.*

D. *The liquidity problem is concerned only with the ability to meet a rapid shift in the need for cash to meet withdrawals for loan commitments. This does not include the problem of loss to assets due to default, devaluation, or deficit operations.*

V. *The safety system has four basic lines of defense, assuming that there is some provision for liquidity.*

A. *The state of the economy and of the housing market in particular for savings and loans is very important. The risk exposure facing real estate lenders is essentially the potential fluctuation in employment, income, and price level as it affects ability and willingness to save voluntarily or through payment of loans.*

B. *Safety is a function of the diversification and average loan ratio of a mortgage portfolio.*

C. *The next line of defense is the surplus reserve position of the intermediary relative to its liabilities to savers, and there are various tax incentives to encourage accumulation of reserves from pretax net income.*

D. *The fourth level of safety involves regulatory agencies with guaranty funds, such as FDIC and FSLIC, and the monitoring of operations by auditing agencies. Both safety devices can prescribe constraints on competition for savings or market areas for loans, as well as the maximum distribution of assets diverted to mortgage loans.*

Commercial Banks and Real Estate Credit

(Class Notes)

I. *Despite a national policy of encouraging widespread ownership of real estate, commercial banking until recently regarded real estate credit as incompatible with the self-liquidating commercial paper preference of bank transactions.*

   A. *Early in the 17th century, the New England colonies tried to organize private banks to make loans on real estate security, but it was not until 1732 in Connecticut and 1740 in Massachusetts that land banks were established that issued notes to savers, notes secured by real estate mortgages from borrowers.*

   B. *Hamilton thought mortgage lending incompatible with commercial banking. The first Bank of the United States did not make real estate loans. However, state-chartered commercial banks were big investors in loans on both farm and town property and, as things generally worked out, big owners of foreclosed property. Even the second Bank of the United States in the South and the West indulged in mortgage paper with much the same result as the state banks.*

   C. *However, in fact our land policy during all the years of our frontier expansion had no support from a land credit policy except that prior to 1820 time payments were permitted on the purchase of public land.*

   D. *Numerous private land banks or public land banks were devised to lend money on farm mortgages, but most had brief and stormy histories and were the victims of inept or fraudulent management. The whole idea of land banks fell into popular disfavor, and Alexander Hamilton himself successfully opposed the formation of a state land bank in New York state.*

   E. *In the South there appeared the property bank, associations of borrowers who subscribed to capital stock in proportion to the mortgage they wished*

to make. The money was raised by the sale of property bank bonds secured by these mortgages and guaranteed by the states. By 1845, there was extensive farm mortgage banking business in the Midwest. However, failure was widespread because of a tendency to base loan ratios on anticipated land values. It seems since the beginning, mortgage lending has continually tripped over the practices of property appraising.

F. The first national banking act, in 1864, was designed to keep national banks out of mortgage lending. However, national bankers tended to fuse commercial banking and mortgage lending in much the same way as the state banks, so that the prohibition was very elastic.

Most legislative prohibitions in this era were elastic. For example, the private mortgage guaranty business got its start about 1885, when the New York lending statutes were reworded to clearly prohibit this kind of guaranty. As the guaranty industry flourished out of wedlock with the law, the legislature in its wisdom decided to recognize this illegitimate institution by changing the law in 1895 to permit the guaranty of interest payments only. The law was again changed in 1912 to permit the guaranty of principal, a practice which had long been common in the industry.

G. With the Federal Reserve Act in 1913, national banks were given explicit permission to make loans on farm property for five years and no more than 50 percent of appraised value. Loans were not to exceed in the aggregate 25 percent of the bank's net worth or one-third of its time deposits. In 1916 nonfarm loans were authorized, but for one-year terms and at a loan-to-value ratio of 50 percent. In 1927 the allowable term for nonfarm loans was extended to five years, and the aggregate of such loans was permitted to reach 50 percent of a bank's time deposits.

This gave the banks an opportunity to get into mortgage finance with both feet in time for the Depression.

H. In 1935, as part of the effort to increase funds for mortgage lending, national banks were permitted to make 10-year loans up to 60 percent of value, provided 40 percent was amortized during the period. They were also given permission to make any loan insured by FHA.

II. Since 1960, banks have become oriented to marketing money as a full-service institution. Despite liberalization of bank regulations relative to insured mortgages, the market was limited to FHA, VA, or private guaranty loans—primarily small residential—while much of the action and profit had shifted to income-property mortgages. The competition of banks with the savings and loans thus became a competition between bank holding company operations rather than just a single-entity bank. A holding company is really a new breed of banking intermediary, and we should think of it as all part of the creature we call "commercial banking."

A. The competitive subsystem advantages of a holding company bank include

1. Multiple devices to attract and hold savings capital, including captive outlets for mortgage notes

2. Multiple opportunities to capture lending situations

3. *Multiple devices for spreading fixed costs of staff over large volumes*
4. *Flexibility in matching liquidity characteristics of mortgages to need for liquidity or nonliquidity of savings*

B. *The liquidity system offered by the Federal Reserve bank system and the Federal Deposit Insurance Corporation is obviously superior to that of the savings and loans unless reserves are inadequate to cover maturity dates on certificates of deposit, as occurred in 1966 when government bond rates soared above maximum permitted CD rates. August of 1968 was little short of bank prices [sic] when banks had far less in free reserves than would have been required to meet maturity dates in certificates of deposit. With that possible exception, the liquidity problem of the* bank *needs no further discussion.*

C. *The safety system of the bank is a very complex subject that begins with the federal Comptroller of the Currency, state banking commissioners, and the FDIC. The holding company actually contributes to the safety factor by permitting the bank to shift high-yield, more marginal loans out of the bank to other entities. Thus, the bankers can retain their interest in self-liquidating commercial paper while advertising full-service banking.*

III. *Now let us examine the savings system and mortgage transaction system of the holding company bank.*

A. *The multiple methods for attracting and holding savings capital available for mortgages would include*
   1. *Jazzed-up savings plan such as "golden passbook" which may exempt the saver from service charges on his checking account or provide merchandise prizes, etc. (A whole industry has been created to produce merchandise that fits within FDIC value limitations on giveaway, etc.)*
   2. *Certificates of deposit of various sizes, maturity dates, and yields to match*
   3. *Convertible bonds issued by the bank holding company*
   4. *Trust department investment fund pools*
   5. *Correspondent bank investment participation pool*
   6. *Real estate investment trust shares*
   7. *Mortgage banking subsidiary warehousing by means of collateral trust shares*
   8. *Pension fund pool controlled by corporate services department and trust department*

B. *A bank holding company has an infinite number of opportunities to locate and to sell mortgage money. It often uses mortgages to capture and hold bank business of all types, and at the same time banking customers are inclined to seek mortgage money from the banker first.*
   1. *For example, the major corporate account may transfer a new executive into town, who will need a new house. The bank graciously offers to make a loan, perhaps helping him to carry his old house at the same time, and thus establishing a relationship which generates a compensating balance in his checking account, a logical introduction to the trust*

department for estate planning, as well as a relationship which strengthens the corporate banking tie to the bank.

2. *During periods of tight money, the bank was always willing to make a mortgage loan on reasonable terms to a regular customer of the bank, a service which is not forgotten when the supply of money is more competitive.*
3. *The contractor looking for a construction loan reveals a project which may need permanent financing, as will a steel fabricator or building materials supply house which finances their inventories with bank notes.*
4. *Small town or rural banks may lack capacity for large farm loans or new projects in their areas but earn a commission by participating with their corresponding bank in the big city. The same correspondent bank may be a market for mortgage loans made in the big city by the queen bee bank.*
5. *During the 1960s as interest rates went up and down, mortgage banking businesses, which warehouse mortgages with bank money, often were caught in sharply falling prices for their mortgages. As a result of technical insolvency and difficulty with bank loans, many of these mortgage banking organizations were acquired intact by the bank's holding company. This operation could make good use of existing bank computer departments to service loans, and the banks acquired marketing staffs and expertise in the selling of mortgage money, not to mention a company name which was generally established in the region. First Wisconsin acquired a number of well-known operations, including the Hiller Agency, which represented the Metropolitan Insurance Company. Thus the bank holding company became a servicing agent for many of the major life insurance companies.*
6. *Bank trust departments have recently come alive in marketing investment services for the living as well as for estates of the deceased, including investment in real estate mortgages and equities. Thus, these departments are both a source of loan opportunities and a market for investment-grade mortgages.*

C. *Banks have always made a specialty of construction loans—the kind of short-term self-liquidating paper, assuming there is a permanent commitment. A bank can now offer to find investors in the trust department who would like to put up equity money as a limited partner, secure a commitment for a long-term loan from its banking subsidiary, find high-risk seed money in its small business investment corporation, lease furnishings from its general leasing subsidiary, and provide construction money in truly one-stop service.*
   1. *It is revealing that at First Wisconsin the same man is vice president of the mortgage department in the bank, of its mortgage banking subsidiary, of its real estate investment trust, and of the holding company. The fixed cost of his staff and servicing department are thus shared by multiple agencies within the holding company network.*
   2. *It is useful to note that the bank itself retains liquid mortgages such as construction loans or government-insured mortgages with secondary markets. The more speculative loans are held by the real estate investment trusts, which are offset by nondemand equity shares. Long-term*

investment-quality loans are held by the trust department, while a great variety of loans are merchandised to insurance companies or pension fund accounts. The holding company can finance the mortgage banking operation by issuing long-term debentures, convertible bonds, and common stock.

3. *Potential conflicts of interest within and between the bank holding company family have become a significant problem.*

D. *The significant point of all this is that it is generally not appropriate to think of a commercial bank in its single-entity form. Banking has spawned the family of organizations which permit it to match the loan to the attributes of the capital source with far more flexibility than a cooperative savings and loan. Thus it is not surprising that the savings and loans seek authority to convert to mutual bank charters or conceivably, like mutual insurance companies, convert to stock forms of organization.*

Mortgage Banking

(Class Notes)

I. *The mortgage banking function is to find institutions with surplus capital that wish to accept mortgage loans, and typically the institutions are located at some distance from the location of the mortgaged property.*

   A. *The mortgage banker searches and originates loans in his own name for sale to a known investor or unknown class of investor.*

   B. *The mortgage banker with an established relationship, sometimes a quota, with an investor is considered the correspondent of that investor. A correspondent is something less than an agent, as typically he does not have power to bind. Because the correspondent takes title to the loan and warehouses it for some brief period of time, he is not considered a broker.*

   C. *Most mortgage bankers also service the loan, collecting monthly payments, allocating to various escrow accounts, and depositing net with the investor. Servicing includes collection of delinquencies, property inspection, and day-to-day contact with borrowers.*

   D. *Origination fees of 1 or 2 percent are often less than origination costs, including commissions to loan officers; they may be offset by annual servicing fees, but profit margins in servicing have shrunk.*

   E. *Mortgage bankers also have profit centers in land development, construction lending, insurance, property management, or as advisers of captive portfolios such as collateral trusts and real estate trusts.*

II. *Mortgage banking has depended heavily on life insurance funds, and life insurance companies invested heavily in mortgages from 1947 to 1965. However,*

this major patron of mortgage banking is becoming less significant for a variety of reasons.

A. *Major life insurance companies have tended to withdraw from penny-ante accounting of residential mortgages in favor of fewer loans of much larger amounts on commercial property.*

B. *Mortgage bankers are salesmen rather than analysts on a commission, at a time when analysis desired by insurance companies becomes more sophisticated. Life insurance companies have been disenchanted, and many have replaced all or some of their correspondents.*

C. *Many mortgage bankers originate and warehouse loans in excess of established investor quotas and were forced to retrench or go out of business due to losses when interest rates rose, eroding resale value of mortgage portfolios.*

D. *Mortgage bankers are the prime source of FHA mortgages but, as the volume of FHA mortgages fell, the mortgage bankers lost out. Mutual banks still prefer FHA.*

E. *Sophisticated developers bypass the mortgage banker and deal directly with lenders on deals of more than $1 or $2 million.*

F. *To counteract loss of both customers and potential investor volumes, mortgage bankers have attempted to create alternative captive buyers of their services, including*
   1. *Collateral trusts*
   2. *Real estate mortgage trusts*
   3. *Pension funds*
   4. *Government investment pools*
   5. *Private investment funds*
   6. *Savings and loan associations, state banks, credit unions, or others with funds but without the expertise or the opportunity*

G. *Mortgage banking tends to flourish in growth areas such as the South and West, where there is more real estate development than local savings in intermediaries with which to finance mortgages. These areas also tend to be strong politically in terms of Senate and congressional representation. As a result, the Mortgage Bankers Association of America probably carries more weight in government mortgage policies than its members or market position might suggest.*

Secondary Mortgage Market

(Class Notes)

I. *When interest rates are low, demand for mortgages exceeds savings available to intermediate home lenders, and when interest rates are high, savings intermediaries may lose funds from disintermediation and need to sell mortgages while closing down mortgage lending operations.*

   A. *Secondary market provides a flow of funds to support residential lending by encouraging a free flow of funds from other geographic regions or other capital pools.*

   B. *There are three major institutions that receive government assistance to create a secondary market:*
      1. *Federal Home Loan Mortgage Corporation (Freddie Mac): emphasis on conventional loans for savings and loans*
      2. *Federal National Mortgage Association (Fannie Mae): emphasis on FHA/VA loans for mortgage bankers and mutual savings*
      3. *Government National Mortgage Association (Ginnie Mae): emphasis on subsidized loans and multifamily*

   C. *In recent years the emphasis has been on seller services, and many savings and loans have been operating as mortgage bankers by selling almost everything to the secondary market, thus increasing their servicing income to improve the spread between cost of funds and income on their portfolio.*

II. *A significant innovation of FNMA is free-market system, in which FNMA on a biweekly or monthly basis holds mortgage purchase auctions.*

A. *The auction allows lenders of some size to bid for the price of a put to FNMA, while the little lenders can acquire a minimum put at the average weighted bid.*

B. *Put requires a nonrefundable commitment fee of 0.5 percent.*

C. *In addition, seller must purchase stock equal to 0.25 percent and retain as a kind of coinsurance reserve.*

D. *A 12-months' standby commitment can also be purchased for 0.5 percent plus a processing fee, plus an additional 0.5 percent at time of delivery at the standby yield. The convertible feature allows the lender to go to the weighted average yield under the auction system for the cost of an additional 1 percent fee. Notice that the lender is protected against any dramatic decline in interest rates that would have made the standby yield unacceptable.*

E. *There are separate auctions for conventional and FHA/VA home mortgage programs. Program may be expanded to income property loans as well.*

F. *FNMA establishes standard note and mortgage forms, appraisal forms, and standard feasibility studies for condominiums and planned unit developments. Maximum loan limits are set so that the system favors the low- and middle-income family and requires owner occupancy of the single-family home.*

III. *While each of the secondary institutions does buy and sell, the volume of sales is very small and therefore each has become a huge long-term investor. That requires the sale of large volume of bonds in the bond market.*

A. *One result is the separation of the risk-bearing function (FHA, VA, PMI, and GNMA) of the capital pool, from the servicing business.*

B. *The secondary market has worked to reduce regional interest differentials because it is more efficient than having savings institutions advertise in other regions for funds. Moreover, some regional spreads remain because of loan ratio patterns, distance from financial markets, and perceived risks from regional booms or natural catastrophes.*

C. *The increase in liquidity for all lenders encourages lenders in surplus areas to buy loans with higher yields from deficit areas.*

D. *However, the secondary institutions may be accelerating disintermediation as they permit an investor to participate in a mortgage portfolio just as they could at a savings and loan but without a constraint on yield under Regulation Q. FNMA bonds provide a yield in excess of 9.5 percent.*

E. *Other critics argue that mortgage markets are becoming federalized as they respond to the standards of the secondary markets. At some time, the government may have a hand in almost every residential mortgage. Government-supported agencies now hold about 15 percent of mortgages outstanding.*

F. *On the other hand, FNMA has tapped new sources of private capital and is run efficiently to make money.*

G. *The power of FNMA to divert capital from the insurance industry, which is not regulated by the feds, and to regulate capital flows in general by selective denial to FNMA markets, has led HUD to ask for a rewrite of the rules in order*

that it can regain control of the board of directors and nomination of the chairman of the board. The PMIs reduced the involvement of FHA and made possible the diversity of FNMA, so now the social reformers want to recapture FNMA.

H. Studies have indicated that FNMA and Freddie Mac have a short-term impact but not a long-term one. Nevertheless, the net funds created for mortgages are estimated to be between one-half and two-thirds of the gross.

I. The U.S. Savings and Loan League argues that the intervention has held mortgage rates low, in fact, sometimes below utility bond rates, and this means intermediaries may find it difficult to compete. Instead of bonding to create mortgage funds in new institutions, critics are arguing that thrift institutions and investors enjoy certain tax credits as a percentage of interest received from residential mortgage loans; in effect, individuals and corporations would receive a basic tax credit of 1.5 percent with a sliding scale upward where mortgages exceeded a certain percentage of total assets.

IV. GNMA is most noteworthy for a variety of mortgage-backed security programs and special assistance functions. The majority of its funds come from runoff of old portfolios and special advances from the U.S. Treasury.

A. Impact of special assistance from the U.S. Treasury can be expanded by using the tandem plan. This is a two-step secondary market process. GNMA commits to buy at par selected mortgages for middle-income rental property, etc., and then sells the same mortgages at discounts which will provide market rates of return. It may sell to FNMA, but it will also auction sales to private investors. The Treasury gets the par value back as mortgages mature.

B. To raise funds, GNMA also sells beneficial interest shares in portfolios of old mortgages which it is liquidating and managing.

C. A most significant innovation is the guaranty which Ginnie Mae can issue on mortgage-backed bonds, often called collateral trust bonds (see Figure 1).

1. Mortgage bankers needed to tap new sources of capital when life insurers began withdrawing from residential markets. Mortgage bankers invented the collateral trust, which is a pool of mortgages of similar maturities. Documents are held by a third-party trust, while servicing is done by the original mortgage banker. The banker sells certificates of beneficial interest to investors, often in units of $25,000 or more.

2. Generally these certificates pass through all payments of principal and interest, including prepayments and foreclosure proceeds less costs of servicing. The mortgage-backed security does present a problem for reinvestment of principal but has high yields guaranteed with the full faith and credit of the Treasury.

3. If mortgage bankers can sell these securities, they have created a captive customer for their services, and these pass-throughs have been tremendously successful in tapping new funds from pension funds and institutions.

D. *If a financial institution has a portfolio of Ginnie Maes and anticipates that a rise in interest rates would severely affect the value of this portfolio, it also could be a short hedger.*

For example, assume that a financial institution purchases $10 million of Ginnie Mae 8's at a price of 95-00 on June 1. Fearing a change in rates, on June 10 it sells 100 March futures contracts at 94-00. By November 15, interest rates have risen and Ginnie Mae 8's have declined to 90-00 on the cash market. It buys 100 futures at 89-00.

Our chart for this example would look like this:

Cash Market	***Futures Market***
June 1	*June 1*
Buys $10 million Ginnie Mae 8's at 95-00	*Sells 100 March futures at 94-00*
(Current yield 8.659%)	*(Yield of 8.805%)*
November 15	*November 15*
Price of Ginnie Mae 8's has fallen to 90-00	*Buys 100 March futures at 89-00*
(Current yield 9.414%)	*(Yield of 9.572%)*
Result: $500,000 portfolio loss	*Result: $500,000 gain*

Commissions and transaction costs have not been included.

E. *On January 1, XYZ Building Corp. is planning to build 20 homes for an average selling price of $35,000. The first unit should be ready for sale in six months and the last one sold in 12 months. XYZ is unable to obtain a long-term commitment at a reasonable price. However, it is willing to include in its construction costs the equivalent of four points. This is based on current price of the December futures contract, 95-00 to yield 8.514 percent. Paying four points will cause him to include $28,000 in his estimated construction costs for that project, but he is willing to bear that cost. For illustration only, assume he completes and sells all 20 units at one time, September 1. At that time the cash mortgage yield is 9.105 percent, equating itself to 8 points or 92-00.*

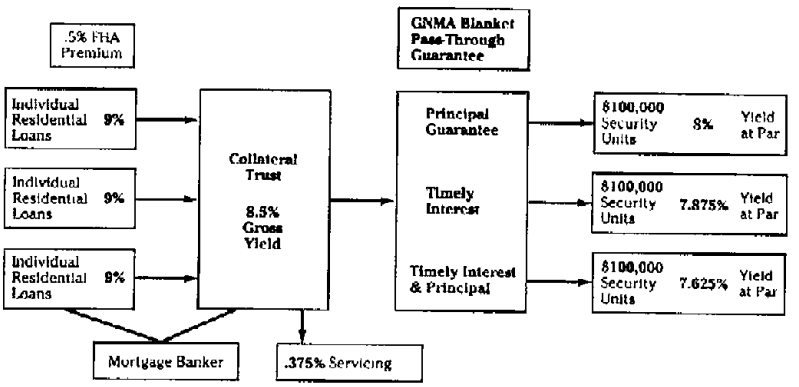
He now obtains his mortgage commitment for immediate delivery from a permanent mortgage investor at 8 points. This transaction has doubled his estimated costs for this expense item to $56,000. However, he can now cover his seven open futures contracts for a price of 92-00, thus offsetting losses generated from this cash transaction.

Should interest rates have improved during the construction cycle, he would face a loss in closing out his short position. This could be offset by obtaining permanent loans for fewer points at the time the mortgage loans are negotiated with a permanent lender, thus increasing his profit margin by a like amount. In chart form, this hedge would appear:

Cash Market	***Futures Market***
January 1 *Builder begins plan to construct 20 units at an average selling price of $35,000; is willing to pay 4 points*	*January 1* *Sells 7 December futures contracts for 96-00* *Price 96-00* *Yield 8.514%*
September 1 *Sells 20 units and pays 8 points for permanent mortgage* *Price 92-00* *Yield 9.105%*	*September 1* *Buys 7 December futures contracts at 92-00* *Yield 9.105%*
Result: Expenses have increased $28,000	*Result: Gain $28,000*

Commissions and transaction costs have not been included.

FIGURE 1



Underwriting Income-Property Appraisal

(Lecture Notes)

I. *In general, the distinction between mortgage lending on single-family homes and income property is found in the methods available for risk management of critical assumptions. Specifically relevant to appraisal, the single-family appraiser is basically a property inspector who is concerned with the physical property as it related to market standards. An income-property appraisal is concerned with far more detail on the occupants and the relationship of activities housed to the neighborhood, as well as lease terms and impact.*

   A. *Residential mortgage loans have become standardized or fungible units that permit specialization in risk-bearing among large institutions.*
      1. *Title, property, and government disaster insurance*
      2. *VA, FHA, and PMI guarantees*
      3. *Sale to secondary markets with recourse*
      4. *Variable-rate mortgages*
      5. *GNMA portfolio pass-through guarantees*
      6. *Geographic diversification and long-term portfolio liquidation and recycling*
      7. *Pride of borrower in family, property, and credit for personal motivation*

   B. *Each income-property loan is relatively unique because it is financing a small business whose primary asset and income source is the real estate.*
      1. *Lack of secondary market institutions*
      2. *Lack of homeowners' irrational motivations*

These notes were prepared for a presentation to the Mortgage Bankers Association School at an unknown date.

3. *Sensitivity to marketing and management of a unique product vulnerable to functional and locational obsolescence*
4. *Widespread use of exculpatory clauses*

C. *An income-property loan is a straddle in the space-time futures market.*
1. *Cost of straddle*
2. *Motivation—pleasure, pain, and bailout*
3. *Adjusting the property, the people, and the package*

II. *Any property is intended to house specific activities at a certain location. All debt-service payments depend on revenue, and revenue depends on fit of site and building to tenants.*

A. *Physical analysis*
1. *Physical attributes*
2. *Legal attributes*
3. *Linkage attributes*
4. *Dynamics attributes*
5. *Environmental attributes*

B. *Tenant mix (compare office building and shopping center)*
1. *Number of full-floor tenants and long-term leases*
2. *Number of small tenants and short-term leases*
3. *Major tenants receiving subsidy*
4. *Scale of market*

C. *Operating expenses*
1. *Operating efficiency of design*
2. *Escalator formulas on expenses*
3. *Opportunity to adjust base rents*
4. *Short-term gross, long-term triple net*

D. *Physical design affecting marketing*
1. *Bay size and depth to outside wall*
2. *Adequacy of parking and access*
3. *Horizontal and vertical circulation systems (architectural barriers)*
4. *HVAC efficiency*
5. *Adjustable interior wall and ceiling systems*

E. *Amount and quality of income from leases and adequacy of cushions (default point, debt cover ratio, loan-to-value ratio)*
1. *See checklist of lease items*
2. *Motivation of people in the project*

III. *Motivation of people requires the lender to understand borrower sources of profit and vulnerability to economic pain.*

A. *Knowing the borrower's sources of cash satisfaction from the project identifies both the source and strength of motivation and the need for definition to prevent short-term profits at the expense of long-term stability.*
1. *Knowing the profit centers—amount and timing*
2. *Degree of equity buildup*

3. *Degree and timing of tax shelter*
4. *Cash needs of borrower*
5. *Controls on discretionary cash expenses*
6. *Profit center earnout formulas*
7. *Provision for future cash needs*

   Reserves
   Compensating balances
   Letters of credit
   Performance bonds
   Segregated liquid securities
   Sinking funds

B. *Payment according to terms of note can also be facilitated by progressive application of legal muscle—a type of pain stimulus which runs the spectrum from reduction of cash profit centers through operation of cash-control and earnout formulas to seizure of property and even criminal indictment.*
   1. *Partial personal endorsement*
   2. *Partial personal guarantees of rental income*
   3. *Banker mortgages*
   4. *Claim for legal expenses of collection or enforcement*
   5. *Assignment of leases to the lender with condition subsequent*
   6. *Assignment of stock control interest with condition subsequent*
   7. *Assignment of liquor licenses, route permits, or other regulatory permits and franchise agreements*
   8. *Subordination of chattel mortgages, owner fees and salaries, etc.*
   9. *Cognovit note—automatic receivership—loss of control*
   10. *Foreclosure*
   11. *Threat of suit*

       Fraud through the mails
       Securities law violations
       Other

C. *Packaging of income-property financing uses combinations of mortgages, land leasing, equity partnerships, and financing by tenants to improve returns and reduce risk of economic discomfort. Any package is intended to reduce the downpayment risk of loss, reduce the loan constant per $1,000, or reduce the investment exposure of any single investor. (Danger: Partial ownership of real estate may convert traditional real estate finance to status of investment security.)*

D. *Reduce the downpayment*
   1. *High loan-to-value ratios with basket clause notes*
   2. *Land contracts*
   3. *Secondary refinancing—Second mortgages and wraparounds*
   4. *Dividing responsibility between landlord and tenant financing*
   5. *Land leasing and sale and leasebacks*
   6. *Government-guaranteed high-ratio loans*
   7. *Direct government price reductions through land writedowns*

E. Reduction of mortgage loan constant

1. Stretch out payments

2. Reduce base interest and replace with contingent interest

3. Eliminate amortization with interest-only loans, leasebacks

4. Subsidize interest with tax-exempt capital from government

5. Contingent interest by raising capital from limited partners

F. Reduce investment by any single individual

1. Co-op or condominium

2. Partnerships—limited or general

3. Real estate trusts—mortgage or equity

4. Loan participations

5. Real estate corporation

IV. Underwriting must provide pleasure, pain, and bailout, or at least two out of three. The underwriter should anticipate ownership of the real estate and determine what would be necessary to convert the real estate to cash from sale following foreclosure or to permit recovery from income generated by the real estate.

A. What elements of ownership are needed to facilitate resale?

B. What rental rate would permit cash break-even?

C. How could a voluntary conveyance be negotiated?

D. What holding power or capacity does borrower have for specific performance, and what strength of character does he have? Is that holding power discretionary or attachable?

E. What guarantees are available on loan?

F. What guarantees are available on leases assigned?

G. Is there any value to possible claims against third parties, such as the appraiser, the surveyor, the CPA, contractors, public agencies, etc.?

H. What other uses might be appropriate for conversion of the property?

I. How would foreclosure affect tenants on property according to lease terms, subordination, etc.?

J. How would foreclosure affect balance sheet and earnings of lender?

K. How would foreclosure affect income tax position of lender?

Development and Structure Of Mortgage Loan Guaranty Insurance in The United States

James A. Graaskamp

Privately financed residential mortgage loan guaranty insurance has evolved, since 1957, from the status of an outlawed curiosity to recognition as a special class of legitimate insurance enterprise, governed by a unique and fresh sector of regulatory law. The original guaranty firm[1] controls more than $43 million in assets, has achieved a listing on the American Stock Exchange, and served as model for an industry of at least 10 firms, benefiting from total assets of $63.9 million behind insurance in force of approximately $3 billion as of January 1, 1966.[2]

In the past decade the insurance industry sought multiple-line integration of companies and contracts, struggled with the minutiae of change in the regulatory bogs, and threatened the single-line, single-market company with extinction. Still, during the same period, mortgage loan guaranty insurance began to thrive by insuring only institutional lenders for loss from a single peril—mortgage default—in regard to a single property class, the owner-occupied residence of one to four family units. This development was achieved in cooperation with imaginative and unique regulation efforts on the part of a few state insurance commissions. In an era of rising sales cost, the guaranty firm has largely eliminated commissions of any kind, finds some marginal cost savings in superficial underwriting and, in one context, sometimes violates the principle of indemnity to achieve economy.

The mortgage loan guaranty of 1966 is a phenomenon within the insurance family which deserves respectful attention for creative financial and market

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management and for its symbiotic relationship with government regulation. The history of the mortgage loan guaranty has been highly instructive on the relationship of insurance theory to insurance practice, but as yet the theory and practice of this specialty have been largely ignored in professional insurance literature. While the essential research question for the student of mortgage loan insurance at this time is that of measuring reserve adequacy and related issues of regulation, it is first necessary to create a more general familiarity with the present guarantor program, modus operandi, and economic relationships.

Therefore this essay will serve to report the significant economic, institutional, legal, financial, and insurance aspects[3] of the private mortgage loan guaranty. A later article will treat two pivotal questions of public policy, specifically criteria for reserve adequacy and for regulatory control of an embryonic industry. This latter discussion will utilize a reserve-accumulation simulation model program for the computer, prepared in a project with Professor Howard Thompson,[4] as well as independent study of the national mortgage loan guaranty situation. The present article will synthesize studies done in concert with Professor Richard M. Heins[5] while serving as consultants to the original mortgage loan guaranty firm.

The Historical Context

Modern mortgage loan insurance has been defined as the indemnification of government-supervised mortgage lending institutions for the direct and consequential losses incurred by reason of nonpayment of a first mortgage loan, loans generally restricted to resident-owners of single-family, duplex, or up to four-unit rental buildings.[6] The coverage is classified as credit insurance, subject to the general requirements of a casualty insurance company, as well as the most severe minimum capital and reserve requirements of any recognized line of insurance. It was not ever thus, and each restraint represents experience acquired at great cost.

Genealogy

The paternal ancestor of mortgage loan insurance, specifically the extinct mortgage investment guaranty, was dissected in a 1934 report, often called the *Alger Report*.[7] The report was named after George W. Alger, who conducted the final autopsy of the industry for governor of New York Herbert H. Lehman (with the aid of counsel Alfred A. Cook). This history, with its catalog of abuses and misjudgments, has been the cornerstone of all regulation which only recently shaped the institution of mortgage loan insurance.

The statistical experience provided by the Mutual Mortgage Insurance Fund (MMIF) of the Federal Housing Administration provided data as background for the premium and reserve assumptions of mortgage loan insurance. A synopsis of the *Alger Report*, below, should provide much insight into the origins and content of current regulatory objectives in regard to mortgage loan insurance.

The business of mortgage investment guaranty was born out of wedlock with the law, in an arrangement of convenience whereby a poorly worded stretch of the New York State 1885 Statutes in regard to title insurance was misinterpreted

to permit the guaranty of mortgages against loss for reasons other than title defect. By 1895, at least four large mortgage banking firms allied with title companies were offering guaranties of "prompt" payment of the interest for mortgages which they had marketed to small investors. In 1904, the statutes adopted the ill-starred infant by amendment, granting title insurance firms legal standing to insure "the payment of" bonds and mortgages. The phrase was inserted in the prior title insurance law of 1892, which had been drafted to disenfranchise the guaranty by restricting the 1885 law to traditional title insurance.

Since title insurers had traditionally experienced only negligible losses, their required reserves were minimal in relation to gross liability. Entry capital was generally less than for any other insurance line. As a result, the guarantor was required to maintain no other reserve funds except the nonsegregated guaranty fund to equal two-thirds of its original capital, or about $67,000, as required to write title insurance. In 1911, the insurance law was further amended to permit title companies "to invest in, to purchase, and to sell with guaranty of title, such bonds and mortgages as were legal for insurance companies."

Rather than require an investment banker or trust department which wished to sell guaranty mortgages to be licensed as an insurance company, a guarantor could be organized under either the insurance or banking laws of New York, or both. While a majority of mortgage banking firms registered under insurance laws, it was possible to organize under the banking law with only $100,000 capital. At least two New York commissioners of insurance stated publicly that the guaranty could not be considered insurance but was rather a misplaced responsibility of the Banking Commission.[8]

Following the 1911 legislation, title companies and allied trust companies began to sell guaranty mortgages for which interest was guaranteed on the date due but principal restitution was deferred 18 months after mortgagor defaulted on principal repayment. This was to allow time to foreclose and resell to generate cash for replacement of principal. Payment of defaulted taxes and foreclosure expenses was never guaranteed, but some companies found it expedient to represent that they would "attend to payment of taxes and assessments," an airy legal flourish which many investors mistook for additional guaranties.

An ill-defined legislative afterthought was added in 1913, to the effect that the power to guaranty mortgages was applicable only to those sold by the originating mortgage banker/guarantor on "improved and unencumbered single property worth 50 percent more than the amount loaned thereon." Note that loan decisions and guaranty underwriting were all under one roof. This provision not only created unresolved debates on the definition of "improved" property, but also encouraged accommodating appraisers to win mortgage banking business by inflating appraised values in relation to actual construction cost.

A favorite guarantor security was the small-denomination participation certificate in the single large mortgage or large mortgage portfolio. As early as 1906, small investors purchased notes which were issued under an indenture which made the guarantor irrevocable agent in the exercise of the mortgagee's rights in his property pledge. The group series certificate purported to assign the holder an undivided interest or share in a specified amount of a bond-mortgage portfolio. The guarantor generally served the portfolio in the double role of trustee and depository, reserving the right to withdraw and substitute any

mortgage in the group. These substitution privileges were intended to permit management of the portfolio and refinancing of what were short-term balloon mortgages without disrupting the continuity of the investment trust.

These powers were not seen as dangerous so long as the unblemished record of the guarantors led to tremendous expansion of the industry during the 1920s. However, the right of substitution enabled the guarantors on the brink of insolvency to loot portfolios of good mortgages for sale to insurance companies[9] in exchange for cash and sometimes weakly secured or defaulted mortgages as boot. The cash was paid as periodic interest to certificate holders who seldom knew that the actual mortgage loan, in which they held a beneficial interest, was in default or that their collateral was being diluted or liquidated.[10]

As early as 1924, a number of foresighted individuals were critical of policies and practices in the guaranty industry. However, an amendment in the New York legislature to prohibit sales of participation certificates in defaulted mortgages never came to a vote. As late as 1929, an act to impose a capital-to-liability ratio to control too-rapid expansion died in legislative committees. Indeed, the legislative history of the investment guaranty was testimony to the ease with which its politically astute management achieved its legislative whims for lack of any voting bloc favoring certificate holders.

Autopsy

The disintegration of the real estate market from 1928 to 1934 led to wholesale mortgage defaults which, in turn, led to intolerable cash drains on investment guaranty resources. Liquid assets were sufficient to make "on-time payments" of interest on defaulted mortgages for several years, so that many investors in guaranty securities were unaware of the status of the underlying collateral. The stripping of cash resources from the guaranty network enhanced the image of the guaranty with the small investor by 1932, whose continued purchases of such securities prolonged the agony and postponed decisive regulatory action.

In 1934, the state of New York found it necessary to take over 47 guaranty firms having a nominal $184 million in capital and surplus, with which to secure $1.7 billion in mortgage and real estate security guaranties for 225,000 individual investors in that state alone. New Jersey, California, Massachusetts, and a few other states had additional losses to an unknown degree.

State action was several years too late to mitigate the disaster, for it had lost control for lack of adequate, current, audited financial data. The record revealed that one career man had been responsible for the statutory examination of guarantors for 25 years, without specific instructions other than to make "a full and complete examination of the company."

Examinations never extended to subsidiary corporations, which were frequently used to hold foreclosed real estate (to keep it off the books of a land-poor parent company) and to hold defaulted mortgages, assets paid for by transferring stock shares or notes of the subsidiary to investment accounts of parent firms. Far worse was the practice of subsidiaries to pay interest on notes or defaulted guaranty mortgages by issuing a note to the parent company. This amount was added to receivables and to income and thence to earned surplus. Dividends were

then paid stockholders from such surplus to parody the concept of "financial solidity"[11] until firms went into receivership!

Foreclosed properties were put on the books at face value of the foreclosed mortgage, plus interest, taxes, and foreclosure expenses. Thus the balance-sheet surplus position of the parent firm was unaffected and disclosed nothing in the way of real estate holdings. Examiners valued mortgages and subsidiary notes on the books of a parent corporation at par, even though they were in default or in the process of foreclosure, on the assumption that properties were 50 percent greater in value than the note foreclosed.

The examiners did not consider the guaranty of mortgages a contingent liability subject to audit or loss reserve. One company, having outstanding guaranties of $900 million, had heavy foreclosure losses, but no loss reserve or mention of the scale of guaranty exposure on the balance sheet. The absence of reserves for shrinking real estate values or increasing uncollectible receivables made analysis of income statements futile, so that the prudence of cash dividend payments to stockholders went unchallenged.

Guaranty companies were often organized within an intricate corporate network of mortgage companies, development companies, and title companies financed by trust companies which, in turn, were allied with the banks and shared the same officers, directors, and business location. Advertising of the guaranty was intentionally fuzzy as to the exact assets and functions of each firm in such a chain, so that many savers who purchased certificates thought their guaranties were from a bank or trust company.

Trust companies found the advertisement of their use of the guaranty useful to foster the image of conservatism, to increase the retention of service fees, and to cloak conflict-of-interest situations. Following the collapse of real estate prices by 1930, banks, as a matter of self-interest, tried to forestall collapse of their allied guaranty firms by making large cash advances. This allowed the guaranty industry to prolong the delusion and to compound the losses of all concerned.

A Judgment

During the 1920s, the real estate aspects of the mortgage guaranty conformed to the general practice of inept appraisal, high leverage and, in at least one case, overcertification of a mortgage portfolio. However, integrity of management did not actually break down until 1932 and 1933, when desperate executives found hope of continued liquidity in reselling at par, for cash, their own securities to the uninformed small investor, securities purchased in the money markets at great discount.

Their advertising copy men, in the tradition of the great American patent-medicine man, described guaranty first mortgages, as late as 1932, as "pure gold" or "absolutely safe" and "horoscope not needed" and there was "no watching" required. An ad in 1931 urged the use of $100 group series certificate for children's savings and for Christmas gifts to grandchildren. The executive of the enterprising firm who sought the financial support of infants admitted in the investigation that at the time he was running such an advertising campaign, he switched the investments of his own family to government bonds!

Such incidents were the acts of ordinary men in the stress and despair of extraordinary circumstances. Indeed, many of the guaranty firm leaders sincerely believed that real estate prices would return to more normal levels (i.e., 1928 levels) at any moment, if liquidation could only be forestalled until collateral resales would offset guaranty obligations.

Whatever the motivation, the investigation of such incidents created a pall of terrible scandal, an image of financial black magic and chicanery, which survived to haunt the mortgage loan insurance program of the present day, conditioning both regulation and market response. Still, the investment guaranty was no test of the applicability of insurance principles, since none was ever employed in the lien. Indeed, there is no real evidence that the guaranty would have failed if the appraisals on which they were based had been honest or competent pieces of work.

The Legacy

Significantly, the authors of the *Alger Report*, who understood the inadequacies of the mortgage investment guaranty as well as anyone, did not advocate the prohibition of such an institution, as New York chose to legislate in response to investigation of the scandal. Rather, these men recognized the basic flaw as the short-term balloon mortgage itself. They urged the establishment of regulatory ground rules for the guaranty of high-ratio, amortized residential loans for owner-occupied single-family homes. Aside from advocating investment and accounting reforms appropriate to all insurance operations, the *Alger Report* called for standardized appraisal techniques, prohibition of subsidiary corporations, and full separation of guaranty firms from other real estate service institutions, such as title insurers, mortgage bankers, or brokers.

In addition, these analysts felt that there was need of a guaranty procedure which would provide accurate appraisal, personal penalties for lending malpractice, underwriting criteria, and a limited ratio of contingent liabilities to capital and surplus. Of course, it was also recommended that sizable reserve funds be set aside in investments not subject to severe price cycles. Ironically, the *Alger Report* did not shape legislation or regulation to such an end until more than 20 years after it was written. Only since 1956 has it served as the basic primer for state insurance regulators puzzling over new proposals for mortgage loan insurance.

The Maternal Ancestor

The creation of the Federal Housing Administration (FHA)[12] in 1934, as handmaiden to lenders adopting progressive lending practices and loan forms, eventually made possible the reconsideration of mortgage loan insurance in 1957. The FHA devised an actuarial equation parallel to the prospective reserve method of life insurance, beginning with a classification of borrowers and properties according to a risk-review matrix. An annual premium for its home mortgage program was set at .5 percent of the outstanding loan value at the beginning of each year, payable monthly over the life of the loan. In addition to the requirements of administrative reserve expense, this premium base provided for both a basic insurance reserve and, in the case of MMIF for Section 203 loans, a

participating reserve account for the payment of terminal dividends on an actuarial share basis to mortgagors at the time they pay off the mortgage.

The actuarial formulas included detailed assumptions as to real estate price levels, annual foreclosure frequency, and cyclical annual foreclosure loss severity, reflecting Depression-magnitude losses and annual group loss experience. While economic events of World War II and the subsequent expansion of demand for, and price level of, homes may have outdated these actuarial assumptions,[13] nevertheless the FHA formula did represent an attempt to apply insurance principles.

Initial discontent with the FHA program was not concern for costs relative to benefits, but rather chafing at the FHA takeover of inspection and appraisal responsibility and administrative proscriptions on the lending operations of mortgage bankers, most particularly the savings and loan lenders.

The savings and loan industry was uncomfortable with the hidden financing charges of the discount system caused by nonmarket interest ceilings on FHA/VA mortgages. The appraisal and credit analysis by FHA usurped the discretion of savings and loan officers and their role as representatives of the homeowner. Many lenders felt that the mutual features of the FHA Mutual Mortgage Insurance Fund were seldom understood by borrowers, increasing borrower resistance to the 0.5 percent charge after many years of prompt payment and borrower susceptibility to overtures of other lenders to refinance at lower rates once substantial equity had accumulated.

Eventually the huge reserve accumulations and minimal losses of FHA[14] attracted the notice of New York financiers, who saw both a need for a private guarantor for savings and loan markets and a real profit potential. Such plans as they might have had (known only from trade hearsay) were quickly blighted and lost for the record by the firm New York law against such an enterprise, a law once amended with reluctance to permit the VA program within New York borders.

By 1955, the savings and loan industry was beginning to feel the pressure of growing investment reserves, attracted by increasing dividend commitments relative to the supply of available loans at conservative loan ratios and generous interest terms. It became mandatory to lend more dollars at each opportunity to offset investable funds increasing at a rate more quickly than mortgage investment opportunities and to justify higher-than-average interest rates with liberal ratios to cover dividends, reserves, and overhead.

In many cases, the net income of savings and loans relative to dividend commitments left little margin for a possible increase in foreclosure losses or a reduction of investment returns through acceptance of low-interest government bonds, with which FHA-insured situations were indemnified.

A Broken Engagement

In 1958, the U.S. Savings and Loan League secured introduction of a proposal, specifically Title VII of the original 1958 Housing Act, to create a home mortgage loan guaranty subsidiary to the federal Home Loan Bank to initiate a program tailored to meet the objection to the FHA program. It was proposed that a guaranty would be provided for only the top 20 percent of the mortgage principal and interest of a loan exposure, with coverage to last for only the first

10 years. First-year premiums and renewals were to be on an annual basis or on a single premium plan, with option of cancellation and a short-rate refund.

There were to be no interest ceilings, and underwriters for the guarantor were to base their decision on a review of appraisals and other credit reports by the lender, reports subject to spot checks and enforcement penalties. Banking interests secured amendments to provide a 6 percent interest ceiling, federal appraisal, and federal property inspections of new construction. The result was that the savings and loan interests disclaimed their own bill, which failed by a small margin to become part of the 1958 bill.

Nevertheless, the new approach of the partial guaranty and an expeditious underwriting technique had been discussed frequently and enthusiastically within the savings and loan industry for several years prior to the abortive legislative putsch, so that industry leaders were favorably conditioned to such an approach. By 1957, resistance to the FHA underwriting method and interest ceiling had hardened at the same time that the need for high-ratio home loan investments was apparent. The power to make such loans was becoming available in changing federal and state savings and loan investment regulations.

Then there was the subtle motivation of optimism attributable to the resurging confidence of the savings and loan industry, accompanying its powerful expansion within the consumer-savings, home-lending market, or perhaps to the prevalent attitude of the Eisenhower era that "big business" could do almost anything better than "big government." For whatever reason, people were ready to listen to a proposal for private mortgage loan insurance and to set aside the experience of mortgage investment guaranties as a memory of mortgage banking adolescence.

Private Mortgage Loan Guaranty Plan

The creation of a private mortgage loan guarantor as an operating reality can be attributed in large part to the inventiveness and drive a Wisconsin real estate attorney, Max Karl,[15] experienced with the strong Milwaukee savings and loan fraternity. After a year of study, he submitted his proposal for a guaranty plan to the Wisconsin Insurance Department in late 1956. He found a rationale in the FHA experience, the activities of the Savings and Loan League on behalf of Title VII, and miscellaneous actuarial projections. However reluctant the Wisconsin State Insurance Department was to risk its reputation on such an unproven concept (reflecting on the 1934 scandals), it was not unmindful of the potential premium tax income which could result from such a successful firm. Also, there was professional curiosity among its able technicians as to the feasibility of such programs.

Responsive to the impressive FHA record and the limited endorsement of the *Alger Report*, the insurance department chose to introduce the unprecedented insurance operation within the controls of a new section of the administrative code.[16] This could be modified quickly to meet any situation, simply by announcing a public hearing and then a ruling by the commissioner. A license was issued upon an interpretation of the title insurance enabling statute[17] by the attorney general. As this classification was objectionable to other state insurance departments (where capital requirements remained at pre-1929 levels), Wiscon-

sin insurance statutes were amended to include specifically the guaranty as a branch of credit insurance.[18]

In 1965, Wisconsin law was amended, with the encouragement of state-based guaranty firms, to create a separate line of mortgage loan guaranty insurance with its own capital requirements.[19] The exchange between the sponsors of private mortgage insurance and state regulation agencies has been essentially a creative and refreshing interlude in regulatory-industry relations.

Underwriting Plan

The underwriting program for mortgage loan guaranty insurance has three basic elements: 1) selective qualification of eligible lenders, 2) selective review of basic information submitted with an application for guaranty insurance for individual loans, and 3) constant spot checks of local economic factors, lender appraisals, and credit reports. A master policy is issued to qualified lenders, specifically those who have state or federal supervision, regular daily business hours, a certain minimum size, demonstrated management ability, and appraisal sophistication.

Approved lenders may then submit individual loans to be insured or rejected on a cash basis, with a certificate of commitment or of insurance issued for each qualified loan. For each loan, the lender submits a copy of the loan application, the proposed terms, a credit report, supplemental information on borrower income and fixed expenses, and an appraisal of the real estate by the lender.

With the aid of a few key ratios, caveats, and current local market surveys, an underwriter will accept or reject the submission by return mail.[20] With the aid of local independent appraisers, appraisals have been spot-checked and credit reporting agencies tested as to reliability, initially for one out of every five accepted applications, although presently spot checks would be made on a ratio approximating one to 15. Lenders who appear to misrepresent properties are dropped from further participation.[21] In addition, the company has done regional and municipal economic studies, which may result in certain communities falling out of bounds for coverage.

This relatively simple underwriting network, involving the home office and in some cases the regional underwriting office, reflected a basic assumption of the private guarantor, derivative of FHA experience. If the FHA record were studied for the conventional loan with 10 percent or more downpayment and for programs without intent to provide ownership for special groups, then it would be argued the marginal cost of assuming the total appraisal, inspection, and credit analysis burden to standardize and control the mortgage loan process was not justified[22] by a corresponding marginal saving in terms of foreclosure loss avoided.

The private guarantor assumed that his administrative savings would be far greater than the cost of his underwriting errors, thereby justifying issuance of a guaranty for the high-ratio loan at a cost significantly lower than comparable FHA coverage. The private guarantor has generally charged 0.5 percent of the initial loan balance for the first year and 0.25 percent of the opening loan balance for each of the next nine years, should the lender care to renew each year. A single premium plan has also been available from the outset for 2 percent of the initial

mortgage balance, a charge which would be included in closing costs. This charge could be refunded should the lender cancel on a special short-range basis. In addition, an appraisal fee of $25 has been charged for loan applications involving an 80 percent loan-to-value ratio or better.

The maximum acceptable loan would be 90 percent, although subordinated or collateralized debt would be permitted up to 95 percent of appraised value, so long as debt service, disposable income, and other factors remain within the single mortgage standard. A single premium renewal contract covering the 11th through 15th years was contemplated initially, but now,10 years later, the termination rate on coverage has been such to suggest elimination of any effective demand for the extension-period coverage.

The Contract

Certainly the contract represented a new standard for clarity and brevity for agreements among financial institutions, with about 20 clauses and a short-rate table space over four pages.[23] Coverage for the lender contemplated an amount determined as 1) interest on the mortgage balance until title is transferred to guarantor (excluding penalty interest), 2) real estate taxes, insurance premiums, and maintenance expenses necessary to carry the property until clear title can be transferred to the guarantor, 3) court costs of foreclosure, 4) attorney fees not to exceed 3 percent of the balance due, and 5) in lieu of the above, a reservation of the right to pay only 20 percent of the claim as determined above and a waiver of the claim to the real estate by the guarantor.

This coverage would be noncancelable by the guarantor for 10 years, renewable each year at option of the lender. The lender would be expected to notify the guarantor of a delinquency within four months of the onset. Foreclosure action need not start until the total balance in default were equal to nine monthly payments, thereby reserving considerable discretion to the lender.

Letters of commitment for payment financing of new construction have long been available and open-ending accomplished following a review by the guarantor underwriter.[24] For the benefit of the borrower expected to pay the premium, state statutes generally have required that the policy relieve owner-residents from any deficiency judgment action by the guarantor following foreclosure and resale.[25]

Marketing

At the very beginning, the guaranty was sold through district agents with subagents who serviced one or more lenders, predominantly savings and loan lenders, as other lending institutions were subject to conservative investment regulation, conservative directorship, or loan correspondent contracts with sufficient geographical dispersion to "self-insure." However, it became possible to distribute representatives, and most sales are now made in that manner.[26]

At first, many savings and loans were reluctant to make any loan in excess of a 70 percent ratio, with or without a guaranty. The marketing problem was to educate the lenders to standard appraisal, credit, and loan committee standards appropriate to the low-downpayment home. Often the guaranty served as an aid to the young, aggressive loan officer in his effort to secure more liberal lending standards from an older, conservative board of directors.

As savings and loan lenders gained experience and confidence, they began to assume the risk of the high-ratio quality loan and simply to insure the more marginal situations. The guarantor began to receive a smaller proportion of a lender's mortgage volume, a higher average loan ratio, and more marginal credit reports. Lenders often used the rejection by the guarantor-underwriter as a polite way to say "no." In short, the marketing question has become primarily concerned with avoiding adverse selection by qualified lenders. Not only have lenders tended to reduce offerings to the guarantors, but they have also tended to cancel coverage at an earlier date.

When the only high-ratio loans permissible to a supervised lender were FHA/VA loans, the lender was required to submit all such proposals to FHA. Today the lender may choose among FHA, VA, the private guarantor, or assumption-of-risk alternatives. Worse, the lender could submit the loan to several guarantors, which might compete for a restricted market by relaxing underwriting standards.[27] Potential for adverse selection has remained as one of the major problems for the guarantor and the regulator.

These marketing trends might cause the guarantor to change to a five-year single-premium noncancelable plan, in addition to adopting underwriting rules requiring approved lenders to submit a certain minimum number of acceptable loans every year. A large number of lenders have carried the master policy of one or more companies, at no cost to the lender, without using the service at all or simply as a third-party, negative decision-making device.

Another aspect of marketing has been that of encouraging regulatory agencies to liberalize loan ratio requirements for credit unions, pension funds, trusts, and banks, so that more institutions would consider high-ratio loans with a private guaranty. In 1954, national banks received permission to make a few 90 percent ratio home loans, if insured by a public or private guarantor for at least the top 20 percent of the loan. The advent of tight mortgage money and higher-than-average commercial and consumer loan activity has given banks little cause to use this privilege. Market development includes legislative reform of acceptable loan insurance for fiduciaries in any given state, such as this suggested clause from a model legislation format circulated by the management of MGIC:

> Investors in residential mortgage loans shall be exempt from any statutory loan-to-value ratio limitations, provided the loans are guaranteed by the Veterans Administration or insured against loss by the Federal Housing Administration or *any mortgage guaranty insurance company licensed to transact business under the insurance laws of this state.* (Author's emphasis)

Where lending controls have not been relaxed, new financial institutions have been created. For example, in Canada insurance companies have been limited to 67 percent loans. A mortgage banking firm, encouraged by MGIC, developed a "piggyback package" of a 67 percent first-mortgage note for the insurance company and a 23 percent ratio note insured by MGIC for the investment company. Both notes were to be secured by a first mortgage giving liquidating priority to the insurance company portion.

An unfortunate aspect of an increase in market due to regulatory action has been the rapid increase in the use of private mortgage guaranty insurance in the South to avoid the open-occupancy requirement of FHA programs. Should federal

proscription of discrimination be extended to loan policies for federally chartered lenders, the market for the guaranty with government-supervised lenders would probably evaporate as various private mortgage banking subterfuges were initiated.

The potential market for the use of private loan insurance has been slotted between regulatory restriction on high-ratio loans, the degree of resistance to current government-sponsored programs, and the supply of money in excess of the demand for low-ratio loans. This is an artificial market, dependent on administration rule, custom, and shifting investor mood.

Perhaps the major marketing success to date has been the ability to convince the savings and loan industry that a firm, or the guaranty industry itself, can provide security for the lender due to the dispersion of risk by the guarantor, with only 4 percent reserves, when the average savings and loan lender has uncommitted surplus reserves equal to 6.6 percent of outstanding mortgage liabilities.[28]

Loss Adjustment Methods

A loss claim would involve both the accounting problems of creating proper reserves and the operational problems of correcting defaults, acquiring foreclosure property, and disposing of property acquired. Within the latter set of related problems, the MGIC management finds a letter or a personal visit has been sufficient to motivate the borrower to maintain his payments in more than 50 percent of reported delinquencies. Delinquencies should be, in part, a matter for control by skilled portfolio management by the lender. More serious defaults have often been settled by effecting resale or voluntary transfer to the lender. The remainder, perhaps 0.6 percent of loan volume in force and only half of reported delinquencies, have entered foreclosure, a process ranging from one to 16 months in the various states.

Initially, the company expected to take title to most property and reserve the 20 percent-of-claim limitation for use only in times of recession, the company preferring partial liquidation of assets to a transfer of assets into nonliquid real estate. However, the cost of managing and negotiating sales in various parts of the country was not always justified in terms of net reduction in loss[29] relative to cash payment of the 20 percent award. As the number of properties within the claim process grew, the company found it expedient and economical to pay 20 percent of the claim and to allow the local lender to resell the property for the remainder of his cash investment. While such a step might leave the lender without full indemnity for his own appraisal error, in most cases the lender has been able to dispose of the property for more than the 80 percent balance due. The result is that a lender may profit to a small degree on the foreclosure situation, bending the principle of indemnity.

Such an opportunity has been proven preferable to the FHA payment in low-interest federal funds with a maturity date parallel to the defaulted mortgage term. In many states, such a practice could violate the principle of indemnity. In some states, such as California, the law has prohibited the guarantor from paying more than 80 percent of the net loss to the lender on resale, not to exceed 20 percent of the full claim, making the coinsurance feature applicable in all cases.

Partly as a result of the decision to pay the 20 percent option, the severity of loss has risen from a negative figure in 1957 to an average of $2,600 per case[30] in 1965. Administrative costs have been avoided and the value of property retained has involved a smaller proportion of assets than was first anticipated, increasing investable funds and investment income.

From the accounting viewpoint, loss reserves would best be divided into three subaccounts, including[31] 1) estimated losses on insured loans which have resulted in the conveyance of property which remains unsold, 2) insured loans in the process of foreclosure, and 3) insured loans in default for four or more months.

In each case the loss would reflect the difference between a current independent appraisal of the property, adjusted for net resale proceeds after commissions, taxes, and maintenance, and the estimated claim to be made if and when foreclosure were completed. The frequency of loss has fallen, while the severity per loss has been rising as a result of changes in underwriting policies. Early in its career, MGIC made commitments on several subdivisions and apartment projects which proved unmarketable, and heavy losses of reserve allocations were avoided only when key stockholders took over the projects from insolvent contractors.

Largely as a result of this experience, some states prohibited the issuance of guaranty policies in excess of 10 percent of surplus for a single tract or contiguous areas "not separated by more than one-half mile." Intracompany studies indicate insurance commitments generally ripen into claims within four years and are generally the product of a faulty appraisal, an incomplete credit report, or a reduction of employment by a major local employer.

Management Resources

Key management personnel to staff the new guaranty insurance industry have largely been drawn from the law, appraisal, government regulatory agencies, and real estate trade organizations. In addition to the lawyers, influential leaders of the industry include two former state insurance commissioners, several state FHA directors, several nationally recognized appraisers, well-known local realtors or loan officers, and several former regional directors of mortgage lending trade associations.

It is perhaps premature to judge management effectiveness, as it has yet to be tested by the pressures of prolonged recession, broad-scale competition, or reliable industry expense ratios. However, the evolution of the financial structure of the early guarantors does give some indication of the creativity of early management and of current management concern for adequate regulation to prevent the failure of an undercapitalized, overpromoted guaranty firm, to the discredit of all mortgage guaranty insurance.

Development of Guarantor Financial Structure

Those most familiar with the financial dilemma of a mortgage guarantor have advocated minimum capital for entry into the line of $1 million of capital and $1 million of paid-in surplus,[32] derived from a single class of common stock

of a one-line company. In part, these standards reflected the desire of many regulators to advance all insurance company minimum capital requirements to reflect current dollar values, but in large part these standards were suggested by the financial path of the first guarantor, MGIC. A brief biography of the financial moves of this pioneer has been quite instructive for students of insurance finance in general and some modern-day regulators in particular.

Financial Biography

Licensed in mid-February of 1957, MGIC began with $262,500, only $12,500 more capital than the minimum required, capital raised in bits and pieces from a small coterie of Milwaukee real estate investors. To avoid the inroads on surplus, an expected element of all insurance startup and acquisition costs, MGIC was actually two corporations, a licensed insurance company and an independent marketing corporation. This separate corporation, Guaranty Insurance Agency, Inc., was capitalized by requiring investors to purchase one Agency share with each four shares of MGIC stock.

By contract, Agency organized all sales functions for MGIC, for which it received commissions on a premium-earned base rather than a premium-written base. In addition, it received required appraisal fees and purchased necessary appraisal spot checks. Since Agency paid its sales representatives on the basis of premium written, the difference between receipts and disbursements was financed from bank loans and a surplus deficit. Since the ownership of Agency by MGIC shareholders removed Agency from regulation by the insurance department as a subsidiary, the bank financing of acquisition costs of new business did not appear on MGIC statements.

In Florida a new, nondomestic insurance corporation must have operated successfully for three years outside of Florida before becoming eligible for licensing in that state; domestic subsidiaries of an ineligible foreign insurer were also excluded. Agency, however, was not an insurance corporation under Florida law, and so it organized an MGIC of Florida, capturing an important residential mortgage market. MGIC of Florida was quickly liquidated by merger into the parent MGIC organization as soon as MGIC became approved in Florida in the spring of 1960.

Agency itself was liquidated in October of 1960, reflecting a change from a commission schedule to direct salaried representation, a stronger MGIC surplus position, and a tacit recognition of the irritation of regulators with regard to Agency as a satellite (if not a subsidiary) of MGIC. At this time MGIC created a wholly owned subsidiary of Mortgage Finance Corporation (MFC). It was intended that MFC provide the real estate appraisals and economic analyses funded by the appraisal fee which accompanied each application for a high-ratio loan.[33]

If these fees were paid directly to MGIC, there was the chance of classification as similar to a mutual membership fee or underwriting fee, which commissioners in Wisconsin and elsewhere regarded as additional first-year premium, subject to monthly reserve allocation to income, thereby postponing their impact on surplus. In addition, it was expected that MFC would acquire, at cost, property to which title had been taken by MGIC due to full payment of a guaranty claim. MFC could operate the property as a rental unit, providing depreciation tax cover

for appraisal fee income, or sell the property under land contract, recovering the dollar investment in the property over the long term. MFC expected to finance the property holding operation with lending agencies in the locale of each property, while MGIC would experience no book loss on claims so handled.

Wisconsin insurance audit procedures treated MGIC's holding of MFC stock as an inadmissible asset, so that real estate held by MFC and attendant mortgage borrowing would not appear on a consolidated MGIC balance sheet. MFC was motivated primarily by tax considerations and the need to tap mortgage funds to maintain property-holding inventories. It was easily identified with the property-holding shadows of the mortgage investment scheme of the 1930s, an unfortunate connotation in light of the *Alger Report's* warning against subsidiaries of any kind. Apparently state regulators made their feelings known, and MFC was dissolved. Appraisal fees were treated as premium income by 1963 and company loss-adjustment policies were altered to favor payment of claims in cash under the 20 percent option.

The concentration of all functions within MGIC paralleled a steady expansion of its equity base through sale of common stock. The original no-par value shares were successively transformed, through stock splits, to $80 par, $10 par, and $1 par shares, which served both the sale of stock and the need for additional surplus, drained by continual expansion. Sale of stock was at first limited to Wisconsin, underwritten entirely by MGIC, and at one point a technical violation of federal security laws required a tender to repurchase all outstanding stock; no tenders resulted.

By 1960, there was an over-the-counter market for MGIC shares in the Milwaukee area, but shares were scarce and an understanding of MGIC even more rare, so that prices fluctuated wildly, with a few sales recorded at $50 per share for stock that might have cost the early investor about $1.60. A New York investment banking firm was called on to manage and underwrite an ambitious equity capital program in 1961, at which time about $5.5 million in equity was generated through sale of 236,000 shares at a price of $27 per share. Another stock sale was accomplished in 1963 at $30 per share for an additional $6 million of capital. The surprising capital appreciation enjoyed by early investors has been a prime incentive for the organization of imitators of MGIC in various sections of the country.

Oligopsony

The first guaranty firms found a market for stock shares among people associated with the savings and loan industry, and in 1964 the Home Loan Bank conducted an investigation[34] of the relationship of the use of the guaranty to the stock ownership position of lending officers.[35] The investigating board concluded there was no "statistical proof"[36] of any conflict of interest between stock ownership in a guarantor and decisions by loan officers to require the use of such insurance in any given loan situation.

However, the most significant element in the financial structure was not the skillful expansion of common stock ownership, but rather the daring expansion of the guarantor market and political constituency in exchange for a degree of financial control. In 1958, when the plan to be operated by the Home Loan Bank

was scuttled in Congress, MGIC was an operating fact in at least eight states, offering an insurance plan identical to that proposed for the Home Loan Bank (save for the $20 million of capital).

On the initiative of the Milwaukee group, MGIC expanded its board of directors to 12 and seated seven former presidents of the U.S. Savings and Loan League, including Henry A. Bubb as chairman of the board,[37] the leading Washington exponent of the Home Loan Bank guaranty proposal. Representing all sections of the country and well known to all major savings and loan institutions, the directors gave the firm national visibility, a preferred market position, and an access to the major capital money markets.

This ploy represented one of the clearest demonstrations of current insurance financial strategy, specifically that corporate control rests with those who have market access and not with those who own the largest number of shares. Growth for any new insurance company has been best achieved by means of a captive market or captive sales force. Despite these indirect ties to the most effective political force representing the savings and loans, the League was careful to disclaim any endorsement of MGIC and forbade its employees to have any financial interest or other tie which might be construed as tacit approval.

Timing was perfect, and insurance written approached $2 billion before the end of 1964. As will be shown, success engendered a new threat to the industry when California imposed a maximum liability-to-policyholders surplus ratio for companies licensed in that state. If certificate termination had not exceeded expectations, total insured mortgage volume of MGIC would have reached its ceiling and forced premature additional equity financing.

Unless stock offerings were staged to await increasing stock prices, growth would require new equity, diluting existing equity interests in the contingency reserve and undermining the price per share and absorption of stock offerings. Without access to the equity market, the new guarantor would stall at noneconomic volumes of premium written, waiting for buildup of the contingency reserve at the cost of surplus declines.

Risk Dispersion vs. Industry Concentration

At the same time that management control was used to gain access to a market and generate a powerful equity base, MGIC management worked quietly to raise entry capital requirements to close the market to "fast buck artists" and derivative guaranty speculations. For example, in Florida, in 1959 to 1960, there was an effort to insure mortgages in the active Miami second-mortgage market. This produced two company failures. There was a proposal to guaranty purchase-money mortgages for sellers, with real estate brokers and attorneys serving as commission agents. MGIC management played a significant role in writing a definition of the mortgage guaranty insurance line, restricting coverage to first mortgages made by government-supervised lending institutions and at the same time raising entry capital in Florida to $500,000 in capital and $250,000 in surplus, as compared to $300,000 and $150,000 surplus for a full-line property insurer.

Similar contributions to mortgage guaranty regulations were made in other states, such as Oregon and Washington. However, the most significant contributions to the future financial structure of the mortgage guaranty came as the result

of a dialogue between MGIC management and the insurance department in California.

California represented the unique situation of a state seeking private mortgage guaranty as an aid to reform of the residential second-mortgage practices, which had led to abuses. At the same time, state officials were worried that the largest state mortgage market in the U.S. would be a mecca for the novice mortgage guarantor, whether legitimate in intent or not.

A key feature of the resulting legislation was the provision for $1 million in capital and an additional $1 million in surplus as the minimum required for licensing. In addition, California instituted a reserve-to-liability ratio, which was the equivalent of 0.8 percent of insured mortgage face value liability. This restriction on excess growth meant that the guarantor would actually need far more than the minimum capital required if he were to reach a scale of operations that would produce an operating profit.

Since 1961, the California standard has been the desired standard for the industry, although politically unobtainable in many areas for lack of any comparable domestic situation or for the presence of an existing guarantor without funds to meet the California standard. It may be unnecessary to observe that the standard of scale relative to insurance volume appropriate to broad risk dispersion is also appropriate to furthering industry concentration among existing guarantors.

A Contribution of Creative Regulation

Direct control of the character of modern mortgage loan insurance can be found in state laws, federal tax law, and illustrations of self-imposed standards within the industry. The Wisconsin law set the early pattern and the principal contribution of Wisconsin was the contingency reserve device. This reserve required that one-half of all earned premiums be set aside for 180 months (15 years) to meet exceptional and cyclical losses. The guarantor could apply for permission from the insurance commissioner to use contingency reserve funds only if current incurred losses exceeded 20 percent of earned premium.

Reserve funds were to be released to earned premium or to incurred losses on a monthly first-in, first-out basis. Dollar flows were treated on an aggregate basis, without adjustment for termination of contracts from which the insurance liability first arose. Therefore, the reserve has accumulated at a compound rate long after the original exposure has been terminated or reduced through amortization.

Tax Features

The earnings so allocated were not included in current income tax calculations. They were regarded as a liability, similar to that of a long-term disability contract loss reserve, in order to accelerate the creation of financial resources with which to survive a recession. The investment returns from these resources, however, have been left to current income, a source of investment leverage for the investor anticipating potential dividends before earnings can be released from the contingency reserve. The accounting procedure for the reserve charged surplus for an amount equal to one-half of earned premiums, and the allocation would not appear in the usual company income and loss statement.

Earnings per share have been reported so as to include the eventual reserve allocation from surplus. Some guaranty companies create reserves on stockholder statements for the expected tax liability on earned premium within the tax-sheltered contingency reserve, anticipating profit in 15 years.[38] Unless current losses and administrative expense were held within 50 percent of earned premium, surplus would fall despite the apparent high ratio of earnings to earned premium.

State Insurance Control Features

The Wisconsin law has been modified to be similar to that of California, except for capital and surplus requirements. These were held to $900,000 and $450,000 surplus, as another domestic company already in operation in 1964 would not have otherwise qualified. The firm in question has since secured additional capital via a merger, and the statutory capital requirements should be adjusted upward. However, this should indicate to those states without such requirements that it has been impossible to legislate such items after companies are proposed or in operation based on less stringent entry requirements.

The California Mortgage Guaranty Act in 1963[39] could be briefly described as follows:

1. The definitions restricted the mortgage guaranty business to amortized first mortgages not exceeding 90 percent of the fair market value of the real estate of a residential building containing no more than four family units. The loan must be originated by a state or federally supervised bank, savings and loan association, or insurance company.
2. It carefully defined the liens to which a property may be subject without undermining the nature of a first mortgage.
3. It called for the creation of a contingency reserve and specifically recognized it as "established for the protection of policyholders against the effects of adverse economic cycles."
4. It defined "policyholders' surplus" as the aggregate of capital surplus and contingency reserve.
5. The act put teeth in the minimum capital requirements by calling for paid-in capital of at least $1 million and paid-in surplus of at least another $1 million in order to transact mortgage guaranty insurance in California. In addition, the act required a contingency reserve of 50 percent of the earned premium to be restricted for 180 months, and the commissioner "shall by regulation determine when an insurer may make withdrawal from its contingency reserve" in any given year in which actual losses exceeded expected losses.
6. The act instituted a liability ratio, which prohibited the transaction of new business whenever total liability under its aggregate insurance in force exceeded 25 times the policyholders' surplus. Total liability was defined as 20 percent of the outstanding balances of all the loans insured.
7. Dividends were restricted to the undivided profit remaining over and above the total paid-in capital, paid-in surplus, and contingency reserve. In this regard, as in all others, stock, mutual, or reciprocal insurers are all bound alike. Moreover, a mortgage insurer was not permitted to operate in any other insurance line in California or elsewhere.

8. Not only did the act recognize the 20 percent-of-claim option of the lender, defined as 20 percent of the balance of the loan insured, but in the event that his option was exercised, the insurer's liability was not to exceed 80 percent of the actual loss, so that the lender was at all times a coinsurer of the loan which he created, except where the guarantor took title to the property.
9. Another interesting innovation, warranted by present guarantor experience, was a charge not to insure loans "in excess of 10 percent of policyholders' surplus secured by properties in a single tract or contiguous tracts," with contiguous defined as "not separated by more than one-half mile."
10. Rebates and commissions to any person directly or indirectly interested in the insured lender were prohibited, and published premium charges applied to everyone.
11. Required financial statements were similar to those of Wisconsin, except the statutes specifically required a loss reserve which had three subaccounts, including 1) estimated losses on insured loans which had resulted in the conveyance of property which remained unsold, 2) insured loans in the process of foreclosure, and 3) insured loans in default for four or more months.
12. Also of interest in the act was the directive to the commissioner to give full consideration to the desirability of high liquidity of the investment portfolio of the guarantor. Finally, there was a specific control of any advertising on the part of lenders as to their use of statements regarding insured loans.

The California statute as summarized above or read in its full text[10] has made a specific response to almost every recommendation of the *Alger Report*. More important, the California law struggled with the two most significant problems of current regulation for the rapidly expanding mortgage loan industry: the problem of maintaining reserve adequacy while rapidly expanding the insurance liability, and the problem of fair competition for a restricted market.

Control through the Market

Government favor or disfavor can also be registered through controls placed on supervised lenders. The market can be increased or decreased simply by adjusting the ratio of assets which may be invested in high-ratio loans. More to the point would be statutory and audit acceptance of private guaranty loans on the same basis as FHA/VA loans and financial standards for acceptable private guarantors more detailed than those of state insurance departments.

The Insurance Question

Demonstration of the capacity of the guarantor to meet the losses of recession, real estate upheaval, and the import of maximum liability-to-policyholder surplus ratios is deferred to a second article. However, implicit in statistical analysis of volumes of liability relative to aggregate resources was an assumption that the institutional framework would produce an acceptable statistical base for quantitative analysis consistent with qualities of an insurable exposure. Such an assumption has assumed a positive answer to the question of whether the modern mortgage loan guaranty might properly be termed "insurance." Review

of the economic and institutional framework of the present mortgage loan guaranty industry served to provide a basis to the answer of that question.

An insurable risk has been defined as one in which a relatively homogeneous group of factors were exposed to the same peril, suffering measurable loss as the result of accident or circumstances beyond their control, losses so interdependent that the majority of risks could not be affected at the same time, as in a catastrophe, economic or physical. Certainly, small residential lending practices since World War II have produced sufficiently homogeneous mortgage loan packages to justify statistical analysis.

While it is true that the portfolio management of the lender could affect default experience to some extent (just as housekeeping ability affects the frequency of fire loss), most losses have resulted from random domestic upset or local real estate price decline. Thus, a reasonable degree of fortuity has been present. However, a regional or national trend of unemployment and personal income declines due to a downturn in business activities has generally preceded rapid increases in mortgage loan delinquency, default, and foreclosure in the face of falling price levels.

Within the limits of the 20 percent option, a fall in the price level would increase the severity of loss to the guarantor at the same time frequency of loss was also increasing. Loss expectations of the guarantor therefore have business-cycle magnification with catastrophic parameters, and losses attributable to the business cycle have not been the traditional province of insurance or within the definition of the insurable risk. On the other hand, erratic catastrophe losses, such as floods, earthquakes, conflagration, and most certainly windstorm, could be handled by private insurance where premium rate, tax components, regulation, and acceptance favored the use of long-term reserve accumulations. For such reserves, the objective would not be actuarial solvency but rather massive "financial solidity"[41] such as associated with Lloyd's of London or some American companies.

Acceptance of the latter premise would lead to a study of the rate of resource accumulation which could be expected for prescribed reserve requirements and for the consistency of underwriting standards in the accumulation of offsetting contingent liabilities. It follows that criteria for evaluation of the present institutional structure of the mortgage loan guaranty industry should measure either the degree to which any one feature strengthened policyholder surplus and reserves or avoided underwriting errors as to acceptable properties and borrowers.

Financial resources have of necessity been the product of reserve accumulation and equity investment, and both of these elements have been functions of the strength of access to demand for the guaranty.[42] Reserves have depended on premium written, and capital has been invested where the opportunity was seen to secure the investment gains of large amounts of premium flows. It has been suggested that the market for the guaranty is artificially defined by administrative rule and lending custom. Further, it has been suggested that the most successful guarantors have grown by possessing special ties to the savings and loan market, either on a national or regional level.

These relationships would now appear to block further expansion of the market base for each guarantor. For example, associations with savings and loan factions may reduce acceptance of any one guarantor by other factions within

the same line or among other institutions, such as the banks. Regionalism may also discourage continued expansion into all available national markets, and in several cases personality conflicts could have blocked otherwise desirable consolidations.

The Institutional Answer

It would appear that the price of a captive market has been that of a semicaptive insurer. As a result, the warning of the *Alger Report* that any ties between the insurer and the lender be prohibited may have been unheeded to an unknown degree up to this point in guaranty development. A guarantor, working within a single region or primarily with a single type of lender, not only has lacked diversification within the credit system but has also been subject to the enthusiasms, attitudes, and unwitting excesses of that group with which he has most closely associated. The underwriting stability possible with full national business scope, the economics of scale, and the dangers of the psychology of fragmentation all argue for diversification of participation in the management of nationally oriented guarantors.

If the capacity of the reserves now required of the mortgage guarantor could be shown to be adequate to meet foreclosure frequencies appropriate to severe national recession, then the issue of whether the guaranty were truly insurance would devolve on the problem of securing average losses equal to or better than national averages. To the degree that the industry is fragmented and fails to produce a book of business for each guarantor which reflects diversity of geographic dispersion, institutional practices, loan ratios, and seasoning of portfolios, it falls short of insurance requisites for catastrophe control.

It remains for another essay to explore techniques for measuring reserve adequacy and possibilities for further statesmanship among industry and regulatory leaders to assure full acceptance of the mortgage loan guaranty as a proper function of the insurance industry.

Notes

1. Mortgage Guaranty Insurance Company of Milwaukee, organized 1957. Data from 1965 Annual Report. MGIC coverage is available in 47 states.

2.

Name	Symbol	Org.	Home Office	Ins. in Force*	Total Assets*
Mortgage Guaranty Insurance Corp.	MGIC	1957	Milwaukee, Wis.	$2,500	$43.6
Continental Mortgage Insurance after merger with Institutional Mortgage Insurance	CMI	1961	Madison, Wis.	218	6.2
American Mortgage Insurance	AMI	1959	Raleigh, N.C.	200	4.3
First Mortgage Insurance Corp.	FMIC	1964	Greensboro, N.C.	80	2.8
Southern Mortgage Insurance Corp.	SMIC	1964	Baton Rouge, La.	38	1.4
Excel Mortgage Insurance Co.	EMIC	1963	Bettendorf, Iowa	24	2.4
First National Indemnity Co.	FNIC	1965	Houston, Tex.	14	1.1
Liberty Mortgage Insurance Co.	LMIC	1965	Springfield, Ill.	8	.6
Guaranty Insurance Trust	GIT	1965	Columbia, S.C.	—	1.1
General Mortgage Insurance Co.	GMIC	1966	Winston-Salem, N.C.	—	.4
				$3,082	$63.9

*000,000 omitted

3. Classification as insurance might be withheld, pending examination of its relevance to the loan guaranty.

4. Professor Thompson is an associate professor of management in the School of Business, University of Wisconsin, specializing in computer controls and mathematical models for operations research. [Full professor of finance now - Ed.]

5. Professor Heins is a full professor of insurance in the School of Business, University of Wisconsin. [Since 1986, president and chief executive officer of CUNA Mutual Insurance Group, Madison, Wisconsin - Ed.]

6. Wisconsin Administrative Rules 3.09(1).

7. An unpublished report in the files of the New York State Insurance Commission, a photostat of which was made available to the author by the Wisconsin State Insurance Department.

8. The insurance commissioner of Wisconsin, on the other hand, one W. Stanley Smith, in 1926 recognized the guaranty of mortgages as insurance under both subsections (7) *surety* and (8) *title insurance* of Section 201.04 of the Wisconsin Statutes. The regulation of the guaranty business was furthered with the aid of the Securities Division, which would not recognize guaranty mortgage bonds for legal investments by Wisconsin fiduciaries unless the guarantor were in good standing with the Wisconsin Insurance Department. By 1930 none had such approval, and losses in the next five years were at a minimum for Wisconsin investors in this kind of security.

9. Some of the larger insurance companies took advantage of the guarantors to dump defaulted mortgages and purchase good securities at discounted cash prices.

10. Mortgage investment guaranty management always assumed a short depression and thereby justified any move which produced cash in the short run or fostered public confidence to save the company until prices rose magically to former levels.

11. "Financial solidity" is a concept from European regulation which may be a more realistic approach to noncompartmentalized insurance organization, as suggested by Spencer L. Kimball, "Sketches from a Comparative Study of American and European Regulation," *The Journal of Insurance*, June 1965, pp. 196–197.

12. For a thorough analysis of the FHA conventional residential mortgage loan insurance, see Ernest M. Fisher and Chester Rapkin, *Mutual Mortgage Insurance Fund* (New York: Columbia University Press, 1956). The insurance of MMIF is the only section of the FHA program which is directly comparable to the sphere of interest of the privately financed mortgage loan guarantor.

13. More recently, actuarial theory and insurance feasibility have taken a back seat to social theory in the administration of FHA programs which are not part of MMIF.

14. During the year reviewed by the private guarantor book in 1955 to 1958, the FHA had offered 10 separate programs of mortgage insurance, the total income from which amounted to more than $1.2 billion by mid-1957. Seventy-three percent came from premium and the remainder from investment and fees. Expenses were 47 percent of earned premium, including 8 percent for losses. The largest continuing program, and the one most analogous to private insurance, was the Mutual Mortgage Insurance Fund. By June 30, 1957, MMIF had collected $758 million, 72 percent from premium, 19 percent from fees, and less than 9 percent from other sources. Administrative expenses alone of more than $308 million amounted to 41 percent of total income and to 56 percent of premium income. Only $4 million had been used to meet losses on acquired property. See U.S. Senate Subcommittee on Banking and Currency, "The FHA Mortgage Insurance Premium—An Analysis and an Alternative," *Study of Mortgage Credit* (Washington, D.C.: U.S. Government Printing Office, 1959), p. 324.

15. Mr. Karl continues as the president of MGIC and leading statesman of the fledgling industry. [Max Karl retired in February 1985. William H. Lacy is now president and chief executive officer. - Ed.]

16. Wisconsin Administrative Rules 3.09.

17. Wisconsin Statutes 201.04(8).

18. Wisconsin Statutes 201.04(9).

19. Wisconsin Statutes 201.04(19).

20. Long delays on commitments were a constant irritation for those using the FHA program in the mid-1950s, as Congress failed to appropriate sufficient funds for adequate staffing.

21. In several cases, where savings and loan institutions in Chicago were in the process of disintegration due to fraudulent operations, MGIC had suspicions, from spot checks, a full year before these institutions were closed by federal auditors.

22. It must be remembered original guaranty plans were based on the FHA operating record through 1956, before the impact of very-low-downpayment loans caused foreclosure frequencies to rise significantly.

23. The typical contract in use is substantially the same as drafted by Max Karl in 1957, save for the 20 percent option, which was introduced in late 1958.

24. In some cases lenders on small rental buildings have asked to open for principal in default and have canceled in pique at the turndown.

25. The lender may retain the right to a deficiency judgment in states where the waiver is not required by law but only as a result of a standard guaranty contract. Such an oversight would appear unfair to the borrower.

26. Some states prohibit payment of a commission or placement of an agent within lending organizations.

27. The new company might hope to win friends by accepting loans others might refuse, anticipating that, with time, reciprocity and inflation might offset losses in future higher premium volumes.

28. *Fact Book* (Washington, D.C.: U.S. Savings and Loan League [now U.S. League of Savings Institutions], 1965), p. 90.

29. The net at risk to the mortgagor is the difference between price indemnity of the lender under the contract and net proceeds on sale of acquired property by the guarantor. Changing real estate price levels theoretically require the guarantor to time sales to seasonal and cyclical price peaks for each community.

30. Based on review of only three company loss reports for 1965.

31. Required by statute only for companies choosing to be licensed in California.

32. These are the California requirements; typical other state requirements are Wisconsin, $900,000 capital, $45,000 paid-in surplus; Florida, $500,000 capital, $250,000 paid-in surplus.

33. These fees, which at that time were $20 for each application, represented a major source of revenue when it is remembered that applications reached 10,000, 15,000, and more during these years, most of which required payment of the fee.

34. MGIC officers had once facilitated a bank loan to one Robert Baker, an administrative staff man in the U.S. Senate, with which Mr. Baker purchased shares of MGIC at the then-registered stock price. Subsequently stock splits and market auction produced a profit for Mr. Baker, which was a subject of inquiry as part of a broader investigation and in time precipitated some parallel inquiries by other federal agencies of firms known to have been acquainted with Mr. Baker. There has been no evidence that Mr. Baker was able to reciprocate the favor for any mortgage guarantor, and newspaper reports that his interest secured income tax exemption of contingency reserves are in direct conflict with facts and dates established by records available to the author.

35. *Statement of the Federal Home Loan Bank Board on the Inquiry into Mortgage Insurance Companies*, Washington, D.C., June 5, 1964.

36. "Based on a statistical test, there is an absence of correlation between the number of shares held by officers and directors of an association and the percentage of eligible loans insured with the respective company. Similarly, of course, there is an absence of correlation between premiums paid and relevant shareholding." Ibid.

37. Henry A. Bubb, president, Federal Savings and Loan Association, Topeka, Kansas.

38. The split image of a liability reserve for taxes and inclusion in policyholder surplus undermines the value of a long-time reserve precedent for possible rate-making application for catastrophe insurance coverage on physical property.

39. State of California Assembly Bill No. 1539, an act to add Sec. 199 and Chap. 2A to Pt. 6 of Div. 2 and to amend Sec. 100, 700, 911, and 984 of the Insurance Code.

40. Additional interpretation and regulation effective July 15, 1962, appears in the California Administrative Code, Title 10, Chap. 5, Subchap. 3, Article 10.

41. See note 11 on Spencer Kimball. For additional discussion of the same point, see Allen R. Mayerson, "An Inside Look at Insurance Regulation," *The Journal of Risk and Insurance*, March 1965.

42. Groups of incorporators of guarantor firms with a local or regional interest to serve have secured only minimal amounts of initial equity capital in 1957 or 1966.

Private Mortgage Guaranty Insurance as Distinguished From Banking and the Extension of Credit

James A. Graaskamp

I. Introductory Statement

The issue posed is the appropriate relationship, theoretical and operational, which may or should exist between the insurance function provided by a private mortgage insurance firm that indemnifies lenders for losses arising from mortgage defaults, and the credit extension function provided by a bank or other similar lending institution. After a thorough review of the theory and the methodology necessary to assure operations in conformity with theory, one must conclude that the insurance process is a separate and independent function from the extension of credit. This clear dichotomy exists in the theoretical structure and is supported by empirical observation of the industry both in the present and in the past.

II. Concepts of Mortgage Credit

The business of extending credit by making a mortgage loan requires the lender to infer or to assume that the capacity and the will to pay of the borrower and the collateral pledge of certain real estate will in any event or contingency lead to the recovery of capital and an incremental interest return at a predeter-

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mined administrative cost. These assumptions make it possible for the lender to measure an anticipated or prospective yield appropriate to the cost of loanable funds, the alternative investment opportunities available, and the programmed surplus objectives of the lending institution.

The strategy of the mortgage loan investment is relatively simple, reflecting a hierarchy of pleasure, pain, and bailout defenses for the lender. Maintaining the will to pay of the borrower is the primary security for the home loan, and the lender hopes that the pride of ownership, love of the family, and business reputation all provide sufficient satisfactions to motivate prompt and complete payment. Should incentives falter, repayment may be quickened by the stimuli of loss of equity, loss of face in the business world, and fear of unnecessary dislocation and discomfort of the family. Failing the incentives of pleasure or pain, the lender seeks various "bailouts" to escape the loan commitment; they may take of the form of "voluntary" sale of the property, liquidation through foreclosure sale, or some other conversion of the note receivable to cash or other acceptable investment as possible through federal or private mortgage loan default insurance programs.

The lender must attempt to evaluate the borrower's psychic motivation and sensitivity to the discomfiture of available delinquency remedies from direct interview, analysis of credit history, as well as the attributes of the residence to be pledged, which reinforce pride of ownership or vested economic interest as revealed by the property appraisal report.

Such a credit evaluation depends on considerable judgment and assumptions by the credit officer. The risks to the mortgage institution that result because of these assumptions are of two types:

1. Static risks or external contingencies which might occur to undermine scheduled receipts of payments, capital recovery from collateral value, administrative costs, and therefore net effective yield. Unemployment, fire, or undiscovered flaws in the title are all examples of such contingencies.
2. Dynamic risks are those elements inherent in entrepreneurial judgment which could cause an unexpected profit or a loss depending on the lender's judgment as to the economic cycle affecting price levels, institutional liquidity, value trends affecting the collateral, or the capacity and will to pay of the borrower. These entrepreneurial judgments are credit skills which involve in part rational decision standards and in part intuitions as a result of knowledge from personal contact with borrower, locale, and background information.

No prudent lender would knowingly make a bad loan, but the credit risk is the possible variance which may exist or occur between the facts as known and the reality, and between the assumptions as to future conditions and the actual realization. Credit risk can be largely eliminated by a variety of alternative techniques, which would include

1. Avoiding certain types of loan situations by rejecting loan applications
2. Controlling frequency or severity of loss by modification of loan terms and loan ratios
3. Shifting the financial consequences of certain contingencies by negotiating a mortgage contract whose terms change to reflect variance in insurance, real estate tax, or other costs, including variable-interest-rate mortgage terms, to adapt to variance in the cost of loanable funds

4. Computing reserves in advance of costs where frequency and severity of certain costs can be accurately forecasted due to experience of the lender's own portfolio characteristics
5. Shifting by contract of static and dynamic contingencies where frequency and severity of consequences cannot be accurately forecasted for an individual lending institution by means of insurance contracts

As a result of these devices, the lender should be able to assure administrative costs, recapture of capital, and returns on investment virtually identical to those anticipated by the credit assumptions on which the loan was made. Clearly the rejection of the application or negotiation of the terms and conditions of the mortgage note is a credit decision. Reserves for credit losses are generally not set in accordance with any forecast of expected loss frequency and severity, but rather respond to the Internal Revenue Service rulings as to acceptable amounts of reserves for a general loan type. Therefore, the reserves computed are the average losses experienced over the past five years of the lending institution's general loan portfolio, as this is the maximum deductible reserve regardless of the investment characteristics of various subcategories of mortgage loans or economic expectations for the next five years. As a result, economic stabilization of investment expectation for the lender is becoming increasingly dependent on a shift of potential loss-causing contingencies and their consequences to insurance institutions.

III. Concepts of Mortgage Insurance

The business of insurance is clearly distinct from that of a credit institution, and it is regulated by state departments which oversee only those who sell insurance. The insurance function does not involve issuance of deposits or credit services, and their business is not concerned with the variance and assumptions of a single transaction. The insurance business provides rather extensive combinations of similar transactions for the purpose of predicting both frequency and severity of loss, the pooling of funds for the payment of the independent loss contingencies which arise, and the provision of risk capital capable of meeting shock losses arising from conditions which make normative predictions from pooling nonoperational. Unlike the credit institution, which is interested in avoiding all losses on all loans made, the insurance institution is interested in predicting and funding the normative loss patterns of combinations of loss exposures as well as providing standby funding of shock losses beyond the probable and foreseeable. To shift financial risk to the insurance carrier, the credit institution is willing to pay the small certain costs of a specified and fixed premium in order to avoid the loss of uncertain amount from the contingency insured against.

For insurance to be a successful mechanism in the risk control of any given contingency, certain attributes must characterize the cause of loss insured against and the amount of loss to be indemnified as a consequence. These include

1. Large numbers of homogeneous exposures to provide a base for statistical analysis of frequency and severity of a specified contingency

2. Fortuitous and independent occurrence of loss, requiring that the insured not know in advance the outcome of the event even though the insured behavior may in fact be a contributing cause of the event
3. A cause of loss producing a loss definite in time and dollar amount in order to anticipate claims and accurately reflect liabilities which can be verified
4. An insured contingency of the type that could not affect the majority of exposure simultaneously
5. Highly unpredictable loss frequency and severity for the insured which in the aggregate is still a small percentage of the exposure, so that required premium is reasonable relative to the stabilizing benefit provided the insured

Lending institutions, on the other hand, are regulated by entirely different sets of state and federal regulatory statutes, agencies, and administrative rules. They are specifically not permitted to sell insurance services, except credit life insurance, on loans originated by the lender. (Credit life insurance provides unique forecasting accuracy in terms of the frequency and severity of loss per unit of loan balance.) The attempt at one time to merge mortgage credit with mortgage guaranty in the first quarter of the 20th century was considered a major factor in the stunning reverses both in real estate and banking enumerated in the classic *Alger Report* prepared in 1933 for the New York Insurance Commission.

IV. Risk Management for the Mortgage Lender

Historically, the mortgage lender has relied on significant downpayments and the threat of social pressures for the negative incentives necessary to assure on-time repayment of mortgage loans. A conservative loan-to-value ratio also presumed that resale proceeds would be sufficient in the event of foreclosure to liquidate unrecovered capital advanced, to reimburse costs of collection, and to generate the desired interest return of the loan contract. Today the existence of property value in the event of default is an assumption which is stabilized by depending on a variety of insurance programs, generally paid for by the borrower but to the benefit of the lender, in the form of title insurance, property and casualty insurance and, on occasion, performance or payment bond to prevent liens by third-party contractor.

To avoid lapse of any such coverages, the banker's blanket bond provides for umbrella coverage of losses that may not be insured due to administrative oversight, whether negligent or good faith performance. To assure the existence of the property on the title pledged, a survey report by a bonded professional surveyor is generally required, together with a property inspection and market-value estimate by an appraiser selected by the lender.

All threats to the existence of the collateral having been shifted to insurance companies with reasonable certainty as to their ability to meet cash commitments, only the critical opinion of value at the time the loan is made or in the foreseeable future is subject to significant variance. The appraiser who provides the opinion of value is neither bonded nor professionally accountable for his opinion except for total negligence bordering on fraud.

Property values both at the time of the loan commitment and at the time of the foreclosure are subject to significant variance in terms of probable market price. This significant risk in the liquidating value of collateral can be significantly reduced by

1. Looking to other resources of the borrower for collection, thus extending credit entirely on capacity to repay and legal powers of the lender to attach these other assets
2. Cushioning the spread between loan and nominal value provided by a conservative loan ratio, permitting significant declines in resale price before encroaching on lender claims on the collateral
3. Shifting of risk in terms of collateral salvage value to mortgage loan guaranty insurance

As early as the 1930s, it appeared to be in the public interest to provide credit to families for the purchase of homes where the downpayment would of necessity be low and alternative resources of the family would be negligible. Therefore, the federal government provided mortgage loan repayment insurance with the advent of the FHA in 1936. The Mutual Mortgage Insurance Fund and subsequent programs of the Federal Housing Administration insured the lender for principal, interest, and specified administrative costs. The FHA program would indemnify with government bonds and take title to the foreclosed property. In theory, the government would hold properties until price cycles would permit resale at a price sufficient to redeem the bonds issued, and, failing that, the deficits on resale would be charged against an actuarial reserve. The federal program presumed to set interest rates and terms of the mortgage, and to process and evaluate the credit application of the borrower as well as to appraise the property with FHA staff. The objective was to protect lenders from losses due to participation in drastic new amortized long-term mortgages, while innovating new credit and appraisal techniques.

Because lenders wanted cash rather than bonds to stabilize their liquidity risk, and because lenders wished to retain authority in the credit decision, private mortgage insurers were encouraged to enter the field in the late 1950s. Their policies were drafted to permit the lender to retain responsibility for the credit function while rates and reserves were established by the insurance departments of the various states where they now do business.

It should be stressed here that both the federal program and the private mortgage insurance see the cause of loss as mortgage default and foreclosure, regardless of any contributory negligence by the borrower or the lender, and in the private program the private insurer is barred by conditions of the policy and by state statute from his rights to any deficiency claim against the borrower. Such an insurance approach is analogous to automobile liability insurance which indemnifies for losses arising out of the ownership, operation, or use of an automobile, regardless of the degree of negligence attributable to the insured. Implicitly, therefore, the private mortgage insurer has insured the lender for the consequences of

1. Losses attributable to misjudgment of the property value, to unforeseeable reversals of property value trends, or to misplaced reliance on those making the appraisals of value;

2. Losses due to sharp and unforeseen decline in real estate prices due to local exogenous factors or the economic cycle, a type of loss unique to mortgage loan insurance since other types of property insurance limit replacement coverage by current market values except under very special conditions. The insurance of losses attributable to the economic cycle violates a cardinal tenet of avoiding exposures which are vulnerable to catastrophic losses due to correlation to a common loss-causing factor such as the domino effect of a fire in a street of old homes. This potential explains the high minimum capital requirements for entry into the business;
3. Defaults due to the death, disability, or unemployment of the borrower (when these contingencies have not been adequately anticipated by providing, through other insurance programs, income-replacement capacity for the debtor or his estate);
4. Defaults attributable to an error by the originating loan officer in the exercise of his banking skill in judging, from personal contact or credit information available, the capacity or willingness of the borrower to pay;
5. Defaults due to a change in borrower attitude which make inoperable threats, implicit in a mortgage loan, of loss of shelter, seizure of net worth, or peer group embarrassment, whether such threats become inoperable due to loss of self-esteem, loss of family pride due to divorce, despondency, mental illness, or loss of perceived investment value due to reversal of economic trends;
6. Defaults due to misjudgment by the bank in detecting or correcting delinquencies which then ripen into default or destroy property values; and
7. Defaults due to loan-making and management bias from either unjustified conservatism or optimism.

Just as the individual loan transaction contains some dynamic risks of managerial judgment error, so does the management of the overall portfolio in terms of the aggregate frequency and severity of loss resulting from underlying entrepreneurial assumptions. At least three types of managerial bias can begin to distort the aggregate investment return and risk in a mortgage portfolio.

1. If loan officers are assumed to have complete objectivity in their decisions, then errors in judgment should be random and equally likely to be profitable or costly to the lending institution. Such random losses could be reasonably predicted and included in budgeted expenses. However, the variance to the assumption of managerial objectivity can be very real, with some loan officers avoiding profitable loan opportunities because of an unconscious bias toward safety caused by business tradition, social position, or personal insecurity. By the same token, objectivity may be lost if there is an orientation to loan production, an unconscious bias of personal interaction with borrower, or unjustified economic optimism in the business community.

   The bank president who promotes community growth and development with the zeal of the chamber of commerce may infect his staff with enthusiasm and economic myopia. Mortgage loans can feed on illusionary growth cycle in many communities as well as postpone recession for firms with working capital loans from the same bank.
2. Assuming constant-value dollars, stability depends on predictability of cash flows. Foreclosure losses narrow spread between portfolio net income and

net cost of money available for loans. Portfolio yield is a moving average, while both costs of foreclosure and the cost of loanable funds are at the margin for institutions like savings and loans and banks, so that the spread is very sensitive to short-run phenomena.

3. The ultimate portfolio risk involves the liquidity of the portfolio relative to the potential liquidity of the supply of loanable funds due to depositor withdrawal or maturing of other institutional advances. The need for liquidity is significantly correlated to the ability to earn marginal costs of lendable funds. The realization of a certain marginal level of earnings is both a function of actual foreclosure losses and regulatory treatment of delinquent loans and loans in the process of foreclosure. Classification of a delinquent loan as a bad debt and an inadmissible asset or interest earned only when collected may overstate the ultimate economic loss which will be experienced by assigning it all to the operating costs of a specific period.

   All marginal earnings may be counted only when collected. Regulations may in effect charge off costs by the potential maximum loss rather than costs actually incurred. Thus a device is needed for leveling cash earnings or cash costs among accounting periods in order to maintain the predicted required spread of earnings necessary to hold and attract loanable funds, thus avoiding a severe test of liquidity.

V. Loss Reserves, Rates, and Risk Capacities of Mortgage Guaranty Insurance

An insurance company is in the business of accepting, for monetary consideration, financial risks which are unacceptable to individuals or, in this case, the costs of direct and indirect mortgage default, individually and in the aggregate, to a mortgage lender such as a bank. The fundamental concept of insurance is to combine certain kinds of risk exposure in sufficient quantity that it can forecast both the maximum (albeit improbable) losses that are likely to occur and the administrative costs necessary to implement the total program. The exposure to loss must be reasonably homogeneous, such as single-family frame homes under 10 years old or semi trucks used only for long-distance hauling, but at the same time the source of business must be sufficiently heterogeneous that any statistical bias can be avoided.

For example, an insurance company wants homes built in many communities by different contractors with different brand products so that one wind, or fire, or shoddy contractor, or malfunctioning electric motor cannot distort its loss experience. Similarly, the mechanic on one truck line might distort its loss experience by his mistakes in servicing a few brake cylinders, a potential bias of normal experience which is lost in the averages of thousands of homeowners and hundreds of truck companies, no one of which could create adequate reserves to meet its maximum potential loss without the help of insurance.

When FHA first began its operations, it attempted to construct from the disastrous mortgage losses of the Depression a complex mathematical model to determine rates and reserves. The FHA devised an actuarial equation parallel to

the prospective reserve method of life insurance, beginning with a classification of borrowers and properties according to a risk-review matrix. An annual premium for its home mortgage program was set at .5 percent of the outstanding loan value at the beginning of each year, payable monthly over the life of the loan. In addition to the requirements of administrative reserve expense, this premium base provided for both a basic insurance reserve and, in the case of MMIF Section 203 loans, a participating reserve account for the payment of terminal dividends on an actuarial share basis to mortgagors at the time the mortgage was amortized. The actuarial formulas included detailed assumptions as to real estate price levels, annual foreclosure frequency, and cyclical annual foreclosure loss severity, reflecting Depression-magnitude losses and annual group loss experience.

By June 30, 1957, the FHA Mutual Mortgage Insurance Fund had collected $758 million, 72 percent from premium, 19 percent from fees, and less than 9 percent from other sources. Administrative expenses alone of more than $308 million amounted to 41 percent of total income and to 56 percent of premium loss. Only $4 million had been used to meet losses on acquired property.[1]

The financial history of FHA provided a basis for constructing the rating assumptions of the private guarantor by proving what should not be done. The extra-high administrative costs exceeded the losses which overly exact procedures might have eliminated, and the economic events following World War II had proven it was impossible to forecast long-term price levels. Further, the FHA experience reveals that virtually all losses occurred during the first 10 years of the loan term and net losses on default occurred only in the case of high loan-to-value ratio mortgages. The high administrative costs were directly related to the fact that the FHA usurped the roles of appraisal and credit analysis of the local lender, and the terminal dividends paid at the end of the full mortgage term to borrowers represented something of an overcharge.

For rate making, the private guarantor assumed that great administrative savings could be accomplished without a corresponding increase in underwriting errors. In lieu of the elaborate FHA forecast of losses, the private model anticipated there would be a normal, predictable level of annual random domestic upsets causing a modest level of claims and, in addition, there would be the possibility of some future economic recession requiring massive amounts of money for relatively short periods of time.

Therefore, it was decided to create a cumulative contingency reserve for the payment of claims due to adverse economic cycles equal to 50 percent of earned premium and to accumulate these funds 120 months before being subject to income tax or any distribution whatsoever from the company. Only when claims exceeded some annual maximum could the mortgage guarantor apply to state regulatory authorities for permission to pay excess losses from this contingency reserve. Such a technique was similar to that used to accumulate reserves for earthquake insurance and other catastrophe coverages with unpredictable long-term cycles.

The contingency reserve retained 50 percent of the premium earned both on policies that were still in force and those which had been canceled (of which most were before the end of 10 years). Short-rate refunds were charged against premiums written rather than this reserve so that it would compound at a rate

faster than the total mortgage balance insured, although it would lag premium written. Since mortgage default insurance was insuring to some degree against losses that were the consequences of economic cycles of unpredictable magnitude and timing, it was important that the contingency reserve accumulate as rapidly as possible without having to meet ordinary random losses, and that there be initial financial mass in the form of stockholder capital to meet an unexpected economic reverse during the first 10 years of the company, when premium written and liabilities incurred would greatly exceed premium earned from which the contingency reserve was to be accumulated.

Premium for a single-family home loan is $35 application fee (refundable if rejected), 0.5 percent of the first-year mortgage balance, and 0.25 percent for the next nine years. Although the mortgage guarantor cannot cancel coverage unless the premium is not paid, the lender may choose not to renew or to cancel at any time during a year, with privilege of a short rate refund. A single-premium payment alternative is available for three to 10 years' coverage to eliminate penny-ante bookkeeping each year. Moreover, these intermediate-term policies permit the lender to tailor coverage so that it expires when the amortized loan reaches some predetermined loan-to-value ratio, such as 75 or 80 percent.

As this need for financial mass was understood by insurance regulators, most states followed the California precedent of requiring as much as $2 million of initial capital and surplus and of ruling that the maximum amount of insurance issued could not exceed a ratio of 25 times policyholder surplus. Policyholder surplus was defined to include the stockholder equity, paid-in surplus, retained earnings, and contingency reserves. The maximum liability of the mortgage insurer is generally defined in most states as 20 percent of the outstanding balance of mortgages insured.

Moreover, the insurance regulators quickly raised the minimum capital required for a license as a mortgage guarantor to levels higher than any other line of insurance or, indeed, the total capital and surplus required of a multiple-line insurance company operating in the property and casualty insurance area or in the life/accident field. Despite these exceptionally high minimal capital requirements, the 25 to 1 ratio and the need for national scale of operation have made the practical level of minimum capital even higher, so that the relatively new companies have initiated operation with impressively large resources. Foremost Guaranty Insurance Company began in 1973 with $5 million in capital and surplus in Michigan, PMI began with $20 million in capital and surplus in California last year, as did Investors Mortgage Insurance at its inception in 1969! Despite these tremendous capital resources, private mortgage guarantor insurance companies are not permitted to underwrite any other type of insurance.

This concern of both insurance regulators and private industry for achieving massive financial reserves or policyholder surplus reflects their realization that current rate structures have yet to be tested by a true economic recession. Computer simulation models indicate that the policyholder surplus of most companies is capable of meeting the obligations that would arise from a depression of the magnitude of the 1930s, but much of this policyholder surplus in the young industry has been contributed by stockholder risk capital.

The rate and the reserve system are not intended to encourage, or to pay the consequences of, indiscriminate extension of mortgage loan credit, and

therefore a system must be established to avoid adverse selection of marginal borrowers and properties or distributions of loans which substantially deviate from national and regional patterns and distributions. To this end the private guarantor must maintain ongoing review of credit officers, credit institutions, real estate information sources, and real estate markets.

The insurance selection process begins by the limitation of eligible lenders to regulated financial institutions having regular banking hours and by a review of the applicant financial institution by the guarantor as to its appraisal, servicing, and lending procedures as well as operating experience before the guarantor would issue a master policy permitting the lender to submit mortgage loans for insurance coverage on an individual basis. The importance of the process is underscored by the recent rules for acceptable private guarantors promulgated by the Federal Home Loan Mortgage Corporation (FHLMC) under its audit requirements in Section 125.3 and .5. Any time after acceptance of a lender from this preselection process, the master policy could be canceled for any lender whose procedures and submissions are not found to be consistent with the utmost good faith requirements of the insured/insurer relationship.

The individual mortgage loan submissions are given cursory review by the private mortgage guarantor/underwriter to detect a bias in the application or in the originating lender which indicates a non-normative property or credit situation. This process combines a review of the application to determine that all necessary documents are provided and complete, and a search for certain combinations of factors descriptive of the property or the borrower which would lead to rejection of the application. Both the private industry and FHLMC are developing automated computerized underwriting review methods.

Even with manual methods, the private guarantor/underwriter averages six to eight minutes per loan submission, as compared to 11 minutes by the FHLMC buyer operating in a secondary mortgage market. These review times can be compared to one or many hours of analysis and interviews by the originating lender, and underscore the fact that the guarantor is insuring against the bias or error in the lending process of the originating lender and not making credit decisions. Obviously the skills required of the mortgage loan underwriter and the pattern of his decision making are substantially different from the skills of those involved in making and servicing mortgage loans. If a loan officer incurred as many losses as would be normal for the guarantor/underwriter, his job would be suspect.

The initial application fee began as a device for funding spot checks of appraisal reports or credit reports which are so important to the mortgage loan transaction. Independent appraisers are hired to appraise the property already selected for mortgage loan insurance in order to measure and observe the appraisal skills and liabilities of the mortgage lender and his agents. For lenders who have only recently received a master policy, these spot checks might be made on one of every five submissions to detect a pattern of bias in the appraisal submissions and, as confidence is established, this might be reduced to a random audit selection of one out of 20 for reappraisal by appraisers specially selected by the guarantor and independent of the lending institution involved.

Spot checks of credit reporting agencies are continuously conducted to identify the reliability of each local agent, and this information is shared with the

lender and the agency to force continual upgrading of credit reporting firms. Of course, delinquency and default reports are required monthly from insured lenders and reviewed to identify possible contributing causes in terms of lenders' debt-servicing policy, neighborhood and property analysis, or concealment of information. These reports provide a basis for the guarantor establishing detailed loss-payable reserves as a charge against current income in advance of actual claim submission. All of the guaranty companies have noticed a tendency for lenders to use the guarantor as a means for rejecting a mortgage loan request from a favored bank customer or for additional subtle pressure to correct a delinquency.

Through this process the guarantor depends on the good-faith performance of the mortgage lender, and so a variety of features in the system are intended to keep the lender from serving his self-interest at the expense of the guarantor. Private mortgage loan insurance is the only insurance with a statutory prohibition against payment of commissions to persons who benefit from the insurance, i.e., the lenders. Since the guarantor may pay a maximum cash award of 20 percent of a mortgage balance plus allowed costs in lieu of complete liquidation of the lender's investment in return for property title, the lender could be forced to incur some postclaim losses as a penalty for what the guarantor believes to be a loss arising from negligent credit analysis or mortgage services.

The mortgage guarantor also uses local appraisers to provide independent analysis of supply and demand in communities where the guarantor has potential exposure. Because of his regular contact with thousands of lenders on a daily or weekly basis and his ongoing investigation of claims, the private guarantor has naturally become a clearinghouse for real estate market data. Several of the guaranty firms operate subsidiaries which serve as conventional secondary mortgage market data agencies. On the basis of their nationwide experience, the larger firms are in the process of developing new computer techniques for loan analysis, claim administration, and real estate forecasting.

Thus, mortgage guaranty insurance is built on a system which depends on independence from the act of extending mortgage credit in order to objectively review the decision for possible bias or negligence in exercising banking skills in credit analysis, valuation, and maintenance of portfolio liquidity and profitability. Hopefully, the guarantor will achieve averaging of risk inherent in the diverse viewpoints of lenders by property type, neighborhood, loan ratio, servicing agent, and year of loan origination. Successful averaging would require a national distribution of insured loans so that the averages would reflect offsets of local and regional highs and lows in the employment cycle and real estate price cycle. This diversification to achieve stabilized annual results can be illustrated by the experience of Seattle during the retrenchment of Boeing, or Huntsville, Alabama, as a result of a reduction in workforce at the Redstone Arsenal.

The local lender is hard-pressed by the consequences to real estate prices of mortgage delinquency, while the national guarantor averages these losses against the absence of current losses in growth areas. Obviously, economic downturns cannot be foreseen or, in many cases, local lenders with a vested interest in maintaining growth and investment optimism in their town dare not withdraw from the mortgage market lest their actions aggravate the process of economic readjustment. Even though local citizens may understand trends in

their own community, they may not be any more effective in changing their investment decisions than is an internal auditing department when it attempts to correct management policy within its own firm.

VI. Conclusions

From this review of the insurance methodology of the private guarantor, it is evident that the primary mission of the guarantor is to insure against the consequences of the economic cycle as it erodes the security of a mortgage loan, or the failure of required banking skills to foresee all the contingencies which could lead to random upset of the mortgage loan under circumstances which would not permit full recovery for the lender from the collateral pledge of real estate. In order to stabilize against economic cycles, the guarantor is required to have broad geographic diversification and substantial financial maps in the form of capital, retained earnings, and contingency reserves of far greater size than other insurance lines. Mortgage loan guaranty insurance is no more complementary to a banking customer service than reinsurance is a complementary service to the fire insurance policy owner who is generally unaware that a portion of his policy risk has been ceded to another company for purposes of financial stabilization of the insurance company which originated the policy.

It would make no sense for a lender to insure the surveyor for his errors and omissions, or the lawyer for his title opinion, or the property owner for physical loss of the property, as such pledges by the lender would not shift the consequences of error and loss beyond the balance sheet of the lender and its affiliates. On the one occasion in history when banks and mortgage lenders did provide all of these services as a one-stop service, the loss of the objectivity inherent in perspective and the opportunity for conflict of interest were the principal hazardous conditions which led to the disasters reported in the *Alger Report.*

It is difficult to conceive, on any basis—conceptual, operational, or historic—any relationship between mortgage insurance underwriting and banking which could be considered close. It is also difficult to foresee how entry by banks into the mortgage insurance industry could produce any benefits substantial enough to outweigh the inherent and obvious damage such entry would entail to a viable, sound, and needed insurance service.

Note

1. See U.S. Senate Subcommittee on Banking and Currency, "The FHA Mortgage Insurance Premium—An Analysis and an Alternative," *Study of Mortgage Credit* (Washington, D.C.: U.S. Government Printing Office, 1959), p. 324.

PART VIII
LAND USE PLANNING

Introduction to Part VIII

"The real estate process is the dynamic interface of all three cash-cycle enterprises—the space user, the space producer, and the public infrastructure—who all arrive at a compromise solution which ultimately impacts upon the land."

Redefinition of Fundamental Real Estate Concepts as a Key to
Land Use Control and Investment Strategy
Washington, D.C., and San Francisco: ULI and Gruen Gruen + Associates,
November 1974

"Jim has a tendency to want to be a planner. At times, when we hire him, we get more than we pay for."

The Chief
From Isthmus newspaper
July 26, 1985

In the field of urban land economics and land use planning, Graaskamp liked to say that others were the brains and he was the mouth. In fact, he applied a great deal of his brainpower—and his mouth—to these disciplines.

Unfortunately, most of Jim's work in this area took place in city council meetings and board rooms—and occasionally was replayed in the newspapers—but so many of his strong opinions on planning were never written down. A talk, class notes, and an article make up this part.

Jim believed that all real estate investment involved both discounted cash flow analysis and public use issues. He was widely viewed as an iconoclast and curmudgeon with unorthodox notions of intelligent planning. As such, he often sounded cynical and pessimistic. But the message, if one analyzed it and its intellectual underpinnings closely, was essentially optimistic: the pervasive notion was a public/private partnership where profit making would be balanced with the common good.

Redefinition of Fundamental Real Estate Concepts as a Key to Land Use Control and Investment Strategy

James A. Graaskamp

As a property developer turned real estate professor, I have an obligation to make common sense difficult when approaching the subject of property rights in land and the issue of land use control. To approach control from a business strategy viewpoint, consider a few basic definitions or concepts upon which we are building our entire real estate program at the University of Wisconsin. We distinguish between real estate, the real estate business, and the real estate process.

Real estate is defined as artificially delineated space (cubage) with a fourth dimension of time, given a fixed reference point to the surface of the earth. That definition includes areas marked by a pylon on the Nile, time-share condominiums at Lake Tahoe, or a space lab hovering over a fixed bearing point on Earth. The real estate produced is always described in units of space-time, apartments by the month, square footage by the year, rooms per night, tennis court hours, or event days for coliseums; and today, a wilderness area is artificially delineated and protected—a forest eternal.

Understanding a real estate problem first requires definition of the basic space-time unit involved. In our town, medical space is no longer the doctor's office per year but rather the clinic per decade, the time it takes for medical science to make the facility obsolete. To the space-time abstraction can be added additional attributes of HVAC [heating, ventilation, and air conditioning], beauty, or functional capability needed to house a specific activity within that space-time envelope. All real estate improvements are essentially devices for artificially

This transcript of a talk presented to clients of Gruen Gruen + Associates in November 1974 is reprinted with permission.

delineating space or providing desired functional attributes. Legal instruments are primarily concerned with the definition of time, in terms of how long to include or exclude or benefit, and the "what if's" of changes in condition over time.

It was ever thus. Somebody rolled a rock in front of a cave at some point or other and artificially delineated that void from the rest of the natural void around it. Essentially, therefore, the economic product of real estate is not in hardware, but in the space environment which it encloses. It is the void which is productive and the solids which are in fact mostly negative benefits.

The *real estate enterprise* is concerned with the conversion of space-time to money-time. Real estate enterprises are any organized undertaking controlled by a cash cycle, a definition which includes the space user, the space producer, and the public infrastructure. For example, the producer of real estate space begins with the basic unit of product. A 100-unit hotel provides 36,500 room nights of inventory per year and, to convert the space-time unit to a money-time unit for the producer enterprise, it is necessary to make a great many assumptions about the occupancy ratio (divided among many consumer groups for the transient, the tourist, the minivacation crowd, and so on). Each may provide a different average price per room night, a different occupancy potential, a variety of derivative costs and revenues, all of which must be projected over long spans of time. Risk for this cash-cycle enterprise is the variance between its pro forma assumptions and its actual accounting realization. Much time is spent devising ways to lay off the risk of variance by means of fixed-price contracts, escalator clauses, leasing strategy, and financial structures. More on that later.

Space-time and money-time are reversible equations, as land planners and architects discover when plans are reworked to provide more acceptable sets of financial assumptions about a real estate proposal. The basic function of the space producer is to create artifacts which generally ease the fit of people to the land. The rock at the cave entrance (the world's first solid-core door) was, in fact, easing the irritation that man found with the land in its basic form, by either making the cave more exclusive, more protected from the elements, more defensible, or whatever. All of the attributes which we attach to our space-time improvements are designed in one form or another to reduce an irritation or anxiety of particular people. Perception of those needs is the source of a marketing edge for the producer.

The *real estate process* is the dynamic interface of all three cash-cycle enterprises—the space user, the space producer, and the public infrastructure—who all arrive at a compromise solution which ultimately has an impact on the land. At the University of Wisconsin we teach that the land is a finite natural resource—at most a public utility, and more likely a more restrictive public stewardship. Within their cash means, space users express their cultural preferences collectively through the body politic and individually through the marketplace. Collective space user requirements are provided by the cash-cycle, public-infrastructure enterprises including school boards, sewer districts, and all manner of government entities. The space producer can only respond where he can meet individual space-user requirements within a framework of public infrastructure and mutual solvency.

Suburban family home production falters when all families cannot afford the monthly payments, apartments are abandoned when there is no future hope

of eliminating negative cash flows, and cities like New York crumble from inept cash management and land planning, to the financial loss of space user and space producer. In short, the interface of consumer, producer, and public agency involves cash-cycle enterprises with a common need for solvency, both short and long term. A socially desirable equilibrium occurs when the real estate process serves the needs of cultural preference within the constraint of land as a resource in a manner which permits the consumer, producer, and governmental cash cycle to achieve solvency including the cash costs of money. Solvency provides a tool for resolution of public/private conflicts where value, which depends on subjective capitalization of cash, does not. *Axiom: Solvency of the total process, not value of the parcel, is the critical issue.*

These simple definitional building blocks for analysis of real estate dynamics and the axiom above contain some startling implications and insights for both planner and investor.

1. Land is first a resource and secondly a device to control space-time potential, convertible to money-time only under conditions of uncertainty and only due to utility creating elements of money and expertise. If the most fitting use for a particular site must consider the sum of the economic costs and benefits for consumer, producer, and the public infrastructure, then the concept of highest and best use falters since it is constrained only by what is legal, prudent, and solvent relative to costs internal to the borders of the site. The classic definition of highest and best use, the cornerstone of fair market value, is therefore highly suspect.
2. But if the sophistry of appraisal theory could readjust the definition of returns which is fundamental to determining the highest present value among alternative uses, it falters further when cash flow projections rather than economic surplus is the game. Classic economic surplus is dealing with long-term projections from a single set of assumptions under a fictional scenario which may be internally consistent but which depends on the assumption of certainty. However, cash flow techniques can permit analysis of potential variance in any set of assumptions. Professional appraisal organizations are already in ferment on the need for restructuring appraisal theory to accommodate probability analysis.
3. There is considerable legal support for the view that interest in a real estate right is ultimately a cash interest. Eminent domain can make awards only in cash and not in kind, and many challenges to the constitutionality of police power succeed on the basis of the damage caused by public action as measured in terms of a reduction in cash-liquidating value of the property relative to the owner's cost. Judges certainly are confused as to whether the benchmark of damages is historical cost or potential expectation.

   Recognition by the courts that the purchase of land is no more than acceptance of a set of assumptions and that those assumptions are vulnerable to a great amount of variance will lead the courts to address the question of why the public must compensate the owner for expectations with little provision for variance and the singular skill necessary to capture the opportunity. Even the deer in the woods is common property until the hunter's skill captures the opportunity, and certainly more skill may be required today to develop the land successfully. Why not compensate the owner for cash costs

in the event of a taking rather than the fictional scenarios of certainty in fair market value? Is not a future opportunity common property in a free enterprise system?

4. If solvency of the process is a necessity because insolvency of any one of the parties—producer, consumer, or public infrastructure—leads to the deterioration of the cash position of the other two, then these elements must solve their problems in concert rather than confrontation. Cash equilibrium, as I understand it, is the core of the impact zoning concept presently being debated by lawyers and planners alike. (Computer models exist that can simultaneously produce the cash consequences of any land plan to the developer, consumer, and community and that could permit these vested interests to search for a mutually acceptable land use mix and distribution of financial responsibility. But beyond that, it is my observation that few people object to a profit system as long as they are within the system dividing up the profits.

   (A lot of people feel they have been excluded from such surpluses, either because they don't understand the accounting or because they are conditioned to the old-fashioned static concept of real estate as a privately owned parcel rather than a cash flow enterprise with as many vested interests as there are related spin-off profit centers. One can coopt the socialists, the rent control advocates, the outright Marxists, or the environmentalists once they understand the primary and secondary cash flow consequences on rent levels, home prices, real estate taxes, or other redivisions of profits that occur as a result of their proposals.)

What then is the nature of private real estate enterprise, and how does it accommodate and adapt to increasing public control? My daddy taught me that free enterprise is the art of creating your own monopoly, if only for a moment, because you never compete on price. As soon as you compete on price, someone else will do it for less, and by the time he knows his costs you're both broke. There's nothing wrong with monopoly—it's always been treated as a dirty word, but it's not—it's a risk management device which controls variance in the cash flow outcome. To control a real estate project is to hold captive an enterprise which must buy large amounts of services, and each service is a potential profit center.

The essence of the real estate business is providing services, including access to land, construction, insurance, architectural and engineering services, and hopefully economic consulting services, too. To the degree that you control the project (as land owner or general partner), you can divert the cash cycle of that enterprise to purchase those services where the residual profit centers accrue to your benefit. All of the outlays necessary to create or operate the real estate enterprise represent revenue and profit centers to someone, even possibly including the real estate tax. The shopping center developer who annexes his project to a community with a higher real estate tax than before may be actually substituting the increase in real estate tax for the prohibitively high fire insurance rate characteristic of the nonincorporated area. Thus, there are more profits above the net income line or cash after the debt-service line than there may be below these points.

Real estate as a captive buyer of services leads to the interesting premise that equity in real estate is the degree to which one can control the diversion of

real estate cash cycle to increase spendable cash or liquidate net worth. If follows that everyone who controls the profit centers is a partial owner, and most of these partial owners need have no interest in the underlying fee, which leads to a number of strategy statements.

1. If equity goes with the ability to divert cash flows, then in a manner of speaking the public already owns 30 percent of all the income property in Milwaukee, Wisconsin, because it's diverting 30 percent of collected rents to the public coffers. That perspective suggests that from a planning viewpoint, public expenditures could be used to increase gross rents of the private sector to the margin justified by 30 percent annual share of the increase!
2. In Madison, this realization was partly responsible for changing plans to build a new performing arts center on the lakefront surrounded by public parkland to the purchase of an old 2,200-seat theater built in the glory days of the movies. Not only does it cost less to refurbish the existing structure, but the economic decline of the private properties on the street has been reversed, assessments are increasing, and so are cash flows to the city. The public expenditure becomes seed money which ultimately increases the city's interest in private property as well as serving the public interest in the arts.
3. Traditional semantics of ownership falter in this concept. The limited partner in real estate, who thinks of himself as an owner, has absolutely no power to divert cash flows to his benefit, so that his contingent cash flows really define him as a second-mortgage revenue bondholder who enjoys the sweetener of tax losses. On the other hand, whoever provides the service of property manager takes 5 to 6 percent right off the top, well ahead of government or mechanics, and yet the property manager doesn't need to own a thing.

Cash flows of the consumer, public infrastructure, and developer enterprises represent continuous flows which can be simulated both on the private and public sides. There are computer models which simultaneously produce the cash flows of the developer and the cash flow consequences of development to the municipality. The real estate tax revenue segments are simple, but the model could also simulate various state aids for education, roads, safety, water and sewer, and all the rest. Community planners and citizen boards could have thereby a way in which to negotiate with the developer to find an acceptable land use mix which allows the developer to meet his cash need, including cost of capital, and permits the municipality to balance its books, too.

A cash investment in real estate is really the purchase of a set of assumptions about the future. If you can't buy the assumptions, the software, you shouldn't touch the hardware. It's important for the public and the private sectors to communicate about these assumptions. Cash flow modeling forces both parties to be explicit and, where possible, empirical rather than emotional. Considerable misunderstanding and eventual litigation are inherent where these assumptions cannot be articulated and communicated or revealed as untenable. Synthesis of opposing viewpoints is possible where each viewpoint can contribute or verify the assumptions critical to its expectations.

Of course, buying a set of assumptions is the first step toward forecasting under conditions of uncertainty. Uncertainty or risk measures the variance which may occur between expectations and realizations, between your assumptions and the actual facts. Cash budgeting permits us to bring into play the strategies

of risk management, which is fairly well developed in the capital market, although the semantics of real estate disguise the risk controls of various investment positions completely. Look what this insight can do for both strategy and negotiation objectives.

1. A mortgage with an exculpatory clause is a straddle. If the project succeeds, the borrower has a *call* on its future value, and if it fails, the borrower can *put* it to the lender. Thus a mortgage is a straddle.
2. An escalator clause shifts the risk of unpredictable variance in cost from the owner to the tenant.
3. A sale-leaseback with option to buy is a hedge against the cost of money and future values of a space-time product.
4. Conversion of space-time to money-time forecasts makes real estate, for all its uniqueness, a fungible commodity with a futures market for which joint ventures trade current profit centers for future cash flows, present tax shelters for long-term residuals, and so on.

Of course the biggest risk of all for the real estate investor is finding and holding a customer at a profitable price. To control that significant variance about the availability of buyers and tenants at your price, monopoly is the ultimate risk management device of all. Monopoly advantages are almost impossible to achieve on a global scale—say, to corner the rice market—but it should be possible to corner the canary seed market in Belvedere, at least briefly. Monopolies are conceived by controlling very small micromarkets, and real estate is unique in terms of its ability to create little monopolies based on market intelligence.

It takes only 24 households to fill a 24-unit building, which at $20,000 a unit is a $480,000 asset. Roughly speaking, it will take at least $6,000 to $7,000 in gross rental per month or $75,000 to $85,000 a year in sales. Twenty-four customers and you have a little business with more assets and gross sales than would be true of more than 50 percent of the businesses in the U.S. Those 24 customers can be had when you figure out what turns them on or off, that hidden anxiety, that unmet need, and at that point, price comparison is no longer the critical competitive advantage. The cash flow cycle starts with the customer, and research on that customer is the fundamental approach to risk management. Sophisticated behavioral research in real estate is a rather new application of techniques developed in other areas of marketing.

Once it is understood that the real estate business is the manipulation of cash flows (derivative of private and public land use needs) and that ownership is the degree to which one controls cash flows, one can forget about the distinctions between public and private ownership and the traditional legal semantics. One may also forget about the traditional roles in that the public can, in fact, manipulate cash flows on the private side; the private side, by the same token, can participate in the cash flows on the public side by shifting some of its burdens to the public and, at the same time, providing some of the services at a lower cash cost than the public would have been able to do for itself. Solvency provides the opportunity for resolution where value is a perfectly subjective multiple of returns and, thus, there is no resolution of value issues.

Money-time and space-time are reversible equations, so it is necessary to combine the concepts of enterprise and risk management with artifacts and physical attributes of the space-time product. It is useful to borrow a concept

from the physical arts called "fit." Somebody once pointed out (I think it was Christopher Alexander of [the University of California at] Berkeley) that one way of critiquing an art object is to look at its "fit" relative to its context. Context, in terms of creating a vase or pottery object, for example, has to do with what is the purpose of that particular vase: is it to boil water, or is it to hold rosebuds? What are the limitations inherent in the material? If it were to boil water, what would be the coefficient of expansion of the clay? What kind of heat source would be applied and what happens to a certain shape in terms of its expansion and its potential to crack? Who is to lift the vase off the fire? All of these become elements in the context. One can't judge the success of the pottery vessel before the context is defined. To the degree that it does fit those constraints, it succeeds, even if it's ugly as sin (not that anyone can define that any more, either).

What you have to look at is the ensemble before measuring success—the interplay between the context and the form of the solution. Physical form and financial flows interact for consumer, producer, and public agency. We teach our students the concept of most fitting use—that use which is appropriate to the physical capacities of the land and financial solvency for the three groups at interest. Unlike the arrogant and limited concept of highest and best use, most fitting use does not optimize by externalizing costs or ignoring consequences of decisions in the aggregate.

Cash flow assumptions and control of variance, and the fit of the physical space-time product to its environmental, site, and market context, provide the ingredients or basic building blocks of feasibility analysis. A real estate project becomes feasible, then, when a real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for its fit to a context of specific constraints (both internal and external) and limited resources (both financial and personal). Now notice that we said "likelihood"; we haven't quite reached the state, although we do have density models for financial planning, where we can say "probability." But we can still call a project a nag or a front-runner; we can still distinguish on semantic probabilities even if financial mathematical and statistical ones are not acceptable at this time. And notice "explicit objectives." The real problem is first defining what it is you want, because otherwise how are you going to know when you get there?

Perhaps this is why it often seems the consultant is looking at the client's watch and telling him what time it is. We do have to know what kind of time you are on, or how will we know if you are on schedule? I see by Claude's watch it's time for me to stop.

Notes on Urban Renewal Land Use Appraising

(Class Notes)

I. *Reuse of land in urban renewal areas may be by public or private agencies and is always subject to highest and best use as it is seen by the planning agency, rather than as it may be understood by the user or the appraiser.*

   A. *The appraiser must appraise urban renewal land from what might be if certain conditions did or did not prevail. For instance:*
      1. *If the local public agency will sell the land to another government agency, he must appraise the lands as though they would be utilized by an appropriate private use compatible with the redevelopment plan.*
      2. *If he is appraising land to be offered for development, he must keep in mind whether the developer would do, and pay for, the opportunity to operate within tight ownership and use controls imposed by an urban renewal agency concerned with social rather than economic requirements.*
      3. *While demand statistics must be general for lack of clearly established linkages, projects proposed by the appraiser must be easily demonstrable as justified by demand, and not overly speculative.*
      4. *Political variables and municipal schedules may be indeterminant so that the time period of present value calculations is unknown.*

   B. *The best tool of the appraiser is market comparison, but it is difficult to find comparables or sites of the size and location of those in the urban renewal areas.*
      1. *The geographic area of comparables expands to the community at large or the national market for certain kinds of projects.*
      2. *The definition of comparable remains broad and relative to the planner's intended use rather than highest and best use.*

3. *The appraiser has to sketch broadly the fictitious marketplace in terms of urban renewal participants more often than highest and best use—most probable buyer.*

C. *In reuse appraisals, the appraiser is a combination urban land economist, city planner, and broker who is asked to find an economic rationale for what the planners wish to do, generally for noneconomic reasons.*
   1. *The acquisition estimate is a mass appraisal problem and then evolves into individual eminent domain appraisals.*
   2. *The land use marketability study is an urban land economics study supporting a proposed plan and at least identifies the planner's definition of highest and best use.*
   3. *The reuse appraisal is the most difficult, because it is advisory and requires a combination of economic and social interpretation as well as broadly analyzed alternative use sales comparables within the standards the local planning agency is likely to impose in regard to unit density, ground coverage, building height, rental ranges, etc.*

II. *It may be that the appraiser is establishing in a reuse study parameters of demand, rents, operating ratios, and land-to-improvement ratios for alternative land uses to guide the planners in their final allocations of space.*

   A. *For example, the appraiser may collect land sales prices for recent projects that suggest prices developers are willing to consider. Assume a developer pays $50,000 for a 100,000-square-foot site for an office building. Ground coverage of the specific building is 25 percent, and the building is two stories high or has 25,000 square feet of rentable area. It follows that the developer is willing to pay $2 a square foot for land for such a low-rise office building.*

   B. *On the other hand, the appraiser may need to determine reuse values for rent levels prescribed by the planner rather than the free market. The rationale for the value of land might be based on a residual land value, assuming comparable operating ratios and construction costs of certain selected properties and current or forecasted debt-service requirements. Comparables are used to justify expense or cost estimates rather than land values.*

III. *The reuse appraisal may become a prospectus, in short, for a land development project, and the supporting evidence may be summarized in terms of pro forma statements for the development company.*

Comment on Reuse Appraisal

(Class Notes)

I. *Urban renewal administratives shape final plans for reuse of cleared areas and negotiate prices for resale with the aid of guidelines for the highest and best use as established by a reuse and value appraisal.*

   A. *Generally, the local public agency is interested in selling the land for the highest price possible to reduce the writedown, and for the greatest improvement value possible to increase assessable tax values.*

   B. *The redevelopment plan must therefore be not only socially desirable but also good business for the developer.*

   C. *Since use and value are inseparable, land utilization studies to identify the best available use for cleared land and the proper allocation of land among different uses is, in fact, a valuation study.*

   D. *The object is the combination of uses that will produce the highest present value for the land, and the appraiser cannot presuppose a determination of best use. Therefore, he must structure his report to some theoretical and logical framework.*

   E. *A point of departure is the principle of substitution. A well-informed potential buyer will consider all alternative sites to the one under consideration, comparing them feature for feature. The appraiser must think in terms of how the buyer actually does this and identify what reasonable alternatives are available to the buyer.*

   F. *When the renewal site is relatively small and there are a number of satisfactory substitutes, this approach boils down to the usual form of market comparison technique. However, the appraiser should be aware of who would qualify as a developer, for it may be necessary to attract the out-of-town*

developer. Prices of similar renewal sites in other communities may place a ceiling on local prices.

II. *The problem is that many urban renewal sites are unlike anything else in town so far as scale and location are concerned. Nevertheless, comparability calls for at least the following:*

   A. *Each comparable site should be suitable or adaptable for substantially the same use as the land being appraised, and such use should represent the best use for both sites. If the sites used for comparison can meet this test of being competitive, they are called "comparable."*

   B. *Since a cleared site may not be sufficiently similar to meet overall comparison, it may be possible to measure the degree of inferiority or superiority of one site over another by separate comparisons of each attribute of the site.*

   C. *Differences between appraisal site and comparable sites may affect utility and value as they affect cost of improvement, income power, or expense requirements. Using common denominators such as a square foot of land or building, each deficiency or advantage can be reduced to*
      1. *A lump sum difference in land value, or*
      2. *A lump sum difference in development cost, or*
      3. *A difference in annual capital value of developed property*

   D. *James McCormick of URA [Universities Research Associates, Washington, D.C.] [maintains] that analysis of variance rather than absolute amounts can produce more accurate appraisals. He urges breaking down income, expense, and cost analysis to partial aggregate analysis. It is his opinion that the probability of error is reduced as variables for comparison purposes are reduced in size and increased in number. Presumably the errors will be smaller, while the increase in numbers will permit the law of compensating errors to have more effect in stabilizing results.*

   E. *McCormick calls this the variate-difference valuation method. To simplify partial comparisons, McCormick suggests that urban renewal sites will differ to a greater degree from competitive sites than the latter would differ from each other. Therefore, he thinks a two-stage appraisal process would reduce the number of detailed comparisons by resolving the comparables into a hypothetical synthesis of established value. Then compare the synthesis to the urban renewal site. Thus, market data would be distilled into benchmarks broken down into partial aggregates that would reveal significant differences in cost and operation.*

   F. *Having isolated differences in terms of net annual income, the differences could be capitalized according to the land residual method and these differences then added or subtracted to the basic market value for land with the supposed use.*

III. *The appraiser has a major role in urban renewal. Two sets of acquisition appraisals are generally required. Generally, one set is done on a mass appraisal basis, like that for tax assessment purposes, when a project is first put together and proposed for approval by various government agencies.*

A. *When the project reaches the execution stage, properties must be valuated again as of the date of taking. This is similar to others we studied for eminent domain. However, it does have some special problems worth noting:*
   1. *In partial takings of property, the before-and-after value requires special imagination as to how the new uses of cleared land will affect the value of land not taken.*
   2. *How does the appraiser penalize structures which are violating building codes? Urban renewal officials tend to feel that value should be diminished by the cost of cure for the deficiency.*

      On the other hand, those representing owners argue that slum structures are freely traded in a market which will take its chances with possible code enforcement so that returns and prices reflect the probability of such enforcement. Hence, they should not be subject to a double penalty.
   3. *Generally the appraisal committees take the position that if sufficient market data are available, the market's reaction to the prospective code enforcement is implied in the risk rate and therefore in the price.*
   4. *Then there are the problems of the Mamie Reillys of this world. This is the classic urban renewal case in which the present values of a series of financial interests in a rooming house exceed the market value by a considerable amount, so that it is necessary to condemn each individual interest to avoid leaving the nominal owner without land or solvency.*

B. *Land utilization and marketability studies are often referred to as LUMS. The appraiser is interested in trends and movements of local economic activity affecting the market. It is both land use study and urban economics, and many appraisers and engineers come apart at the seams. Much garbage has been done in this field.*

C. *Review of the existing local market for land and building suggests what kinds of land use are in demand, but the appraiser must adjust his view of the existing scene to the interjection of a new neighborhood in the urban renewal area before he can project future land and building needs. In short, the future almost never duplicates the past, and so the appraiser must estimate how the future statistics will vary from the past and why.*

D. *In recent years the appraiser has been called on to provide not only guidelines on pricing but, in addition, a marketing plan by which these prices can be realized. Real estate is generally not bought; it is sold.*

E. *Reuse appraisal requires an interchange of ideas between the planner and the appraiser as the project develops, so that the appraiser's suggestions as to highest and best use can be reduced to concrete unit proposals which meet the planner's design for density, social uses, etc.*

IV. *The usual approaches to value in urban land reuse studies falter for lack of information or truly comparable properties.*

A. *The market approach has its troubles, as noted before. Some appraisers have tried to create special units of value which will better provide comparability between and among sites: land value per dwelling unit or land value per*

square foot of building area permitted on a commercial site. Many urban renewal markets are regional or national. Apartment developers and motel operators may indicate in their last deal in another town what they feel land to be worth in a new development.

B. The income approach and residual land method mean that land value is sensitive to income and cost projections and, because reuse plans are fairly vague at the time of appraisal, the residual land value has the potential of high error.

C. Special value attaches from the high-leverage financing possible with FHA-220 and FHA-221.

D. Some appraisal reports are directed to special studies as to absorption rate, price trends, or special proposed land uses not included in the original plan.

V. Urban renewal introduces technical problems on every aspect of our study of urban economics. In our discussion, I would like to touch on four typical questions of policy and applied urban economics:

- *What value should the owner of condemned land be paid?*
- *How should the residents of a renewal area be relocated?*
- *How should cleared land be sold to the developer?*
- *How do we accomplish rehabilitation and conservation?*

A. The real estate appraiser has a heavy responsibility in the urban renewal process.

1. *First, he must provide an acquisition appraisal which attempts to estimate the cost of acquiring an entire area so that the planning department can have preliminary budget figures to determine feasibility.*
2. *The appraiser will be required to provide land utilization and marketability studies for the community in order to recommend land use possibilities for the area under study as a possible renewal site.*
3. *An appraiser will do a reuse appraisal which attempts to determine value of cleared land when it is available for specified reuse purchases under the special conditions and standards which will run with the land sold by the urban renewal authority.*
4. *There is also opportunity for special study reports and consulting with both public agencies and private investors.*

As you can see, the demand for appraisal talent has increased much faster than the personnel available. Those in the field with established reputations command high fees, and a young man can enter the field and do very well.

B. The appraiser is concerned with value. There is a tendency for the appraiser to emphasize technique in resolving value in any given situation but, since his decisions determine the dollars and cents of renewal, he is in a sensitive position of equity.

C. There are two basic problems in the acquisition of condemned property for a fair value. The first arises from the city's failure to strictly enforce the housing code. Rental property is valued at the capitalized present value of future income. If actual income is projected, one value might be the result.

But if income were adjusted to provide money for repairs, income would be lower, and hence value.

It does not seem right that the government should have to value a building which required immediate repair to the fire escape, using a net income figure which includes deferred maintenance and avoidance of legal responsibility. Such is the case, however. The sellers may argue that the city never enforced the building code and the slum buildings were bought and sold at prices which ignored cost of repair because no one expected to have to make them. Since appraisal deals with the price that would be paid by a willing buyer and willing seller, the appraiser too would overlook a charge on value to make repairs required by the building code.

Recently, courts have been willing to accept cost of repair for major code violations as a deduction to capitalized income value.

D. *Another inequity occurring in slum areas, and a frequent problem in acquisition, involves the poor owner who has saddled himself with mortgages worth more than his property. Payment for the property at market rates would leave him in debt without any house.*

The famous case of Mamie Reilly of Washington, D.C., involved a poor old lady who had three or four mortgages on her boardinghouse that far exceeded market value as determined by the appraiser. With her room rent she could meet the payments, but without the property she would be bankrupt.

Her attorneys argued that the value of her house was what she had paid for it, and the sum of her three mortgages represented what she paid for it. The court did not agree with this measure of value, but it did feel that there was inequity and demanded that the case be retried and a new price set by appraisal.

Perhaps it would be more fair in the case of Mamie Reilly to condemn the interests ahead of hers. Assume Mamie bought the property on a land contract and that the seller still had a first mortgage on the property. Mamie would look on herself as the owner, though technically title remained with the seller. If the renewal authority wanted to look after the Mamie Reillys in life, they might condemn the first mortgage holder and seller on the land contract and buy a quit-claim deed from Mamie.

However, the problem is then one of measuring the true value of a mortgage interest. If the property has serious violations of the code, is located in a slum area, it is unlikely that the purchaser could borrow from the bank.

Therefore, most such properties are traded on land contracts, purchase-money mortgages, trades, and the like. However, prices are inflated to reflect the cost of financing. We might sell a rooming house for $25,000 cash or $40,000 in land contracts.

The appraiser must be very careful to differentiate between the values paid for property itself and inflated values representing the premium paid for financing an illegally operated property. True of all real estate markets, this problem is just much more prevalent in slum areas.

E. *City administration also causes another problem. Often the central city areas have not been reassessed for tax purposes for many years. Annual tax*

expense is therefore understated, while income is overstated, so the property is overvalued.

1. *The city could save itself much money if it would enforce the housing code and keep tax assessments current, for these efforts would hasten the economic exhaustion of slum properties.*
2. *However, cities have not done so for many years and so a change in policy would devalue the home value of many innocent purchasers, who would lose their equity interest.*
3. *The second step would have unfortunate political consequences to local officials. On the other hand, overpayment for properties means all the taxpayers are suffering to pay to protect a few. Fortunately for the local politicians, Uncle Sam pays two-thirds of the net cost and hence two-thirds of any overpayment. Local taxpayers aren't hurt as much and local aldermen can continue to protect their wards from aggressive enforcement of the housing code or tax assessment.*

VI. *Relocation of businesses and families within an area slated for renewal is perhaps the most critical problem for the local renewal agency.*

A. *If the relocation phase is not managed successfully, renewal can do enough damage to families and businesses to create a wave of reaction which will generate sufficient political force to stop the urban renewal process itself.*

B. *On the other hand, relocation is a difficult business at best—slow, and tied to a tremendous variety of human problems. For example, in Madison, in relocating one family it was discovered that the husband was an escaped prisoner, and he was relocated to Waupun [prison in Waupun, Wisconsin]. Mother was found to have mental and narcotic problems, and she too was relocated to a state institution. The children were relocated to foster homes in and around Madison.*

C. *Urban renewal is the only program of condemnation which requires the public agency to find suitable alternate quarters for those moved. At the end of 1960, it was estimated that 260,000 families were to be relocated from 495 federal projects in the planning stage. Today we have almost 700 projects, and it is estimated that total annual displacement from all urban construction programs may be three times that caused by urban renewal alone.*

D. *If relocation takes too long, is too gentle in bumping people out of the area, the project drags on and sunflowers sprout in empty lots and vacant parcels surrounding lonely and stubborn survivors. The voting citizens, seeing this lack of progress, would again challenge the need for urban renewal. The urban renewal director walks a thin and difficult line between political reaction from aggressive progress and loss of political support for failure to move ahead.*

E. *Relocation is not all bad. Records indicate that 80 percent of families moved were living in substandard housing before the move but that only 7 percent were known to have relocated into substandard housing. There are numerous stories of people who began new lives with relocation, and new business quarters for many sparked a tremendous renewal of morale and business spirit.*

F. *In order to qualify for federal aid, a local public renewal agency must have its plan for relocation and standards approved by the federal urban renewal authority. The law goes further and provides federal funds up to a limit of $200 per family and $3,000 per business for reasonable and necessary moving expenses and losses of property, since these costs are not included in a condemnation award.*

G. *This same concern for relocation has been suggested as an amendment to the federal highway program, and several states have passed laws requiring payment of moving costs to those displaced by any form of public acquisition.*

H. *Before obtaining a federal grant, the local public agency must show that the supply of public and private housing is sufficient to supply the displaced families with acceptable housing units at rents they can afford, in acceptable areas, and properly located to the place of employment.*

I. *While a majority of people in a slum area qualify for public housing, surveys indicate that only a small percentage want to live in public housing. It should be pointed out that most slum families qualify for public housing on the basis of income but are excluded as undesirable because of police records, alcoholism, rent delinquency, mental disease, or juvenile delinquency.*

J. *Consequently, relocation is more complex than just building public housing someplace else. Since the supply of private housing suitable to slum dwellers is reduced by the renewal program, presumably the rents of these units goes up and fewer alternatives are available. To keep rents in line, public housing has been used to create additional supplies from time to time, and now some agencies are purchasing used homes in other areas from VA and FHA foreclosure sales and using them for public housing. These additional units cost less than half the cost of new ones and successfully scatter slum dwellers about the community.*

K. *It is particularly difficult to relocate the nonwhite minority in the face of urban renewal. Fewer alternatives are open to them because of prejudice, lack of income, and abuse by sharpie real estate interests.*

Elderly people and large families of limited means also have difficulty relocating with the right cost for the physical areas occupied.

Business relocation is most difficult. Hardest hit are the small firms, such as the corner druggist or grocer, who relied entirely on neighborhood clientele and then the neighborhood is gone.

L. *These problems are perhaps technical and questions of economic valuation. The reverse of the viewpoint of the middle-class planner and renewal administrator is that of the displaced person.*

1. *Short-term reaction is almost always negative, but the majority soon come to appreciate the advantages of their new location.*
2. *Not everybody who lives in a slum would rather live someplace else. We must always provide minimum housing for the social outcast, the indolent, fugitives, and immigrants trapped by economic necessity. We must always have a skid row for those who would resign from society.*

3. *Sociologists can show that the slum represents a way of life which has a different value basis than middle-class life. Privacy and status symbols are less valued, and social groupings are around family and ethnic connections. Moreover, studies show that these people are happy in many ways and have no desire to have middle-class values. The slum also shelters a major portion of the social problems of the city, the whole gamut of social misery, and relocation and a better environment won't correct these problems.*

M. *Relocation and urban renewal involve more than locating physical alternative quarters. Whether you are speaking of clearance, conservation, or rehabilitation, solution of a family housing problem will often require the prior solution of a serious social, financial, or legal problem.*

VII. *Condemnation and relocation are a negative value without speedy and proper redevelopment. A basic tenet of the program is that redevelopment should be by private business. Urban renewal is therefore an assembly line for land, beginning with preliminary planning and ending with disposition.*

A. *Lagging disposition of cleared land quickly brings political disenchantment and an end of popular support, because money poured into the assembly line at one end seems to be producing nothing on the other.*

B. *Land disposition never takes care of itself, it has to be sold, and land cannot be partly sold any more than one can be just a little pregnant. Urban renewal land must be sold aggressively and with imagination.*

C. *However, urban renewal land must compete with other lands in the community subject to a great number of use restrictions and unique competitive aspects which are not too appealing to the investor.*
   1. *First purchase requires competitive bidding in most situations.*
   2. *Acquired title comes subject to a good number of restrictions and conditions, many of which reflect a fear on the part of the local public agency that the developer will make too much money.*
   3. *Operation of an urban renewal project is subject to considerable public relations and financial risk related to urban renewal problems rather than real estate ones.*

D. *Assuming a developer finds the site and the economic factors appropriate for development consistent with the redevelopment plan, he will have to acquire the site under one of the following plans:*
   1. *Sealed bid offering*
   2. *Public auction*
   3. *Public auction with minimum acceptable price*
   4. *Negotiated disposal*
   5. *Fixed-price offering with design bidding*
   6. *Predetermined price offering*
   7. *Noncompetitive negotiated disposal*

E. *The successful developer will be required to make a good faith deposit of 5 percent of land cost in cash, government bonds, or surety bonds. The winning*

bidder must generally be approved by the city council or the local public agency after a public hearing.

F. *Then the bidder and local public agency begin to negotiate the land contract in detail. There are hundreds of issues which can appear. For example:*
   1. *How much time shall the developer have to initiate and complete construction?*
   2. *What kinds of antispeculation provisions should be included to prevent resale, exorbitant rents, or changes in use?*
   3. *Sometimes the local public agency is ignorant or unsympathetic with the title characteristics required by big lenders, and so they insist on deed provisions which would make it impossible for the developer to secure his financing.*

G. *Now the developer wants to make a profit and the government wants to minimize its writedown loss. This leads to conflict with the planner, who would like to see the land used to best [advantage to] add to the character of the city, or to the tax revenue of the city.*
   1. *Suppose the area might best be used as a park and for low-rise row houses or garden apartments in the modest-rent range. The park would return nothing in tax revenue and add to the city's operating budget. Low-rent, low-density housing would mean a very low value for the land and hence a large writedown, one-third of which must come from the city.*
   2. *On the other hand, a high-rise development for middle-income families would mean a higher value on the land, so there would be a smaller writedown on the project. Tall apartment buildings would also mean a higher assessment value and hence more future tax revenue, perhaps a tax surplus.*
   3. *Almost always, the planner chooses high-density development to take tax base rather than a better-looking city. Perhaps he will compromise and put some land in a park and build taller buildings on the remaining land to offset revenue lost on the park.*
   4. *Along comes a politician who demands that these high-rise apartments be for the common people. Rather than sell the land cheaper, the community promises a tax abatement to the developer if he will lower rents. After all, real estate taxes represent more than 20 percent of the cost of the building.*
   5. *Assuming the land is worth $100,000 and it would support a $700,000 development, taxes might be 4 percent of assessed value, or 2 percent of total value, or perhaps $16,000 a year. Assume there are 80 units in the building, so that rents could be reduced $100 per year per unit by reducing taxes to $8,000 for the first 15 years of the project. This reduction is legal in Wisconsin. In effect, the city will give up $120,000 to get low-rent housing for tenants rather than owners, and hence a less stable neighborhood. If they had given away the lot for nothing they would have done better and a garden apartment would have helped in terms of neighborhood stability, writedown loss, and probably future taxes paid.*
   6. *However, giving away the land so that the developer could afford to do some of the things that the community should have but does not because*

land at the necessary price is not available, is political suicide. City councils can never understand why land is of a residual value dependent on high-level, high-density planning. These dilemmas leave the planning officials in doubt about their own plans.

VIII. Total demolition and reconstruction have been necessary in many areas, but it has proven so expensive and so expensive politically to officials standing firm against homeowners. More extensive renewal with funds available is possible through a conservation program—a kind of super fix-up and paint-up derby.

Rehabilitation preserves the neighborhood population, while conservation in marginal areas improves ownership morale. It improves the market for existing properties at the same time that it discourages moving away from old neighborhoods.

A. We have already talked about some of the programs and their problems before.

B. Communities provide special counseling and some grants-in-aid.

C. However, substantial improvements will raise the tax assessment. Moreover, bank loans are expensive in slum areas, and expensive improvements can be delayed in hopes of moving away soon, and soon the incentive is gone.

D. Therefore, the government must find some way for homeowners to find reason to rehabilitate and conserve their property. As public finance experts frown on a direct grant-in-aid, it is necessary to reduce cost of rehabilitation indirectly and, except for city guidance centers and low-cost FHA loans, nothing has been done. In terms of technique, the homeowner is comparable to the farmer in 1933. How about an urban agent?

Real Estate Economics—The Next 25 Years

(Class Notes)

I. *The real estate process involves land (a public exhaustible resource), manufactured improvement (private capital and expertise), and needs (cultural preferences of individual consumers). A synthesis occurs at a point at which each of these three interest groups can remain solvent in terms of their cash resources in the short and long run.*

   A. *The decision process requires*
      1. *Definition of alternative courses of action in both space-time units and money-time units*
      2. *Definition of values and objectives for each viewpoint*
      3. *Conversion of objectives to operational selection criteria systems*

   B. *Real estate enterprise enters the next 25 years with both questions and solutions undefined but infinite opportunity for innovation and expertise. Alternative courses of action are undefined because [of]*
      1. *Population pressure*
      2. *Urban construction technology bottlenecks*
      3. *The money constraint on capital-intensive solutions*

   C. *A decade of values in transition is to be followed by a decade of political action:*
      1. *Land use control through regional and local action*
      2. *Construction controls reflecting a consensus on the physical environment*
      3. *The silent majority—the key factor in seeking solutions*
      4. *A trial of the democratic process versus autocratic systems engineering*

II. *Ambiguous alternative futures and technical constraints*

   A. *Population pressure is indicated by estimates of 250 million persons by 1990 and 300 million by 2015, and 85 percent of the increase will live in metropolitan areas.*

1. *Rising population requires an increasing economic base for jobs, increasing productivity as percentage of population at working age declines, and a further productivity increase if standard of living is to rise.*
2. *Increasing size of metropolitan areas reduces opportunity for citizens to participate in land use and other development decisions.*
3. *Increasing interdependency of real estate decisions means a shift from returns to entrepreneurial innovation to managerial efficiency.*

B. *Technical constraints on engineering*
   1. *Water resources are inadequate to operate existing sewage systems, but there is no acceptable engineering alternative presently operational for widespread adaptation.*
   2. *Urban technology relies primarily on fossil fuels for private transportation, heating, industry, and electric production. Technology of cheap power has no operational alternative for utilizing solar energy, hydrogen, or geothermal heat.*
   3. *Solid waste disposal problems of industrial urban society not only limit the use of atomic power but require restructuring of production and distribution systems. While energy conservation may suggest further population concentration, environmental conservation may require industrial and social dispersion, with resulting shifts in the economic base for historic urban areas.*
   4. *Urban construction materials are finite, and therefore land use succession must also consider recycling of existing structures.*
   5. *Cities to house an industrial society are eventually contradictory to neo-Malthusian economics, as they involve increasing resource consumption per capita and an increasing number of capitas.*

C. *Technological innovation which may be available will be subject to a severe money constraint, both private and public.*
   1. *Household income is not rising as quickly as food, shelter, transportation, and medical costs.*
   2. *Local public budgets increase as ongoing city and governmental services suffer diseconomies of scale as population concentrates but density per city acre declines.*
   3. *Since both private and public incomes are hard-pressed to maintain existing operating expenditures, there is little savings with which to fund public capital investments in*
      a. *Research and development of new urban technologies*
      b. *Investment in new utility infrastructure*
      c. *Correction of obsolete or inequitable urban hardware distributions*
   4. *Monetary disequilibrium discourages savings through inflation or investment due to high interest as a result of long-term flight from the dollar.*

III. *Assuming adequate technology and capital could be generated if urban residents chose to readjust their value systems, the basic constraint is the willingness of citizens to participate knowledgeably through the urban political structure.*

A. *Political action of any sort is presently stymied by the division between groups defined by Robert Wood as pro-urbanites and nonurbanites.*
   1. *The pro-urbanites are those actively engaged in developing a community life, ironically the rich elite and the underprivileged minority.*
   2. *The nonurbanite is the city dweller who is essentially disengaged and alienated from the process of creating a sense of community. This group is preoccupied by the insecurities of job, family, and home.*

B. *The category of working Americans in the $6,000 to $10,000 income group involves 20 million American families and is the dominant political force in the center city.*
   1. *Job, family, and home are principal preoccupations.*
   2. *Job security or upward mobility of the young or the unskilled is threatened by layoff, strike, plant relocation, technical unemployment, and government-sponsored alternatives to unionism.*
   3. *New urban systems mean obsolescence and excessive carrying costs via the real estate tax, not to mention the worker's need to relocate for job stability.*
   4. *His sense of family is threatened by his ties to neighborhood, his peer group at work, and what the media tell him about the urban inner core and the generation gap.*

C. *Robert Wood further expressed this problem as follows: "The future of city-building in modern America turns less on the indignation of the disprivileged or the conscience of the exceptional than commonly supposed. The issue becomes increasingly how to dispose the working American to reorient his life from one of relative isolation and alienation and to find real aspirations in participation in a genuine community. How does he find new satisfaction in a modern metropolitan area akin to the old town atmosphere of mixed population—where butcher, blacksmith, and baker gave life and character to the community?"*

D. *Before a rational and systematic synthesis of land use and the real estate process can take place through wise enterprise administration and technical innovation, it is necessary to provide a base for rational political science by creating more involved and intelligent pro-urbanites to overcome political apathy.*
   1. *Apathy is a response to anxieties or fears about problems which seem too big to cope with, and therefore real estate depends on a reduction of the insecurities which lead to emotional and irrational selection of alternatives. Probably essential to good real estate are*
      a. *Job security and guaranteed income*
      b. *Reduction of barriers to vocational skill, mobility, and job accessibility through land use heterogeneity and cheap public transportation*
      c. *Insured homeowner equities (as well as mortgages) to protect citizen savings from short-run or long-run property value cycles*
      d. *More honest government preparation for change to reduce future shock*
   2. *Rational community decisions are a product of self-identification with a community and participation, which may be generated by means of*

a. *The subsidy of community heros, etc., via professional sports*
b. *Physical structuring of the community to reduce the scale of participation to affected groups—the Columbia plan and the neighborhood association*
c. *Heterogeneous schools and neighborhoods through land planning*
d. *More dependence on pedestrian and public transportation*
e. *Better financing for individual aspirations to have a small shop or family business, or adult education to support the realization that individual fantasy can generate realizable goals and that to strive is to succeed*

IV. The facts in this course will quickly be obsolete, but the functional systems will continue to evolve. The first objective of the course is to recruit you as a pro-urbanite.

A. The business of real estate involves the services necessary to deliver our own environment—those of building and servicing our own aquarium.

B. Social progress is the degree to which we can control and establish equilibrium in our urban aquarium—a space capsule.

C. Real estate enterprise administration can provide private and public career opportunities at the cutting edge of our only frontier—the urban space age.

Impressions on the Marketability of TDRs, or, Toward the Science of Cubernetics in the Space Age

James A. Graaskamp

The following is a transcript of comments made by Professor Graaskamp at the Alfred Bettman Symposium held in conjunction with the 1974 American Society of Planning Officials' National Planning Conference in Chicago.

Professor Graaskamp was asked to comment on the financial markets for a TDR [transferable development right] as related to various proposals advanced prior to his presentation. Therefore, the comments that follow presume the listener has some background in TDRs, and they reflect the author's "usual irreverence for higher authority and heavy academic matters." Nonetheless, the professor states that he generally favors the concept of transferable development rights and sees implementation of such a device as too valuable and too important a matter to be left to planners.

Expectations

Transferable development rights are expected to provide economic compensation to those who must forgo the development potential of a site to conserve landmarks or open space. In a larger sense, TDRs are expected to distribute the wealth created by planning decisions to those who incur economic hardship as the result of public restrictions on use. For these transfers to occur, the development rights, however defined, must have some marketability and a

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market price. The current interest in the transferable development right may be the first time that planners have faced directly the ethics in the interrelationship between spatial allocations by the planner and the creation or destruction of wealth for individual owners.

At the University of Wisconsin, real estate is defined as artificially delineated space of any kind, with time as a fourth dimension. The space frame may be defined by pylons on the Nile, structures of wattle on geodesic frames, or condominium plats at Lake Tahoe. To these space frames various attributes are added, such as air conditioning, roads, stiles, and landscaping. The time dimension is defined by deed or lease. This real estate space-time product is an interface of land (an exhaustible public resource), manufactured improvements and services, and cultural preference expressed through public regulation and market transactions. The real estate business is the conversion of space over time to cash flow time and involves the interaction of three cash-cycle enterprises: a consumer, a producer, and a government entity. Sound real estate in the social sense occurs where the product permits each actor or enterprise cash-cycle solvency at the minimum and, hopefully, a cash surplus to justify the allocation of resources. The business of real estate is the conversion of space-time into money-time and, therefore, the transferable development right strikes at the essence of the relationships between public planning decisions and private expectations relative to land use.

Because the planner never has understood money, the TDR has appeal as a special scrip or streetcar token that can be printed right in the planning office. This new coin of the planning realm must have a number of qualities to have free marketability:

1. It must be scarce enough that it is not virtually a free good.
2. It must have a readily understood standard definition to be a fungible or exchangeable commodity.
3. It must have a statistical market of sufficient buyers and sellers to establish a negotiated price, preferably day by day or week by week over the counter.
4. It must have broadly distributed ownership of the surplus to prevent monopoly or monopsony (a situation in which one buyer controls the market of many sellers). Of course, a free market may be an anathema to the planner, but that is ahead of the story.

TDR Defined

Before examining some considerations of a market model for TDRs, it is first desirable to define the base unit, the fungible module to be traded in the marketplace. There is no real consensus on what this unit should be; in my mind, the units that have been suggested should be discarded.

First, assessed valuation, which has been suggested as a base for distribution of development rights, is the worst possible standard. Fair market value itself is a statement about future productivity that depends on a set of presumptions made under conditions of uncertainty, a future even more uncertain with the advent of intensive land use controls. Moreover, fair market value as used and recorded by assessors is drastically inequitable as a tax and, therefore, would be scarcely

equitable as a base for defining TDRs. Indeed, reform of our present tax-proration system should be a part of any improved system for land use control.

Second, the Chicago plan and others that have related to floor/area ratio (FAR) zoning limits as a measure of commercial development potential have been suggested. This standard could not be expanded to deal with improvements that do not have floors, such as oil refineries, open-space areas, or unusually shaped structures like theaters, banks, and fried chicken stands.

Third, those who relate TDRs to number of dwelling units presume the land use development problem is unique to suburban land and a residential neighborhood. Nevertheless, the range of applications already demonstrated suggests that a more universal standard for TDRs is desired.

Finally, cubage is closer to the essence of real estate as a space-time product and is fungible for any particular land use, including dwelling units, office space, custard stands, or refineries. Cubage could be defined as a cubic foot or a cubic meter, if we would anticipate other reforms now under way. Moreover, because environmental disturbance of land is the consequence of any form of improvement, why not attach one attribute to this space-time frame for TDRs; that is, one-tenth of a square foot or square meter of impervious surface is permissible for every cubic TDR. It then would be possible to require the highway department, the airport people, and the tennis court crowd to buy their development cubage rights, too, perhaps from open space owned by the Sierra Club.

Objectives

Presume for the moment, then, that the universal fungible unit of all TDRs is one cubic foot, with the single environmental limit of one-tenth of a square foot of impervious surface (name it the cubit), and that what follows is the new land economics of "cubernetics," a three-dimensional chess [game] of windfall, wipeout, and public welfare, to replace the older Parker Brothers version of *Monopoly*.™

In structuring a marketing model for cubits, the planner undoubtedly will want to have a part in defining the basic objectives of all such transactions. Critical issues of the market structures are those that define how many cubits each property owner receives for openers, who is to receive the money for sales, who pays the grantor of cubits, who is eligible to be the federal reserve bank of cubits, and when and if [economist] Milton Friedman should have the right periodically to inflate the available supply of cubits. Resolution of these basic issues depends on how narrowly or broadly one conceives of TDRs as a tool for planning, a function of the political psychology required to lead legislators down the primrose path of TDRs a step at a time. TDR would benefit

1. Landowners who accede to socially desirable things, like creating green space, plazas for lunch, landmark conservation, or downzoning
2. Those who forfeit, without recourse, development expectations and potentials due to zoning classification within a larger master plan
3. Those who possess undeveloped land with appropriate physical suitabilities, but whose plans are out of proper sequence with the tempo of urban development or with the priorities of public policy
4. Individuals or government entities denied growth benefits as part of a regional land use rationing system, such as the California Coastal Zoning system

5. All property owners, private and public, to the degree that public land use controls diminish their expectations and alternatives in relation to those that they enjoyed as of some specific date
6. All property owners, private and public, correlated to the number of existing improvements and potentials for land as defined by a public agency as of a specific date

It has been suggested that the TDR is a compensatory device with payment in kind instead of in cash, as is required presently for eminent domain and inverse takings of any kind. For example, funds would flow

1. From government to government where one community, as a result of regional land planning decisions, benefits at the expense of another in terms of economic base or assessment base
2. From government to those who have been adversely affected by exercise of the police power that constitutes a taking of property
3. From developer to a public bank of TDRs, so that the public can enjoy a portion of the wealth created by planning decisions to permit an increase in permissible densities or unit capacities
4. From developers of sites suitable and zoned for development to landowners whose sites are economically unsuitable or not zoned for development

Public Ownership?

These varying degrees of participation and of definition for the territory of the marketplace reflect both a philosophical issue as to who owns "development potential," and a technical problem as to what degree that potential already is a scarce commodity with economic value that could be increased for any one property owner without an adverse impact on the quality of life influenced by the site. The Wisconsin Supreme Court[1] has suggested that development potential as yet unrealized is a public asset that ought to be allocated in the public interest. The public would own all development potentials and could sell cubits at some stated price; the proceeds would be divided by formula among all the governments within the purview of the regional land plan.

On the other hand, if one subscribes to the theory that TDRs permit simply the detaching of development rights from existing private property, then any property owner would be eligible to receive payment for his unused cubits. As a free enterpriser who interfaces land as a public resource, I would like to follow the latter thesis and set up a market for universal cubits applicable to highway builder and rugged conservationist alike. As a real estate professional, one must adapt and buy low or sell high any little thing planners choose to give for merchandise.

To create a supply of development potential defined by cubits—cubits that can be detached or transferred to other private parcels—it is first necessary to create a supply for the marketplace. Presume for the moment a cubit is a cubic foot; then each landowner in the county would be given a supply of cubits equal to 10 times the square foot ground area of his parcel(s) plus the cubits necessary to equal cubic footage of all existing structures as of a certain date. Government-owned land, as well as street rights-of-way, single-family lots, and skyscraper office buildings, would all receive their allotment of cubits. All God's children

owning land would have cubits to define their development potential. For a time government would work from plats and aerial photos to determine the cubit assignment for each property but, as each owner became concerned with a verified measure of his cubits, he would undertake the expense of paying a licensed surveyor to measure it more precisely than the government [could]. This supply of cubits for any one site should be less than is required for anything other than agriculture or single-family detached homes, so that other developments generally would require the purchase of cubits in order to proceed with improvement.

Density Requirements

To have value, cubits must enjoy economic scarcity—even an artificial one—as do diamonds or gasoline. Public planners can profit from the lesson taught by the petroleum industry, which sells land resources by the gallon instead of the cubit. Rather than permit the planners to forecast the annual demand in cubits, the alternative would be to distinguish the suitability of a site from the capacity of a zoning envelope needed to build the appropriate use for matters of zoning. Therefore, it is proposed that a county undertaking a cubit approach have a master plan for land use that reflects the suitability of sites for uses consistent with certain community goals (such as conservation of prime agricultural land or concentration of high-density development to facilitate public transit) and physical land attributes (such as soil and water table). Codes would establish the minimum cubits, or density (HT.), required for various land uses, perhaps something like this:

1. Marshland, bluffs, and other low-utility open spaces, such as privately owned stormwater swales or golf course fairways in excess of a minimum of 20 percent of a contiguous parcel (HT. #1)
2. All easements and road rights-of-way (HT. #4)
3. Agricultural land:
   a. Low productivity (HT. #4)
   b. Average productivity (HT. #6)
   c. High productivity (HT. #8)
4. Residential land:
   a. Single-family detached homesites (HT. #20)
   b. Multifamily 2 to 3 D.U. per acre (HT. #30)
   c. Multifamily 4 to 10 D.U. per acre (HT. #40)
   d. Multifamily 10.1 to 17.0 D.U. per acre (HT. #60)
   e. Multifamily 17.1 D.U. per acre and above (HT. #80)
5. Government or private land utilized for the public interest, such as all types of schools, churches, and other eleemosynary institutions, officially designated landmarks, or significant and officially designated limited-use open areas, such as scenic easements, or urban plazas in excess of 15,000 square feet (HT. #10)
6. Commercial/retail land:
   a. Permissible FAR of 1.0 or less (HT. #40)
   b. Permissible FAR of 1.0 to 3.0 (HT. #60)
   c. Permissible FAR greater than 3.0 (HT. #80)
7. Industrial, transportation, and mining lands (HT. #30)

No property owner would be allowed to sell cubits if he had less than is required by his zoning classification. Notice that the master plan reflects physical suitability, while the minimum cubits to make a site ready for capacity development are in excess of those granted to each parcel owner. Because cubits were awarded originally for the cubage enclosed in existing structures at the time the law was to go into effect, a developer could buy an old building and demolish it to gain the cubits, while the public thus would be helping to discourage encroachment of new construction on raw land. In addition to the cubits required to provide suitably zoned land with capacity for a building permit, the developer would also have to own cubits equal to the cubage in the building plus any impervious surface area in excess of 10 percent of building cubage. This constraint would promote conservation of building materials by creating some small incentive, depending on the market price of cubits, for smaller buildings. Of course, there is always the danger that the price of cubits would go so high that building owners would design six-foot ceiling heights and provide four levels of hammocks to reduce sleeping room cubage.

Advantages/Disadvantages Of the System

Given a supply and a demand, what kinds of transactions then could take place? Certainly a cubit exchange commission (CEC) would be needed to establish transaction rules and to police the market, but there are more serious questions in creating a fungible commodity such as a transferable development right or cubit. All the economic institutions and tactics that characterize fungible commodities such as grain or pork bellies could appear but, unlike foods, with their short storage life and future supply input from crops, TDRs would have an indefinite future life and, because real estate is in fixed supply, monopoly value would grow with the century as population pressures and food shortages mounted. By analogy, many of these possibilities have some of the undesirable byproducts of a futures market.

First, the smaller the region defined for a given TDR market area, the easier it might be to corner the available floating supply of development rights.

Second, at the initial outset of the program, there would be no knowledgeable buyers and sellers, and little information as to the economic value of a cubit. How would a farmer in the hinterland know the marginal value of cubits to make a knowledgeable sales price decision to an office building developer at a preferred urban location? At the same time, the poorest landowners would have an immediate incentive to dump their surplus cubits for a little hard cash, depressing the immediate price level and permitting the concentration of cubit control among those with less need for liquidity and more concern for long-term futures.

Third, freely detachable cubits would be a fantastic estate transfer device, because they would be acquired at a low cost and would have relatively low market value or holding cost in the near term and, therefore, a low value for estate taxes. Only later, as the heirs reached financial maturity, would the monopoly value of their cubit inheritance be realized fully.

Moreover, as construction volume or community growth trends shifted with interest rates and economic events, TDRs would be incredibly volatile, analogous to warrants or options on development opportunities within a microarea. There are other analogies that could be found in crop allotments for government-supported farm goods, water rights to a rancher, gallonage allotments in an irrigation district, timber stripping when stumpage value exceeds purchase price of north woods land, and so on.

Finally, given a futures market, could one buy an option (call) in a national market on a development right in a particular locality, and could one buy a "put" (right to sell at a predetermined price) to hedge against a locality's changing its cubit codes?

Needed Constraints

Almost all of these damages are possible when a TDR is freely detachable from actual landownership and available for purchase by absentee speculators. Therefore, in my opinion, several constraints should be imposed on the free marketability of TDR cubits.

First, a development right always must be attached to a parcel of land within the planning region, just as easement serves a dominant estate at the expense of a subservient estate. To own TDRs, one must own land, and the total cubits attached cannot exceed the capacity required by its zoning plus the cubits required for an approved improvement plan. The only exception would be ownership by a quasi-government cubit bank.

Second, a government land or cubit bank should be established by the planning region to stabilize an orderly transaction market in cubits, perhaps establishing a minimum price from time to time, as well as recording all cubit transactions. In addition, governments owning surplus cubits could sell through the cubit bank. Such an institution to regulate the tempo and traffic in development rights could introduce a variety of regulatory complications:

1. Does every landowner receive a coupon book, as in food rationing, where different-colored stamps become salable at different times?
2. Should there be a half-life on development rights once they are detached from the land, so that a stockpile of accumulated development rights would evaporate if the rights were not used to construct actual developments?
3. Would the planners periodically announce special bonus coupons for the rehabilitation or destruction of slum areas or old-style industrial plants?
4. Would the vacillations of the futures market lead to government support of price levels or land banking of development rights?
5. Would there be inter–planning district pooling at the government level to avoid short-term shock impact on an individual district's supply of floating development rights? This would be analogous to pooling and reinsurance between actuarial classifications for fire or earthquake premiums that failed to anticipate losses beyond a certain level of probability.
6. Should there be counseling of sellers to protect against exploitation of those in need of cash?

Another constraint that should be imposed on the free marketability of TDRs is this: real estate tax should be shifted, in part, to cubits. Assessors fail

most consistently to measure the "fair" market value of land. For example, presume that 30 percent of the community's tax base is represented by land values. Therefore, the tax law could permit 30 percent of revenues raised from the real estate tax to be generated from all the cubits in a tax district, including all the currently exempt church-, government-, and school-owned land—which currently remain exempt primarily because no one knows how to appraise these properties. The balance of tax revenues would be assessed against cost of acquiring the improvements and the land, less an arbitrary percentage established by statute for the value contribution of the land. There is no legal reason why real estate taxes cannot be prorated by cubits rather than by value, as long as the system is uniform.[2]

Application

Naturally, all of these problems and implications may frighten legislators and voters from consideration of TDRs. Like other modeling devices, it probably would work best where it was kept simple and controlled by a local land bank with both government and private representation on its board of directors. The marketing of cubits should be a power clearly separated from the planning function. It then should be possible to build a workable system with all these immensely desirable and heretofore unavailable benefits:

1. Real estate potential would be measurable, divisible, liquid, and mobile as it never has been before.
2. The windfall, wipeout, and welfare trade-offs of planning decisions would have a benchmark for economic cost/benefit analysis.
3. All land use decisions would have a common denominator and constraint, requiring careful optimizing by public agencies as well as private enterprises.
4. A device would be available to provide compensatory transfers among property owners and among government entities for land use decisions, which was never before possible.
5. Economic incentives would be available to encourage desirable public goals, such as landmark conservation and open space, with equity to the private property owner. The real estate tax negative incentives could be rifled and the tax more broadly distributed and efficiently administered if it could abandon, in part, the fictional scenario of highest and best use appraisal for development land.

Certainly all of these beneficial features would justify the cost of designing a workable marketing structure for TDRs that would not have all of the characteristics of a fungible commodities market.

One other economic aspect or irony in the logic of planners advocating TDRs intrigues me. Back in 1947, Richard U. Ratcliff wrote that, in the ideal sense, the function of the planner is to reduce the cost of friction and other marginal surpluses that give rise to differential values to zero, so that all land in a region would be equally valuable. Having failed to do that, the planner now wishes to declare by statute that all land within a district is equal in potential and, therefore, in value. On another point, planners have always longed to tax the incremental value of land on the theory that it was an unearned return due to the propensity

of people to multiply and of government to provide services not fairly costed to the beneficiaries.

Because no one yet has discovered an accounting method that would measure the incremental value to be taken from a land tax, why not have the developer set the tax on himself by making him bid for development potentials, just as he now bids for mortgage futures in the Fannie Mae auction? Not only will that distribute the present incremental value, but it will provide a base for an immediate ad valorem tax on the development right long before the community could expect to tax the land at highest and best use.

Until now, the planner has felt impotent, because voters did not perceive any immediate vested interest in what the planner had to say. If the planner could create his own pseudocurrency, called development rights, a very large constituency of nondevelopers would have a vested interest in supporting the value judgments of the planner at the expense of the developer and consumers who come later. What an interesting way to buy voting power!

Notes

1. *Just* v. *Marinette County*, 201 N.W.2d 761 (Wis. 1972).
2. For an expansion of the fallacies of market value and an alternative tax system compatible with TDRs, see "A 'Uniform' Process of Preferential Real Estate Tax Assessment in Wisconsin," by J. A. Graaskamp, unpublished.

PART IX
PUBLIC POLICY

Introduction to Part IX

"We are basically a grass-roots society and the cumulative impact of local events is more important than what's going on in Washington. Things start in Los Angeles, Milwaukee, etc. We are a bottom-up society."

Apartment Trade Show
March 22, 1981

"On the subject of globalization, probably the most significant change over the last few years is that interest rates are now controlled overseas."

Globalization of Real Estate
Meredith & Grew Ninth Annual Seminar
February 4, 1988

Public policy considerations, i.e., the interface between the profit objectives of the few and the humanistic considerations of the many, were a pervasive concern in most of Graaskamp's work. His landmark work in feasibility, appraisal, and development fundamentals has a persistent theme of reconciling the public with the private.

Graaskamp was a very public person. His views on local and national matters were widely reported in the press and by his academic colleagues. He was passionate in his commitment to the common good while respecting the rights and needs of the individual.

Graaskamp loved lost causes, particularly when he could single-handedly convert them into victories. He had great respect for the underdogs of public policy. Perhaps his personal experiences clarified for him the valiant nature of the struggle against vested interests and bureaucracies.

Graaskamp had broad interests. Here we observe his comments on globalization, rent control, and other areas. This part includes a thought-provoking, albeit incomplete, series of perspectives on the human condition.

Forces for Good and Evil Affecting the Soul of Real Estate Finance

(Speech Notes)

I. *Mortgage banking has been wandering in the wilderness the past several years searching its soul for an identity, trying to identify its satanic foes in the marketplace, and looking for new guardian angels in a time of momentous forces surging through the economic system. Presumably the forces for good are winning in this great morality play of finance, and it is my role today hopefully to identify some of the angels and the devils in this purgatory called the marketplace. The general topic areas may be*

   A. *Deflation versus inflation*

   B. *Segmentation of effective demand*

   C. *The Wisconsin economy*

   D. *The reorganization of real estate financial institutions*

   E. *Redirection of regulation of real estate investment*

   F. *New tools of the trade for the mortgage banker*

II. *Everyone in the money game is pondering the relative strength of inflation factors versus deflation factors.*

   A. *Economist [Walter] Heller says that unemployment and underutilized industrial base of 30 percent will permit a considerable upward turn of the economy without inflation—a traditional measure of capacity to expand*

These notes were prepared for an address on May 16, 1983, to the Wisconsin Mortgage Bankers Association.

before dollars chase a limited supply. Presumably the recovery will be labor-intensive, increasing demand, increasing tax collections, and reducing the deficit as a percent of GNP to a typical 2.5 to 3 percent a year. That scenario depends on [President Ronald] Reagan's reducing his $200 billion deficit by chopping defense spending by $50 billion or more.

B. *But other economists suggest that we have shifted to a postindustrial society so that some recovery need not be labor-intensive, but rather capital-intensive, in a period of deflation when refinancing existing properties may be more significant than building new since office, retail, and hotel capacity is overbuilt throughout the country. Given federal and state government needs to monetize deficit spending, the capital pool available for reinvestment will be greatly reduced and generally preoccupied with refinancing rather than building new.*

C. *A third group contends that the forthcoming presidential election will require expanding supplies of money and an expanding economy in the fall of 1984, and that the inflationary impact of that will not be recognized by the majority of voters until after the election. Reagan can feed the cynicism by failing to reappoint Paul A. Volcker, insisting on his full defense budget or most of it now rather than later, and concealing the structural changes in employment needs by implementing the new programs for new employment passed by Congress three years too late. Assuming a capital-intensive recovery with continued deflationary employment, the mortgage banker should be in a position to benefit from the opportunities to refinance commercial properties and market new residential loans in the greatly expanded secondary markets.*

D. *The deflationary cycle with intensive capital action for refinancing is particularly appropriate to Wisconsin, where the profitability of farming is held in check by the new federal farm support program, major industry elements continue to retrench in the face of technological and structural market obsolescence, and significant expansion of employment occurs in small businesses providing special services.*

E. *All of this suggests that in Wisconsin investors must buy well—at the right price, at the right financing, at the right income-to-price ratio—rather than simply position themselves for significant inflation in real estate prices. Wisconsin will benefit less than most states from*
   1. *Increases in defense spending*
   2. *Price support programs for agriculture which are already reducing seed, feed, equipment, and supply purchases by corn and dairy people*
   3. *Some of our unemployment is structural rather than cyclical, since some of our heavy industry is not truly competitive in the international markets*
   4. *Areas that are heavily unionized will continue to face wage readjustments as a condition of reemployment or characteristic of underemployment in steel, construction, and agri-industry areas*

F. *In short, I predict that instead of inflation or deflation, Wisconsin will enjoy flation, tottering along sideways while politicians, industrialists, and bankers take gas.*

III. *The economic forces for good and evil will require greater care in the selection of projects for which there is effective demand. Costs of relocation today are very high—think of just the cost of moving your telephone. Moreover, if firms have pared down staffs to bare-bones efficiency, where is there the capacity to absorb the waste time of arranging a move and still getting the job done? As a result, there has to be a significant cash advantage to relocate.*

A. *Feasibility has nothing to do with price per square foot in terms of rent but rather the total cost of occupancy in a specific space for the tenant. Now that you have so cleverly shifted all the costs with pass-throughs, the tenant knows what he is paying for. There is a premium to be gained by reducing space requirements, lighting costs, heating and air-conditioning costs, partition costs, costs of stringing cable between data processing equipment, etc.*

1. *The office user is shifting toward semienclosed movable desks or workstations, with task lighting and computer-type raised floors for stringing various cables and utilities without a star drill. Ceilings have no lighting features—only extra-heavy soundproofing. Light industrial buildings may do the job best when rents of Class A office space reach $18 to $22 per square foot.*
2. *Our growing population of elderly may begin to recognize that investment income from the equity value in their homes may make congregate housing with personal support services more feasible in their own community, so that more existing homes will come on the market of a size and location which is preferable to new construction.*
3. *Retailing is becoming more specialized in terms of an emphasis on economy or recreational spending, smaller stores, better service in terms of replacement of inventory, so that procedure and management are replacing square footage.*

B. *The choice of space to be occupied is now recognized to influence every revenue and expense item on the income statement of a business. At the same time, the amenities people seek will be modified by a new set of values and priorities among those coming out of college who anticipate working couples, unstable employment, the constant need for reeducation, and a desire to reduce fixed expenses like mortgage payments in favor of discretionary income.*

IV. *For the moment you are more concerned with the ongoing reorganization of financial institutions, the redirection of regulation of real estate investment, and new tools of the trade. But it should be noted that ultimately the cash flow on which mortgages and equity dividends depend, as well as resale prices, depends on how well you fit the product to the consumers as individuals and as a collective group operating through government.*

A. *As you are aware, real estate financial institutions are shifting from managers of a general pool of savings deposits to managers of a whole series of segregated funds. The insurance industry may segregate by customer, the thrift industry is segregating by type of deposit—IRA, KEOGH, CD, invoice corporation capital, etc.—and the bank trust department is concerned with*

investment management not only for the corporate client but also for the middle-class individual with an inheritance or other capital pool. Bank trust departments are the sleepers. A common unit real estate fund is now possible where the investor pays only an annual management fee with no front-end load, no profit participation, and no flip-flop or back-end load.

B. *Thus the savings and loan has become a mortgage banker, the mortgage banker has become a commercial broker, the bank has become a syndicator, the insurance company lender is now the buyer, the real estate broker is trying to be a mortgage banker, the builder is now a property manager, and the Harvard MBAs who specialized in leverage and liability management to destroy the real estate trust are back as asset managers.*

C. *Those of us who teach real estate finance are looking for another specialty, like ancient history, where the lecture notes don't have to change every semester. Traditional functional delineations in the textbooks are gone, and the differences seem to be only in how different groups charge their fees and regulate their industry while bringing money to bear on real estate problems.*

V. *The regulation of real estate investment at every level is becoming more sophisticated in terms of allocation of risk, cash flows, and personal accountability.*

A. *At the federal level, ERISA has imposed new definitions and sensitivity to the accountability of fiduciaries in the management of funds, with the result that research is beginning on the need to interface accounting conventions of full disclosure with the lack of standardization and skill in the appraisal field. Within two years, there will be standardized letters of engagement for appraisal services which will specify how to construct rent-roll data, set up expense statements, provide proper accruals and cash writeoffs of tenant improvements, and select the parameters for the presumed conditions of resale. The market approach is suspect and the cost approach irrelevant.*

B. *This push by users of appraisal services to bring appraisal into the 20th century is already happening, and it represents a perfect illustration of the [John] Naisbitt thesis that we are a grass-roots society bringing about change from the bottom up. The consumer is still king, and centralized appraisal societies will go the way of network television and the* Saturday Evening Post.

C. *In due course, standardized accounting will produce indexes to measure the performance of asset managers, and full disclosure will extend to lease details, sensitivity analysis, and deflation as well as inflation scenarios.*

D. *Land use regulations are becoming much more sensitive to planning for the fiscal cash flows of the community as well as the cash flows as related to density for the developer. As mixed-use and conditional zoning spreads to provide equitable cash flow impacts, the use of private/public consortia to share the risk is also growing.*

1. *The Milwaukee Grand [Avenue] Mall is a classic example of tiering cash flows and risks to match the particular skills and responsibilities of the various parties.*

2. *Notice the tremendous legislative fight about TIF [tax-increment financing] districts and about who pays and who benefits.*

E. *The real estate tax system in urban areas is becoming more equitable and more efficient, and people are beginning to understand the advantage of having assessments at market value to avoid the errors of equalization. At the same time, assessors are learning about cash-equalized value and the need to adjust prices that reflect creative financing. Eventually even mortgage bankers will learn to cooperate and to share information with assessors to avoid miscalculation of real estate taxes; you may even learn to avoid underestimating real estate taxes deliberately to secure financing, since attorneys for disgruntled investors will realize due diligence includes realistic planning for real estate taxes. Even lenders who expect a share in cash throw-off have a vested interest in understanding real estate taxes and planning appropriately.*

1. *One irony is that ERISA, the source of so many dollars for real estate investment, will soon be the cause of rising real estate taxes as communities find it necessary to fund the handsome pension programs granted the rising municipal labor force.*
2. *Do you realize that there are companies that cannot afford to go out of business even though their plant is obsolete because of their obligations to fund pensions? Indeed, a primary reason for funding Chrysler at the expense of U.S. taxpayers was that the loan might be cheaper than funding the pension guaranteed by ERISA for employees of firms that go out of business.*

F. *Federal, circuit, and real estate tax courts are becoming far more sophisticated about cash streams as the fundamental element of commercial real estate. With that realization comes the need to plan, budget, audit, allocate, and balance returns against risk and effort. Often it requires tough decisions by fair-minded people if unnecessary litigation is to be avoided:*

1. *Cash equivalency values of subsidized housing*
2. *Bankruptcy values of real estate in the TIF district*
3. *Asset allocations for a shopping center or hotel between land, building, personalty, intangibles, and management*
4. *Public improvements to be funded by the developer and his customer*
5. *The equity of subsidized competition*
6. *The equity of subsidized demand*

VI. *New tools [have become available] for the mortgage banking trade.*

A. *The impact of the minicomputer, spreadsheet models like SuperCalc™, and cheap software packages to do specific types of analysis will be incredible. It will soon be unprofessional and prima facie malfeasance to fail to provide sensitivity analyses of cash flow budgets. The assumptions of each projection must be clearly understood. A federal court in Los Angeles once said, in a recent case involving a partnership dissolution, "I cannot buy the assumptions of fair market value as presented by the MAI; I can accept the financial planning assumption of an after-tax cash simulation of the investor's expectation. . . ."*

B. *Database management systems will one day provide meaningful records of occupancy and absorption and energy efficiency from electric meter records, natural gas consumption in discrete physical neighborhoods, traffic counts, and highly detailed information about consumers of every product and service. Building permits will require justification of demand estimates.*

C. *Communities and states are creating loan funds for special situations to insulate projects from market interest rates. At the community level, block grant funds are available for rehabilitation loans, small business development, etc., administered by local sources; at the state level, there are sources like WHFA, CHAP, and other funds such as veterans loans; and at the federal level there is a variety of sources, including UDAG, Farmers Home Administration, and other sources focused on specific needs.*

D. *The residential market is forever inventing new secondary markets such as the mutual fund, guarantees of limited partnership interests, etc.*

E. *Other new ideas include the West Coast innovation of matching of equity trusts and a limited partnership: the equity trust makes a convertible mortgage to the partnership in exchange for virtually all of the income and some of the residual; the partnership gets the tax shelter and a portion of the residual.*

F. *An interesting competitor with mortgage bankers who refinance the estates to pay estate taxes is the new feature in estate tax law that automatically provides a 10-year loan at 4 percent interest in the amount of estate taxes due if the net estate owns real estate for more than 35 percent of its value, or the farm's or small business's.*

G. *The master lease of an existing improved property to someone wishing to improve the property is an excellent way to preserve legal title for an estate or family and shift the tax credit for renovation for an older building to a developer and marketing entity. It finances 100 percent of the purchase price and could be convertible to the equity side of the redeveloper after achieving some preferred rate of return.*

H. *The new mortgage banker is licensed to sell securities, broker real estate, serve as investment counselor, and sell time as a business consultant as well as be compensated on commission. Indeed, he is a specialist in small business investment banking.*

Globalization of Real Estate

James A. Graaskamp

Before I begin on today's subject of globalization of real estate, permit me one comment on Tom Hynes's remarks, and that's the issue of transportation congestion and the threat it puts on central urban real estate values. The congestion itself is an obvious problem, and the spillover is a change in the mind-set of younger people, where we see more and more unwillingness to put up with a one-hour-each-way commute. Smaller cities, like my own of Madison, are becoming increasingly attractive, with affordable housing, access anywhere in the city in less than 10 minutes, strong public education systems, and lower crime rates. As this continues, it should cap some of the values in currently attractive major urban markets, and lead investors to the third- and fourth-tier cities.

On the subject of globalization, probably the most significant change over the last few years is that interest rates are now controlled overseas. In the last Treasury note offering, some 40 percent was carried by Japanese and German bankers, who had great liquidity in this country as a result of trade deficits. One of the financial journals has even gone so far as to suggest that the Japanese and German interests could have a significant influence on the next elections here, simply by varying their level of enthusiasm for the next major Treasury issue: if lukewarm in their support, rates would very likely rise, tending to help the Democrats.

The absence of an energy policy in the United States significantly erodes the possibility of reducing the foreign deficit in the long run. It doesn't take much of a flare-up in the Persian Gulf to change the price of oil and as a result change

These remarks, prepared for the Meredith & Grew ninth annual seminar, held in Boston on February 4, 1988, are reprinted with permission from the seminar's *Proceedings*.

the deficit. With such a significant deficit, we must expect a further fall in the dollar, and many economists are suggesting a further fall of 15 percent to 30 percent before the desired return to manufacturing will begin to appear in the United States. [Harvard University economist Lester] Thurow and his students across the Charles River point out that some 55 percent of the goods on our department store shelves are currently imported, and that will have to change. Retail real estate will be adversely affected in the long run.

The inability to control deficits because of our political polarity and the self-serving regionalism of our Congress is also going to affect interest rates in the not-so-long run. Henry Kaufman [an investment banker at Salomon Brothers Inc.] is predicting 11.5 percent in the third or fourth quarter of this year [1988], and all of you know what that means in terms of value adjustments and the flow of investment capital. Unfortunately a lot of the money coming into real estate isn't in love with the property, but rather is a good asset play where people doubt the soundness of the dollar.

Let's pause just a moment to put foreign inflows into some sort of perspective. We tend to look at landmark transactions and generalize. But the best year for Japanese investment is about equal to the average direct and indirect investment of a Prudential, or an Equitable, or a Metropolitan. Certainly Boston and New York and Los Angeles have benefited initially, largely because they are the cities which have been most widely publicized by our movies, or television, and by the tourist trade. Remember that many Japanese purchases are being retailed back to Japanese investors in conglomerates, not unlike our syndications, and the appeal of well-known, readily identifiable locales is critical to maintaining confidence back home. Foreign investors are beginning to move to the hinterlands in search of higher returns in markets not quite so superheated, but it will probably take a while to educate investors at home.

The conventional wisdom today is that money returns are so low in Japan and Germany that they have to come to the United States to get a suitable return. I submit, however, that a 2.5 percent prime in Japan versus an 8.5 percent rate in the United States is simply a statement of the relative confidence in the integrity of the currency. The Japanese are willing to postpone acquisition of an asset and retain cash (and they save around 22 percent of their income!) because they trust the purchasing power of their currency. In places where rates are higher, there generally is lack of political will to control inflation and currency value, and the saver has more faith in goods than in money.

Let me mention one other item that affects our prime rate in this country. I believe it has been artificially supported to help amortize the tremendous losses of our bank portfolios in foreign loans and real estate loans. The hideous state of losses in both FSLIC and FDIC relative to real estate is yet to be fully appreciated, and if we are to keep our banking system afloat, we will need artificially high interest rates to amortize the losses for some time to come. Rules controlling bank credit for real estate and the appraisal of real estate will be far more strict. Moreover, the real estate industry will spend much political energy trying to prevent government agencies from dumping real estate portfolios acquired from troubled lenders.

Until very recently, United States real estate has been relatively insulated from international competitive pressures because, as George Lovejoy [chairman

of Meredith & Grew] pointed out, you can't build an office building with cheap foreign labor and then import it into this country. But the Japanese are now going the other way: they are building their auto plants in California with Korean and Japanese labor. They arrived, bought a hotel, and imported both construction workers and engineers. As Lester Thurow has pointed out, we have a negative trade balance in both the software and the hardware of our industrial society.

Real estate has been very much hurt in areas where high labor costs mean major reductions in manufacturing employment and agricultural profitability. A falling exchange value will first benefit manufacturing. Possibly the Rustbelt will benefit, but union labor rules may discourage an increase in industrial real estate. We have relatively low-priced and low-skilled labor, like the Southwest, where they still have the ability to pull labor from across the border. It will be interesting to see if they really enforce the new immigration law, and what effect that will have on the competitive advantage of industrial real estate in the Southwest. One has the feeling that Washington isn't really very serious about the new law and that, if at all, it will be applied selectively for political or racial purposes.

Presidential candidate [Senator] Paul Simon points out that at the moment the United States isn't helping itself very much, that last year we spent $127 billion simply to structure totally unproductive mergers, lease buyouts, and so on, all of which converted submerged assets to cash but produced nothing. Some writers see this type of paper capitalism as a significant erosion of our national economic power relative to foreign competitors. My suspicion is that in the long term, we will move to some sort of capital rationing program, some kind of a planned economy with an eye toward enhancing our productive position and remedying social deficiencies. How these incentives will be created remains to be seen, but I suspect it will start with further constraints for banks on their construction lending, either through the appraisal process or through outright regulation of portfolio allocations. We simply cannot continue to have situations where the savings and loan industry can report losses of $25 billion!

The total impact of foreign investment in United States real estate is quite small, something like 1 percent of the total value of investment real estate and 2 percent of our farmland. Foreign purchases have been concentrated in a few market areas, however, so that the impact on price has been at the margin rather than on the average. Appraisers and assessors are getting confused by these transactions, misfiring in their extrapolations as to what the other buildings not yet bought by foreign investors are worth. In particular, assessors seize on these relatively few transactions to shift the incidence of taxation toward the investment sector in order to inflate revenues. I recently completed a study for the Cook County assessor in Chicago, necessitated by the school board's suing the assessor for not using several of the syndicator and foreign capital purchases as direct comparables for the balance of the investment inventory in the Loop. The school board wanted the millions of additional assessment value. It took me a while to try to explain that one sale doesn't make a market, and that foreign investors weren't valuing income streams the same way domestic owners do.

A new trend by foreign investors is the purchase of, rather than discrete real estate, companies that are asset-backed. It was interesting to note that a few days after the October [1987 stock market] crash, a couple of the more prominent off-shore investors moved in and acquired major positions in companies with

significantly understated asset bases, companies that are potentially real estate development companies and real estate investment trusts, taking advantage of the price declines. I think you will see more of that from foreign investors, who begin to perceive their move in real estate [as being] as much a currency play as an asset play.

One of the major elements that the Northeast has going for it, as do Texas and Southern California, has nothing to do with your culture or your costs. It has to do with your political sophistication and your ability to exploit congressional capacity to divert national resources to your regions. If you can get [presidential candidate Michael] Dukakis [of Massachusetts] into office, you may be able to continue the discretionary defense spending that's been a big part of the Northeast "miracle." In the absence of such good fortune, the basics of housing cost, life quality, and employment opportunities will work against the Northeast economy. Our statistics show a much better relationship of wages, education, and a pool of underutilized labor and craftsmanship in the third- and fourth-tier cities—the hinterlands, if you will. Capital will follow the migration and jobs to these areas, and foreign investment will be very quick to follow up on that, now that they have gone through their first generation of learning curve about United States real estate.

Some of the reasons that foreign investors want to invest in the United States have nothing to do with the rate of return. They want green cards [registration cards showing official permission for aliens to reside and be employed in the United States], and they want construction contracts. They will be increasingly willing to become joint venture partners or a financing source in order to get the construction contracts and the attendant ability to repatriate dollars as well as skills back home.

With the change in our tax law, one would think it would become advantageous for international investors to own real estate directly, rather than through corporations and other vehicles, since the maximum individual tax rate of 28 percent is less than the corporate rate. There are, however, three major disadvantages to individual direct ownership. First, the investor would have to give up anonymity, something many of them would not want to do. Second, property that is directly owned by individuals is subject to estate and gift taxation, a significant factor to the wealthy foreign [owners]. And third, the individuals would be exposed to far more legal liability than they prefer, since American juries are much more likely to be unkind to wealthy foreign defendants in a court action than they would perhaps be to Americans.

The alternative is very likely to be indirect ownership through a United States corporation. And for a number of tax and structural reasons, the foreign investor corporation is generally going to be better off owning the property for a finite period of time, then liquidating and taking the proceeds out all at one time. This suggests more churning by the foreign [investors], even though their tradition has been to hold property for a relatively longer period than most American investors. And earnings can be repatriated by selling corporate stock.

Sale proceeds will still be subject to taxation at the individual or corporate rate but, if recognized through sale of stock, would not be subject to the branch profit or dividend withholding tax. If the United States corporation they use is not a "Real Property Holding Company" (i.e., a company with 51 percent assets

in real estate), then the international investor can avoid United States taxation entirely. This means you will see a great deal of foreign interest in corporations which deliberately merge trades or businesses which are non–real estate with real estate assets to pass that qualifying test. In the absence of such subtleties, given the complexities of taxation and repatriation, I believe we will see more interest in REIT shares. They become a very attractive means of diversification, quality, and stability, and in addition have a very low cost of search and acquisition, as well as eliminating the double-taxation aspect of most dividends. Certainly the cost of setting up and maintaining the rather elaborate ownership structure for direct investments is a lot higher than in REIT-type investment vehicles.

The tax and repatriation issues may also elicit continued creativity to distinguish dividends from interest on capital account transactions. The old French plan may become once again a popular method of investment, using a common stock, a preferred stock, and a bond, such that every $1,000 of investment might have a $750 mortgage on which you get interest and, if there was any cash flow left, some principal amortization; a preferred dividend if there was any money to pay it, with the preferred stock callable at a fixed value after the debt was paid off; and, finally, common stock which was essentially valueless and could be traded or gifted without significant tax consequences. After the mortgage is paid off, the preferred stock is called, and then all of the value created goes to the owner of the common stock.

There are a great many other structuring devices that are appropriate to the foreign investor, but the main suggestion I would like to leave with you is that the press is focusing currently on the high silhouette and somewhat surprising investments by a few foreign groups in the highest buildings on the skyline in major urban areas. I believe that the choice of buildings that foreigners can afford to buy is extremely limited, and that the gradual shift of the prime real estate to pensions and other institutional holders of real estate means that the transactional opportunities in the major first-tier cities will decline. The capital will therefore search the hinterlands, and investments there will be facilitated by structures like REITs, by something like the French plan, or by joint venture ownership of regional development companies.

Pension Termination Due to Business Failure, Liquidation, or Migration

James A. Graaskamp

Abstract

The purpose of this study has been to examine the pension security of the older worker in light of the insecurities of employment in a dynamic economy which can force a business to migrate, to close, or to discard much of its labor force. The frequency with which pension plans unexpectedly terminate was first determined from various federal, state, and private data sources. While data sources were inadequate to pinpoint frequency of pension loss situations, a time-lag correlation was found to exist between initiations and terminations of approved plans; further correlations were found between scale of employer assets, number of employees, and number of plants, and involuntary termination of plan or participant.

The greater part of this study was concerned with the collection and analysis of typical cases illustrating the consequences of full or partial termination of insured and noninsured pension plans. Thirty-five of these case histories were selected from interviews with, and private files of, various pension professionals east of the Mississippi or in the southwestern part of the United States. In addition to a review of pertinent legal and institutional environments, individual chapters have treated full termination of insured pension plans, full termination of noninsured plans, and the relationship between individual involuntary severance and partial termination of a formal pension plan. Each chapter concludes with suggestions for technical improvement of existing plans or terminal procedures. The final chapter concludes that true equity in event of involuntary unemployment or planned termination would

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This essay was the preface to Dr. Graaskamp's 1964 PhD thesis at the University of Wisconsin.

require complete reformation of present pension practices to achieve concurrency among legal theories of a pension as a conditional contract, actuarial policies for funding benefits payable, and social values as to vesting of benefits and understanding of risks of fulfillment implicit in the private pension movement.

The major value of this study might well be its proposal to reconcile legal, actuarial, and social premises so that pension expectation will be in accord with pension realizations where there is need for employment flexibility in our competitive economy. In essence, the proposal called for segregating funds according to allocation of risk in the probable continued prosperity of the business as related to wage contract equity. It was suggested, with some qualifications, that

1. *Benefits for the retired worker be funded in full upon retirement of the participant*
2. *Benefits earned following initiation of the program be funded in full with cash or surplus notes subordinate to the general debt of the employer*
3. *Actuarial liability for service credits earned prior to initiation of the plan be recognized as a gratuity subject to future contingencies of the business*

Retirement benefits would be vested and the funding commitment executed; earned deferred benefits would be funded or validated with a claim on effective employer net worth at liquidation, but vesting could be contingent on involuntary severance or a minimum number of service years. Past service liability would be a residual trust, allocated by actuarial proration to favor the older worker, funded only should conditions be favorable. On annual statements or upon individual severance or at final termination, the resources and liabilities could be arrayed in these three classes so as to instantly reveal the substance of each individual's rights to a pension expectancy.

Preface

In the spring of 1960 the faculty of the School of Commerce at the University of Wisconsin initiated a study of retirement plans from the viewpoint of the older worker. The research program enjoyed the sponsorship of the Ford Foundation and encompassed a number of scholastic disciplines and subjects, including

A. Labor mobility of the older worker
B. Pressure for earlier retirement of the older worker
C. Retirement experience of the elderly worker
D. Safeguarding of pension benefit commitments to the older worker
E. Adequacy of benefit formulas and vesting for the older worker

This monograph on *Pension Termination Due to Business Failure, Liquidation, or Migration* was initiated as part of the study of safeguarding pension benefits. Interviews and the search for primary data were generously financed from the Ford Foundation grant, although preparation of the manuscript as a dissertation has been the responsibility of the author. The economic power of the Ford grant was well matched with the teaching talent of my adviser, Professor Richard H. Heins, who was a major factor in my effort to mold a wealth of material fragments into academic form. His patience has been exceeded only by those who have typed this manuscript over the past two years of gestation.

The concatenation of events and persons which led to this study would interest few. But the author, an architect by predilection, wishes to point out that he is pursuing a teaching career as a result of the subtle designs of Professor Francis J. Calkins of Marquette University. The foundations for teaching insurance and real estate have since been set in place by Professors Charles C. Center and Richard U. Ratcliff over the past five years at the University of Wisconsin, and this study is a capstone on the various buttresses of the doctoral program. For the values received in these years, I should rightfully extend a mortgage note of appreciation to Dean Erwin A. Gaumnitz of the University of Wisconsin School of Commerce.

The blocks of information from which this study has been built were a contribution of a number of pension professionals who chose to remain anonymous lest they suggest that their files were public information. In addition, there have been dozens of sidewalk superintendents who have made their contributions to one detail or another and then faded into the crowd.

However, the best of blueprints produces nothing other than what skill and material the general contractor can combine in the execution of the grand design. Thus this author must bear full responsibility for performance in what he has bid to do in this monograph.

Madison, Wisconsin
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Implications of Vested Benefits in Private Pension Plans: Comment

James A. Graaskamp

At the risk of creating a column of "amplification and clarification" in the befuddling manner of *The New Yorker* magazine, I would like to advance the thoughts of Professor Joseph J. Melone regarding provisions for vesting within a variety of pension contract objectives, to specific points for negotiation by the parties at interest. This comment is in essential agreement with Professor Melone on all the details of his article[1] except the premise that "the problem to which proponents of vested benefits in pension plans address themselves is well recognized."

The gist of this comment is that the problem of vesting is not often recognized as fundamentally a question of risk management, of identification, measurement, incidence, and control of the noncontinuity risk of loss to benefits under private pension programs, a risk which should be treated as the normal, operational expectancy for a majority of private pension agreements.

The essential difference between Old-Age, Survivors, and Disability Insurance (OASDI) and the private effort to provide pensions is the question of benefit continuity if the plan or individual employment is terminated, voluntarily or not. Aside from the poor soul without dependents who dies prematurely only minutes before his Social Security retirement payments should begin, OASDI is virtually a riskless allocation of wages in lieu of cash, regardless of where the participant may work, when, for how long, or why he was discharged or switched from one job to another.

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On the other hand, the private plan can be characterized in this regard by Professor Melone's statement that "In the absence of vested benefits, job separations for reasons other than retirement, death, or disability preclude many workers from meeting the age and service requirements for entitlement to retirement benefits under the plan."

If OASDI is virtually riskless, the essence of the vesting problem for private pension efforts is deciding to what degree the pension participant should be expected to bear the very real risks of termination, voluntary or involuntary, and to what degree vesting of nonassumed benefit losses can be made meaningful with funds within the financial capacities of the employer. Since vesting problems of voluntary termination are a function of loyalty, incentives, and other considerations, concern in these lines is for the greater potential inequities of involuntary termination.

Vesting provisions can be drafted with relative ease 1) if the bargaining agent for the participant can find a consensus within his own group as to how terminal benefits and losses for each type of welfare program will fall on each recognizable age and service subgroup among the participants, and 2) if the bargaining agent for the employer can find agreement on definitions of what is a gratuity and what is deferred compensation, so far as terminal-shock losses based on these definitions would affect management financial plans, creditor security, and investor dividend and capital equities.

By convenient coincidence, my dissertation, *Pension Termination Due to Business Failure, Liquidation, or Migration*,[2] bears exactly on the point of involuntary termination and therefore, inescapably, on vesting as primarily a risk management problem in its conceptual and analytical treatment. Perhaps the title of this treatise was deceptive, for it proved impossible to separate the problems of equity in event of total or partial termination of a pension plan from those of involuntary termination of employment for a single individual participant in the plan.

In the general recognition of vesting as "a puzzlement" within the untidy and implicit legal and economic compromises of most negotiated pension contracts, one is reminded of Galbraith's comment on the nature of a vested interest:

> The notion of a vested interest has an engaging flexibility in our social usage. In ordinary intercourse it is an improper advantage enjoyed by a political minority to which the speaker does not himself belong. When the speaker himself enjoys it, it ceases to be a vested interest and becomes a hard-won reward. When a vested interest is enjoyed not by a minority but by a majority, it is a human right.[3]

Apparently the expansion of the private pension institution to additional millions has pushed private pension expectations to the brink of recognition as a basic "human right." However, legal rights have not infrequently been more difficult of description than human rights, and the development of the niceties of the law may be several steps behind what might be called the judgments of social consciousness.

While these comments contain the seeds of a long article, seeds stunted with the blight of pernicious inertia, the argument of the thesis will be capsulized without regard to detailed preparation of the ground or application of the rich compost of footnotes. In sketchy fashion, the line of development follows.

1. The present legal system provides ample means for safeguarding and enforcing a property right where one can be shown to exist.
2. The pension expectation has its origin in a private contract for private purposes and is concerned with a contingent future interest in property.
3. A pension expectation becomes a legal right only when an individual has fulfilled conditions precedent to a specific ownership interest.
4. The substance of this right depends on the certainty of periodic retirement payments from an employer or from segregated assets or funds.
5. A pension plan with a funding formula has a basic premise that over a period of time an employer can accumulate from income and segregate sufficient wealth to honor the employee's expectation or right.
6. During the process of accumulation, these segregated funds are in a legal limbo in terms of who specifically enjoys the right of ultimate title.
7. While the pension sponsor completes the required funding process to create wealth, the individual participant must complete the required service process to acquire property interests, both of which require time, perhaps 40 years or more.
8. The passage of time exposes both parties to a wide number of exogenous loss-causing variables which cannot be anticipated or controlled, thus undermining the latent effectiveness of pension expectancies.
9. The uncertainties for the employer and employee combine to a probability that neither shall see successful execution of the plan in the long run, and therefore the original plan must be designed to meet premature termination of the process by one or the other of the parties, or both, as the normal expectancy.
10. It follows that negotiation of the pension plan should be in part determination of the distribution of the uncertainties of pension realization between the employer and various groups of employees as defined by age and service. If the parties, in serving their own objectives, can agree realistically as to which risks of employment and business profitability are to be borne by the employer and by the employee, and if the employees can decide who among them shall have a claim on pension resources as opposed to other welfare benefits—then vesting, funding, and distribution of "unowned pension fund capital" are easily incorporated into terminal provisions which apply equally to termination of the plan in whole or in part or to individual employment termination.

In our opinion, behind the great debate of private pension plan issues—gratuity vs. deferred wage, vesting vs. economic feasibility, actuarial soundness through full funding vs. corporate financial viability, and all the many corollary issues—there is one central theme: to what degree shall each party at interest in a pension plan bear the financial risks of dynamic economic change in business and employment as it affects pension plan expectancies?

Resolution of the quandary thus posed must be founded on certain economic and ethical premises. In part, the American economic system is predicated on mobility of capital and labor, on a speedy exit from the economic scene for those unable to prosper as well as on freedom of entry into any field for those seizing opportunities. A predilection for material and human conservation demands a system by which enterprises can be newly cast or abruptly scrapped

while conserving each element of the business alloy of human life commitments, social capital investment, and natural resource allocation.

The personnel of business must be prepared, financially and mentally, for a constant progression of regroupings within and among various businesses as the pace of technological and market changes accelerates. Concurrently, the individual employee should be insulated to a degree from some of the financial consequences of regroupings as required by a viable economy.

Such a value judgment does not mean that the individual need not share responsibility for his own economic security or that full responsibility should rest with the government, a philosophy which has found expression in various aspects of current welfare economics. Instead, it should be remembered that pension plans evolve as part of the incentive system. Implicit in these comments (and those of Professor Melone, I believe) is that the private pension should continue to relate to loyalty, services rendered, and the vested interest of the employee in the continued prosperity and productivity of his employer, at least within equitable limits.

With such an underlying ethic, and with a momentary slighting of problems of conflicting terminal interest among subgroups of pension bargaining interests, a pivotal key to terminal equity, we believe, turns on a distinction between pension credits given for service prior to the existence of the pension plan and pension credits earned following initiation of the pension plan.

Former service credits would seem so clearly a gratuity that the amortization of this liability over 20 years or more would not seem an unjust exposure of the employee interest to the vicissitudes of business earnings. Prior to the plan, he had no reason to anticipate these benefits in making his financial plans, nor did the employer have any responsibility for providing these benefits from his financial resources. Equitably, the employee should bear the risk of nonfulfillment of the funding objective if the employer is willing to bear the cost of funding these benefits should future earnings permit.

An established pension plan with a given work force, on the other hand, does provide a foreseeable business cost for currently earned pension credits, a cost to be charged to current production. Where the plan is negotiated, noncontributory, and a tool of personnel policy, an earned pension benefit is logically an element of wage compensation and thus, in its most elementary form, a benefit to be funded and vested.

There are several social considerations which can modify the currently earned, currently vested approach to pension benefits. First, society has always seen fit to provide various devices to limit the liability of the entrepreneur in order to encourage him to explore economic opportunity more aggressively and to make more economic enterprises feasible. At the same time, the private pension is recognized as a tool of personnel management, a form of motivation designed to stabilize the work force and standardize company policy in regard to its long-term and older employees. By making any pension benefits contingent on some years of service and continued loyalty, the business objectives of the plan can be advanced while delimiting cost within employer capacities.

Society also would favor recognition of the immediate needs of the retired or about-to-be-retired worker. Can there be any reason why these employees after retirement must continue to bear any exposure to the loss of pension income

because of change in the economic fortunes of their past employers? This risk might properly be that both the employer and the active employee, who could share it by funding the past service liability, upon retirement, from additional payments by the employer and from savings due to the absence of earned benefits for the youngest and lowest-seniority workers in the employee work force, at least for three to five years of initial service.

Resolution of the policy question of risk might then be possible by distributing the risks implicit in the contingencies of a pension expectation introduced by the mortality of economic enterprise as follows:

1. Immediate retirement benefits: fully funded by combined sacrifice of employer and active employee
2. Vested earned service pension liability: an immediate cost of the employer
3. Past service pension liability: a cost of the employer contingent on continued operations at risk of the employee

Immediate retirement benefits would receive clear support from the law of deferred compensation; earned benefits would clearly vest only after satisfaction of qualifying contingencies, following the law of contingent contracts, while past service claims would be identified as gratuities and would be the only pension obligation which the employer could escape without further responsibility.

There would be two alternative treatments for possible pension benefit accrual from service following plan initiation but prior to qualification for vesting:

1. If recognized, these pension credits could be included in the past service liability reserve, shifting the risk of continuity for unvested benefits to the employee so long as service requirements for vesting were not too long.
2. On the other hand, if service prior to vesting were held to only a few years, no benefits need accrue, simplifying termination problems for the cyclical employer while providing funding economies which might offset immediate funding costs for retirement commitments. It probably could be shown that involuntary employment termination within three to five years of initial hiring would be better served through a separate supplemental unemployment severance pay program.[4]

The ranking of these priorities and benefits would permit an automatic and continual reallocation of available funds according to an accounting arrangement parallel to spillover trusts. On any given date, actual funds in hand would first be related to existing commitments to retired employees; any balance of funds and promissory notes from the employer would then be allocated to earned deferred benefits and, to the degree there was any balance of assets at liquidating values remaining, some part of the nonvested past service benefits would be funded.

With retirements, deferred benefits for past service would be transferred to first priority and, at any point that the total available assets and commitments of the pension sponsor did not total the termination values of retirement and earned deferred benefits, the sponsor would be required to make up the difference.

The relative weight given age over service in the event of termination could be negotiated by deciding how early retirement ages, deferred retirement, and retroactive inclusion in the plan would transfer unearned past credits to vested retirement credits. At the same time, possible shortages of funds would first affect the capacity to pay past service benefits, then vested earned benefits, with an actuarial proration.

On any given day, a single employee, half the work force, or all the participants would know the degree to which their expectations had been funded, should termination occur. Their interest, frozen upon termination, would be the equivalent values in cash or deferred insured benefits to which the terminated employee would be entitled. Termination dates could be defined by the labor contract or by common law in relation to the last day worked, expiration of layoff, seniority retention, or other factors.

Such a formula is exactly what is now negotiated once a plant is shut down or a significant workforce released, and it represents the real distribution of funds far better than the present actuarial reserve formulas, which define liabilities as though the plan will be continued indefinitely to pay both vested and unvested, earned and unearned benefits regardless of special terminal priorities established elsewhere in the plan.

Much like existential concepts of being as a process of becoming until death places a final limit on development, pension expectations might be thought of as contract rights in the process of becoming court-recognized quantities in the nature of property. The final test of the substance into which these rights have been transmuted by the passage of events would be at the point in time where the pension plan or continued individual participation was brought to a close.

A finite measure of what a pension is to become is the reserve which represents the allocation of claims against assets, and each type of future pension claim should be represented by a distinct and individual present-value reserve, so that the degree of funding for each type of claim would be readily apparent upon reading of the regular financial statement.

Since the plan calls for certain contingencies requiring immediate funding commitments on the part of the sponsor, it is necessary to provide a device which replaces the option of the sponsor from a question *if* it should fund earned and vested benefits to *when* it should actually transfer the money. For lack of a better term, a surplus note, subordinated to all company debt, could be designed.

Today a patchwork of contract priorities or topical termination improvisations decides how inadequate funds will be prorated among retired or deferred pension beneficiaries. Appropriate legal theories can seldom be twisted to fit the equity position of the disappointed participants, the actuarial reserves reflect the benefit formulas of the long-term program, not abortive termination, and there is no equity among groups classified by age, service, employment status, discharged or continued on the payroll by the failing firm, left behind or relocated by the migrant employer. Without a semblance of equity in contract provision for termination in varying degrees, it is difficult to find equity in the courts.

Those who have studied the failure of private pensions to solve the social and legal implications of continuity should be able to flesh out the bare bones of the proposals above with positive applications to resolution of actuarial solvency dilemmas, of equity conflicts between discharged employees and retained employees in regard to pension fund assets, and of concealment of the inadequacy of initial pension program provisions for funding or termination. Moreover, it makes explicit the value decisions which are implicit in special terminal amendments to existing plans, which have provided many opportunities in the past for employers and labor representatives to use terminal distribution negotiations as a cloak for nonpension objectives. Certainly the dichotomy of reserves for each

element of the pension benefit formula would destroy the false security of gross funding ratios, undermine the optimistic economic myopia of those responsible for stretching out pension funding, and check the tendency toward benefit formulas far in excess of capacity to fund these benefits.

All these advantages are only derivative of the more significant fact that recognition and design for premature termination of pension plan or participant as the *normal expectancy* make possible a single, equitable pattern of allocation of inadequate resources to any scale of involuntary termination. If terminal rights at any point in time are the same for any type of involuntary termination, then it follows that definition and allocation of the risks of pension benefit continuity, consistent with the objectives of each party as outlined by Professor Melone, can be the basis for "some reasonable measure of vesting" within the present pension tax framework.

This goal has been sought most recently by the President's Committee on Corporate Pension Funds and Other Private Retirement and Welfare Programs.[5] Moreover, a definition of vesting, backed with specific documents of employer funding commitments in the form of surplus notes, could establish an insurable value which might be appropriate as the interest covered by, and the premium basis for, the proposed Federal Re-Insurance of Private Pension Plans Act.[6]

Notes

1. Joseph J. Melone, "Implications of Vested Benefits in Private Pension Plans," *Journal of Risk and Insurance*, December 1965, pp. 559–569.

2. The dissertation was completed in August 1964. It was based on data obtained with the support of the Ford Foundation study of retirement plans from the viewpoint of the older worker, conducted by the faculty of the School of Commerce in the University of Wisconsin. The research program thus sponsored encompassed a number of scholastic disciplines and subjects, and this particular study was a part of the area on "Safeguarding of Pension Commitments to the Older Worker."

3. John Kenneth Galbraith, *The Affluent Society* (Boston: Houghton Mifflin, 1958), p. 181.

4. Experience shows that involuntary termination awards from pension funds are damaging to the pension interests of those remaining with the firm and confuse pension costs with employer obligations for supplemental unemployment responsibilities.

5. "Public Policy and Private Pension Programs—A Report to the President on Private Employee Retirement Plans by President's Committee on Corporate Pension Funds and Other Private Retirement and Welfare Programs" (Washington, D.C.: U.S. Government Printing Office, 1965), p. 42 et seq.

6. "Federal Re-Insurance of Private Pension Plans Act," Senate Bill No. 1575 and House Bill No. 6944 of the first session of the Eighty-ninth Congress.

Rent Control and Apartment Management

(Class Notes)

I. *Financial management theory defines risk as the variant between assumptions and realizations, the variance between pro forma statements and the historical P&L [profit and loss] statement.*

   A. *Investment in an apartment house represents a plan, a set of assumptions about the future, and property management is then the effort to control the variance from these plans and assumptions about marketing and finance.*

   B. *The control of variance is the financial specialty of risk management. Risk management has two objectives:*
      1. *Primary responsibility is to protect the existing network position—thus the reluctance to sign personally and to emphasize rate of payback to reduce maximum potential loss.*
      2. *Less primary is the need to realize future profit expectations.*

   C. *The first steps in the risk management process are*
      1. *Identify significant exposures to loss—an item representing 5 percent of net income or more, such as real estate taxes, energy cost, sewer and water, interest expense, and repairs*
      2. *Forecast possible frequency and severity of variance*
      3. *Identify and select a risk management technique*
      4. *Execute and monitor the risk management program*

   D. *The tools of risk management are basic and familiar to everyone, although most people are not very systematic about it.*
      1. *Avoid the risk*
      2. *Diversify the exposure to loss*

3. *Stabilize prices through partial monopoly*
4. *Shift the risk by contract*
5. *Shift the risk through insurance contract*
6. *Limit liability*
7. *Hedge on future contingencies*
8. *Control dynamic risks with incentive contracts*

E. *Consider the mortgage-loan-closing process as a series of controls on variance in the assumptions: the title policy, the bonded surveyor, the mortgagee clause, guaranty insurance, as well as personal accountability.*

II. *What does risk management have to do with marketing of an apartment project? Let's look at the tools of risk management in a pricing and marketing concept.*

A. *Avoidance of risk may involve a series of progressively more severe steps:*
   1. *More careful selection of tenants and tenant mix even at the cost of somewhat higher vacancy*
   2. *Avoiding certain market areas or price classes*
   3. *Condominiumizing and liquidating*

B. *Diversification may involve*
   1. *Geographic dispersion in many communities*
   2. *Combination of rental unit types*
   3. *Selection of tenant mix by quota of certain groups*

C. *The key to avoidance, selection, and diversification is creation of some elements of a monopoly.*
   1. *Definition of the competitive standard*
   2. *Definition of the competitive edge (fireplace, repair service, cleanliness, outdoor electric outlets, and reserved parking)*
   3. *The use of the telephone survey for an objective customer profile*
   4. *Apartments have a retail trade area—scatter diagram of job and previous address*
   5. *Price competition through user charges*

D. *Shifting the risk by contract relates to the frequency and severity of change in certain costs.*
   1. *Six-month leases give quicker response to changing utility rates and real estate taxes*
   2. *More residential use of directly metered charges for electricity, water, etc.*
   3. *Development of incentive rent system based on number of maintenance calls per unit requires development of better computerized accounting systems—à la Rockford*

E. *Shifting the risk by contract and insurance could best be done with a set insurance pool for bad debts and damages rather than the controversial damage deposit. A central insurance pool would provide identification of a tenant prone to damage property and ultimately subject him to a higher loss premium or no coverage at all.*

F. *Maximum loss can be limited by the financial structuring of the deal in order to minimize equity exposure or accelerate equity payback.*

1. *Accelerated depreciation is not a profit but a form of accelerated payback.*
2. *Limited partnerships, exculpatory clauses, corporate shells become highly necessary for those who would control rents. At the very least, landlords and property managers must maintain the right to strike in order that the public can realize that residential housing is a service industry, like teaching and fire fighting.*
3. *A service industry must police its members to be sure that service is rendered and quickly take sanctions against those who do not if the public is to appreciate that the capital is supplied by others while the responsibility is taken for management by the owners.*
4. *The ability of Latin American Marxists in government to destroy real estate equities through the real estate tax must be limited by converting education and welfare revenue sources to a progressive income tax with a corresponding rollback in rents.*

G. *A land contract is the classic hedge position, a straddle, as it is both a put to the seller and a call on future equity appreciation.*
   1. *Mortgage lenders are considering a variable-rate mortgage which is indexed to some internal cost of money or external cost.*
   2. *Residential apartment managers may wish to consider pass-through leases for all regulated costs, such as utilities, taxes, insurance, etc., with the proration share built into the lease as it is in a condominium agreement based on floor area and number of persons in the unit.*

III. *The real risks to the entrepreneur in residential apartments are inherent in the dynamic risks of politics, in the politics of energy pricing, and in consumerism, all the way to rent control.*

A. *Dynamic risks are handled by creating incentives of a direct nature for those whose apathy or personal involvement have an impact. Condominium conversion shifts all variance.*

B. *Energy costs will continue to rise, and the only protection is to reduce waste, currently estimated to be approximately 25 percent or more of residential usage. All utilities must be directly metered and charged to the tenant, so that he has a personal and immediate interest in efficiency. It is possible to have meters in each apartment but with all meter-reading dials at a central point for convenience.*

C. *Real estate taxes should be passed through, as mentioned earlier.*

D. *However, more money must be spent on higher-quality management people, so that service is as sensitive and responsive to the tenant as pricing is to costs.*

Index

Accounting/auditing, 184-87, 188, 189-90, 199, 209, 213, 218, 385-86, 432, 527
Ackoff, Russell, 105, 108-9, 116, 119-20
Aldrich, Eastman & Waltch [Boston, MA], 17
Alexander, Christopher, 79, 107, 494
Alger Report, 450, 454, 456, 463, 469, 475, 483
Alpine Lakes, 151-69
Alternative use. *See* Appraisals; Land use; Site selection
Alumni, 15, 17-18, 23, 36-37, 38-39, 67
American Bankers Association, 219, 222
American College of Real Estate [proposed], 72
American Institute of Real Estate Appraisers [AIREA], 18, 150, 198, 213, 217, 219, 221-22, 338
American Society of Real Estate Counselors [ASREC], 70, 337
Andrews, Richard B., 29, 31
Apartment houses, 354-59, 361, 545-47
Appraisal organizations: and investments, 338; and land use, 490; and the need for reform, 176, 180, 186-88, 191-92, 197, 199, 202, 203, 208, 209, 210-11, 213-14, 221-22, 490; purpose/function of, 202, 210-11, 222; weaknesses of the, 219
Appraisals: and accounting, 184-87, 188, 189-90, 199, 209, 213, 218, 527; appraisers' role in, 78-79, 83-86, 133; assumptions/basis of, 103, 134, 149-50, 217; and commercial real estate, 201-15; and computerization, 149-69, 194; constraints on, 178-96; content of, 202; and the cost to replace approach, 139, 183, 348, 349-50, 527; and data, 153, 154-58, 168-69, 183, 208-11, 213; and decision making, 168, 173, 177, 178, 180-83, 187; decline in quality of, 217; and developers, 197-200; and disinformation, 175, 189; and engineering protocols, 210, 214; and ethics, 99, 176, 178, 189; and the evaluation of practices, 133, 178-96; and feasibility analysis, 75, 77-92, 94, 95-96, 98-101, 106-7, 130-33, 173; and the financial markets, 176, 180, 211, 213, 424, 445-48, 454, 456; and forecasting, 139, 190, 194, 202, 203, 210, 217; and the income approach, 134-48, 183-84, 194, 209, 348, 349, 500; of income-property, 445-48; and institutional economics, 188-91, 192-95; institutional forces pressuring, 211-14; and investments, 348-50, 385-86, 409, 527; and land use, 61-62, 137-38, 490, 495-500; and the law, 175, 177, 190; and malpractice suits, 187, 219; and the market comparison approach, 138-39, 151-69, 184, 214, 348-49, 495-96, 498, 499-500, 527; methodology for, 153-54; models for, 174, 183-84, 187; and mortgage insurance, 445-48, 454, 456, 475, 476, 482; and mortgages, 424; and the need for reform, 178-96, 197-200, 201-15; and net reversion to equity investment, 145-47; and pension funds, 201-15, 216; and price, 137-38, 161-66, 168-69, 202, 203, 213; proposals for the reform of, 201-15, 216-23; purpose/function of, 127, 149-50, 181-82, 202, 203, 217; and real estate education, 48; and a reorientation in appraisal concepts, 99-100; structure of, 154; for wilderness tracts, 15, 149-69

Back-door approach, 252, 253-54, 336
Ballard, Claude, 22
Bank holding companies, 419, 434-37
Bankruptcy, 43-44, 276, 528
Banks, 430, 433-37, 459, 472-83, 526-27. *See also name of specific type of bank*
Barnard legislation. *See* R-41
Beck, Dorothy, 77
Beckett, John A., 41, 59, 109
Bennett & Kahnweiler [Chicago, IL], 17
Bennett, Marshall, 23
Bolan, Lewis, 14
Bonus interest, 325, 353
Boyce, Byrl, 102
Brandt, Steven C., 105, 109
Brokerage multipliers, 347-48
Bross, Irwin D. J., 87
Bubb, Henry A., 464
Budgeting, 243-54, 492-93
Burns, Michael, 26
Business schools, 34, 38, 41-44, 52, 62-67, 70, 71, 72, 186

Calkins, Francis J., 537
Capital: and appraisals, 209; demand for, 319; as an energy transfer system component, 34; equity rate with cost of, 360-61; and feasibility analysis, 105-6; and the financial markets, 428-32; and investments, 315, 319; and mortgages, 419, 428-32; rationing of, 408; and the real estate process, 251-53; social, 54-55; as a trusteeship, 173
Capital budgeting model, 99-100
Capital gains taxes, 324-25, 338, 340, 343-44, 346
Capitalization: and appraisals, 209
Carnegie-Mellon University, 110-11
Cash concept: and feasibility analysis, 99-100
Cash cycle: of the consumer group, 116-18, 236-37; and enterprise management, 41; and feasibility analysis, 115-18; and forecasting, 118; of infrastructure, 237-38; and investments, 315, 376; and linkages, 115-16, 233-37; and location, 115-16, 233-37; and marketing, 262-63; and real estate business, 491-92; and real estate education, 33; and the real estate process, 41, 43, 115-18, 228, 232, 233-38, 264, 489-90; of the user, 116-18, 236-37
Cash-cycle enterprise, 33-34, 42, 43-44, 55-57, 130, 131, 389, 489, 490
Cash equilibrium, 491
Cash flow: after-tax, 45, 253-54; and alternative uses, 262; and appraisals, 209, 210, 214; discounted, 209, 210, 214; and feasibility analysis, 99-100; and financial markets, 417; and forecasting, 255-57; Graaskamp's contribution to analysis of, 23, 29; importance of analysis of, 17; and investments, 253-54, 527-28; and land use, 119, 490, 493, 494; and the lodging industry, 300; and mortgages, 58, 526; and property rights, 238; and real estate education, 45, 47; and the real estate process, 131, 232, 238, 253-54, 489-90, 492, 493; and risk management, 57-58; and valuation issues, 140
Cash returns on original cash equity, 358-59
Cash solvency. *See* Solvency
Center, Charles C., 537
Cleland, Larry, 130
Collateral trusts, 323-24, 332, 439, 442
Commercial banks, 407, 433-37
Commercial real estate, 201-15, 275-77, 439, 528
Commons, John R., 32
Comparability. *See* Market comparison approach, 151-69
Competition. *See* Monopoly
Competitive edge, 258-59
Competitive standard, 258
Computerization, 14, 149-69, 194, 425, 528-29
Condominiums, 329, 547
Construction Administration Program [University of Wisconsin], 13
Construction loans, 436
Consulting, 10, 35. *See also* Landmark Research, Inc.
Consumer group, 228, 230, 254, 259-60, 489-90
"Content—James A. Graaskamp" [Burns sculpture], 26
Contracts, 322, 328, 342
Cooperative corporations, 328-29
Corporations: characteristics of, 326; closed, 329; cooperative, 328-29; as investors, 321, 328-32, 407; and joint ventures, 329; Subchapter S, 327
Costs of friction, 115, 233, 236, 293
Cost to replace approach, 139, 183, 348, 349-50, 527
Creative analysis, 90-91, 92
Credit extensions, 472-83
Credit insurance. *See* Mortgage insurance
Credit markets, 403-4
Credit unions, 430, 439, 459
Cron, Jimmy, 8

Davis, Jean [Graaskamp partner], iii, viii, ix, 21, 216
Debt-cover ratio approach. *See* Back-door approach
Decision making: and appraisals, 168, 173, 177, 178, 180-83, 187; and feasibility analysis, 83, 87-90, 94, 99-100, 106, 107-11, 131; first-level of, 332-34; and forecasting, 106; and land use, 119; and liquidity, 332; and modeling, 83; and objectives, 106; and price, 61; and problem solving, 107-11; and real estate education, 47; and the real estate process, 43, 55-57, 61-62, 239, 507; and retail site selection, 288-95; steps in, 87-90, 94, 106; and strategic objectives, 332; and the time horizon, 332; and value, 43; value of systematic, 87. *See also* Investments; Law
Defaults. *See* Mortgage insurance
Demand: segmentation of effective, 524, 526
Depreciation, 145, 339, 340-42, 346, 350, 361, 547
Design Coalition, 25, 26
Design schools, 49-50, 66-67, 70, 71-72
Developers, 197-200, 227
Development companies: publicly held land, 330
Development and construction companies, 330
Development process. *See* Real estate process
Dilmore, Gene, 48
Discounting, 350-51, 352, 360, 455
Double-tax entity equity positions, 329-32
Downs, Anthony, 22, 23, 78, 82

Economic studies: and feasibility analysis, 98-101
Ely, Richard, 29, 30, 32
Eminent domain, 220, 314, 490, 499. *See also* Wilderness tracts
Employee Retirement Income Security Act [ERISA], 105, 176, 194, 202, 253, 387, 407, 527, 528
Engineering, 210, 214, 508
Enterprise: definition of, 289; management of, 41, 130. *See also name of specific type of enterprise*
Environment, 131, 154, 290, 304
Environmental Impact Statement [EIS], 117, 236-37
Equitable Life [San Francisco, CA], 17, 388
Equity: and appraisals, 147-48; double-tax entity, 329-32; and investments, 352; and risk management, 268; single-tax entity, 326-29
Equity investment: net reversion to, 145-47
Equity ownership, 114, 232, 268, 322
Equity rate with cost of capital, 360-61
Equity trust, 529
Estate taxes, 529
Ethics, 69, 70, 95, 99, 176, 178, 189, 263, 336, 407

Fair market value, 134, 137-38, 140-45, 512-13, 517-18. *See also* Appraisals; Highest and best use; Valuation issues
Fannie Mae. *See* Federal National Mortgage Association
FASB. *See* Financial Accounting Standards Board
Feasibility: definition of, 76, 77, 80, 93-94, 102, 131, 263, 288; essence of, 101; and ethics, 69; and land use, 494; and the lodging industry, 296-300; multidisciplinary nature of, 70; and site selection, 289-95; and uncertainty, 288
Feasibility analysis: by analogy, 90-91; and the analysis process, 90-91, 92, 100-101, 246; and appraisals, 75, 77-92, 94, 95-96, 98-101, 106-7, 130-33, 173; and approaches to determining feasibility, 244-51; assumptions/principles in, 82-83, 101, 102-3, 337; and the back-door/front-door approaches, 56, 247, 248, 336; and capital, 99-100, 105-6; and a cash concept, 99-100; and cash cycles, 115-18; and classification, 81-83; components of, 81-82, 97-98, 244, 288-90, 337-38; concept of, 79-80; and constraints, 80, 95, 97-98, 131; and decision making, 83, 87-90, 94, 99-100, 106, 107-11, 131; definition of, 75, 78, 79, 243-44; and economic studies, 98-101; and ethics, 95; and feasibility reports, 86-87, 96-97, 131; financial, 336-37; and fit, 288, 289; and forecasting, 80, 90, 95, 133; framework of total, 80-81, 96-97; Graaskamp's contribution to, 23; and the initial study, 133; and investments, 247, 337-38; and land use, 106-7, 118-20, 131, 133; and limited resources, 80, 95; and modeling, 83, 90-92; and the most fitting site, 244; multidisciplinary nature of, 95-96; and objectives, 80-81, 95, 101, 131; and the planning process, 103-4, 111-12; principles of, 102-3; and problem solving, 107-12, 119-21; and the producer group, 243-51; and profits, 80, 81; purpose of, 106, 107; and real estate education, 104-5; and the real estate process, 112-23, 243-51; and retail site selection, 288-90; and risk, 80, 95, 100; and solvency, 113-14; starting point of, 86-87, 97-98; as a team approach, 133; and types of problems, 244
Feasibility reports, 86-87, 96-97
Feasibility testing, 76-77
Federal Deposit Insurance Corporation [FDIC]: and appraisals, 175, 176, 189-90, 194, 201, 211, 213, 218, 219, 222; and the globalization of real estate, 531; and mortgages, 417, 430, 432, 435; and the real estate process, 305
Federal Home Loan Mortgage Corporation [FHLMC, Freddie Mac], 194, 198, 213, 220, 222, 419, 425, 431, 440, 442, 455, 463-64, 481
Federal Housing Administration [FHA]: and appraisals, 184, 190; and investments, 364, 366-67; and land use, 500, 506; and mortgage insurance, 445, 450, 454-55, 456, 457, 459, 460, 467, 476, 478-79; and mortgages, 424, 425, 431, 434, 439; Mutual Mortgage Insurance Fund [MMIF] section of the, 450, 454-55, 476, 479; and the real estate process, 303, 305; as a secondary financial market, 440, 441, 442
Federal National Mortgage Association [FNMA, Fannie Mae], 194, 198, 213, 431, 440-41, 442
Federal Reserve Board, 222, 403, 430, 435
Federal Savings and Loan Insurance Corporation [FSLIC]: and appraisals, 175, 176, 189-90, 194, 198, 201, 202, 213, 218, 219, 222; and the globalization of real estate, 531; and investments, 406; and mortgages, 417, 430, 432; and the real estate process, 305
Fee-simple ownership, 134, 135, 136, 314, 326
Feiner, Michael, 17
Financial Accounting Standards Board [FASB], 178, 180, 185-86, 194-95, 199, 209, 213
Financial markets: and appraisals, 176, 180, 211, 213, 214, 424, 445-48, 454, 456; and capital, 428-32; and investments, 406-11; and liquidity, 418-19, 421, 428-29, 430, 431, 435, 436, 441, 476; and the market-structure system, 428-29; reorganization of the, 524, 526-27; and risk, 420, 431, 432, 447, 464-65, 468; and the safety system, 428-29, 431-32, 435; secondary, 425, 440-44, 529; and solvency, 421; subsystems of the, 418-20, 421, 428-32, 434-35; and the transaction system, 421-22, 428-29, 430-31, 435-36. *See also* Mortgage insurance; Mortgages; *name of specific market*
Financial markets—and regulation: and appraisals, 211, 213, 214; and mortgage insurance, 449-50, 454, 456, 459, 460, 465-69, 475, 480; and mortgages, 419, 430, 431, 432, 434
Fit, 244, 263, 288, 289, 493-94. *See also* Most fitting use
Flynn, Norman, 16
Forecasting: and appraisals, 139, 190, 194, 202, 203, 210, 217; and cash cycles, 118; and cash flow, 255-57; and decision making, 106; and errors, 130; and feasibility analysis, 80, 90, 95, 133; and investments, 347-61, 377; and modeling, 90; and real estate education, 47; and the real estate process, 254; and risk, 121, 130, 242
Foreclosure, 276. *See also* Mortgage insurance
Freddie Mac. *See* Federal Home Loan Mortgage Corporation
French plan, 300, 364, 534
Frieden, Bernard, 117, 237
Front-door approach, 253-54, 336
Future uses, 261-63, 293, 382, 408-11

Gallun, Tony, 6
Gaumnitz, Erwin A., 537
Gerhardy, Ted, 6
Ginnie Mae. *See* Government National Mortgage Association
Globalization of real estate, 530-34
Goodkin, Sanford, 303
Gordon, William J. J., 90, 110
Government National Mortgage Association [GNMA, Ginnie Mae], 194, 324, 419, 440, 441, 442-44, 445
Graaskamp, James: biographical information about, 10-15, 21, 37; childhood/youth of, 5-9; contributions of, 16, 23, 29; death of, 20-23, 24; family background of, 4-5; tributes to, 3, 14-15, 20-23, 24, 25-26
Graaskamp, Lillian [mother], 5, 21
Graaskamp Park [Madison, WI], 25-26
Gramm-Rudman Act, 404
Gruen, Claude and Nina, 62

Grupe, Greenlaw "Fritz," 24
Gustafson, Robert H., 48

Hammes, Jon, 36
Handicapped, 13, 15, 20
Handicapped Person of the Year (1970), 13, 15, 37
Hayes, John R., 105, 110-11
Hedging, 122, 242, 267, 414, 517, 546, 547
Heins, Richard H., 536
Heitman Financial [Los Angeles, CA], 17
Heller, Walter, 524-25
Highest and best use: and appraisals, 134, 135, 137, 150, 496, 497; and feasibility studies, 83, 85, 99, 119; and income, 134, 135, 137; and land use planning, 490, 494; and real estate education, 34, 59-61; and the real estate process, 239-40, 264. *See also* Alpine Lakes
Hobart, Susan, 25
Host-Jablonski, Lou, 25
Hotels/motels, 296-300
Hovde, Donald, 14
Huebsch, Herbie, 8
Huebsch, Robert, 8

Income: cash, 321; definitions of, 350-53; and fair market value, 134, 137-38; and fee-simple title, 134, 135, 136; and investments, 339-40, 350-53; and land use, 134, 135, 137-38; net, 34, 348, 353; peripheral, 322; and price, 137-38; project, 134-48; psychic, 321
Income approach: and appraisals, 134-48, 183-84, 194, 209, 348, 349, 500
Income property, 445-48
Income taxes, 338-47. *See also* Internal Revenue Service; Taxes
Independent Society of Real Estate Appraisers, 221
Industrial Land Utility Corporation, 10
Inflation/deflation, 524-25
Infrastructure, 253, 292. *See also* Public infrastructure group
Institute of Real Estate Management, 337-38
Institutional economics, 188-91, 192-95
Insurance companies, 68, 69, 419, 430, 431, 437, 438-39, 465-66, 526-27. *See also* Mortgage insurance; Private mortgage insurance
Interagency Appraisal Council: proposal for an, 220-21
Interest rate: bonus, 325, 353; and the globalization of real estate, 530, 531; and investments, 319, 410-11; and mortgage banking, 529; and mortgage insurance, 443, 455, 456; and mortgages, 419, 420, 425-26, 427, 430, 431, 436; and the secondary markets, 440, 443
Internal Revenue Service [IRS], 175, 176, 220, 253, 333, 364, 365. *See also* Income taxes; Taxes
Investments: alternative media for, 322-32; and appraisals, 338, 348-50, 385-86, 409, 527; and brokerage pricing concepts, 347-48; and capital, 315, 319; and cash cycle, 315, 376; and cash flow, 253-54, 527-28; characteristics of, 315; and constraints/alternatives, 322-32, 335-37; counseling for, 337-38, 350, 353-61; and definitions of real estate concepts, 488-94; diversification of, 412-14; double-tax entity forms of, 329-32; economic characteristics of, 315-16; equity, 352, 406-11; and ethics, 336, 407; and feasibility analysis, 247, 337-38; and financial assumptions, 376-77, 381; and financial markets, 406-11; and the first-level of decision making, 332-34; and forecasting, 347-61, 377; and income, 339-40, 350-53; and land use, 382, 527-28; and market analysis, 402-5; and mortgages, 319, 323-26, 331; and the nature of real estate, 313-22; and portfolio theory, 412-14; problems in real estate, 376; and profit centers, 321-22, 332; and property analysis, 334-37; property held for, 339; and property management, 332, 334-37; and property rights, 313-14; purpose/function of, 313; and rate of return, 315, 321-22, 409; and real estate as a futuristic investment, 408-11; and real estate space, 313-15; and reasons to invest, 402-3; and regulation, 323, 333, 335, 369-70, 407, 524, 527-28; and rental properties, 316-17, 325; and selection of real estate media, 332-38; and single-tax entity equity positions, 326-29; and strategic planning, 378-83; and taxes, 318-19, 326-32, 338-47, 361, 380, 382-83, 404-5, 528; in trade/businesses, 340; trends and growth potentials in real estate, 316-21; and valuation issues, 347-61; and yield, 347, 350-53, 360, 361, 377. *See also* Portfolio management
Investments—and risk: and cash flow, 527-28; and equity investments, 407; and financial assumptions, 377; and the future, 411; and limited partnerships, 369; and market analysis, 402-3; and pension funds, 385, 388; and portfolio management, 315, 331, 333, 334-35, 347, 350-53, 361; and portfolio theory, 412-14; and regulation, 527-28; and REITs, 375; and strategic planning, 380, 381-82
Investors: classification of, 340

JMB Realty [Atlanta, GA], 17
Joint tenancy, 327
Joint ventures, 329-30, 410, 534

Karl, Max, 456
Kaufman, Henry, 531
Kelly, Kent, 7
Klein, Thomas, 18
Kratter, Marvin, 364
Krause, Charlie, 6
Kujaca, James A., 384

Land, 114-15, 131, 233, 315-16, 490
Land contracts, 328
Landmark Homes, Inc., 10, 13
Landmark Research, Inc., 10, 13, 18, 21, 23, 37, 216
Land use: and appraisals, 490, 495-96; attributes of, 58-59; and cash flow, 119, 490, 493, 494; and decision making, 119; and definitions of real estate concepts, 488-94; and feasibility, 118-20, 133, 494; and investments, 527-28; and monopoly, 493; and price, 493, 499; and problem solving, 119-20; and the real estate enterprise, 489; and the real estate process, 55-57, 58-59, 114-15, 233, 489-90, 509-10; and relocation, 502-4; and risk, 492-93; and solvency, 491, 494; and space-time unit, 488-89, 493-94; and tax assessment, 498, 501-2, 506, 512-13, 518; and TDRs, 511-19; and urban renewal, 495-506; and value, 497. *See also* Best and highest use; Most fitting use; Most probable use
Land utilization and marketability studies (LUMS), 499
Lapidus, Morris, 298
Law, 53-54, 175, 177, 190, 233, 275, 290, 333, 335, 382. *See also* Property rights; Regulation
Leases, 266-69, 275-77
Leverage, 251, 319, 324, 344, 349, 366-67, 369, 373, 374, 500
Liang, Irene, 77
Limited partnerships, 327, 364-71, 529, 547
Linkages, 115-16, 154, 233-37, 290, 292-93
Liquidity, 332, 418-19, 421, 428-29, 430, 431, 435, 436, 441, 476, 478, 482
Loan-to-cost ratio approach. *See* Front-door approach
Location, 114-16, 233-37, 241
Lodging industry, 296-300
Loss, 478-83
Lovejoy, George, 531-32
Lozoff, Shelby R., 37

McBurney Resource Center for Persons with Disabilities [UW-Madison], 21, 25
McCormick, James, 498
Management: of apartment houses, 545-47; errors of, 477-48; investment, 381, 384-88; and mortgage insurance, 461, 477-48. *See also* Portfolio management; Property management; Risk management
Market comparison approach, 158-60, 165-66, 168-69, 184, 214, 348-49, 495-96, 498, 499-500, 527
Marketing, 254-63, 458-60, 546
Market research, 254-60, 389-401, 402-5, 496, 499
Market segmentation, 381
Market value, 86, 150, 198, 203, 213. *See also* Appraisals; Fair market value; Valuation issues
Market value ratio: net income to, 353
Marquette University, 10, 13, 37
Melone, Joseph J., 538-39, 541, 544
Merchandising, 258-59, 334-35, 396
Miles, Mike, 109, 384-88
Minimizing maximum regret (MMR), 111
MKTCOMP, 163-69

Mobile home manufacturers, 330
Modeling, 47, 83, 90-92, 183, 391-93
Money-time. *See* Real estate: definition of
Monopoly, 61-62, 259, 263, 278-79, 334, 380, 381, 389-91, 405, 491, 493
Mortgage Bankers Association of America, 219, 222, 439
Mortgage banking, 438-39, 442-43, 524-29
Mortgage Finance Corporation [MFC], 462-63
Mortgage Guaranty Insurance Company [MGIC], 425, 459, 460, 461, 462-65
Mortgage insurance: and appraisals, 445-48, 454, 456, 475, 476, 482; basic elements/concepts for, 457, 474-75; contract for, 458; definition of, 450; historical context of, 450-56; legislation concerning, 450-56; and loss, 460-61, 478-83; and management, 461, 477-48; marketing of, 458-60; and portfolio management, 468, 482; private, 424, 441, 442, 445, 456-61, 472-83; and regulation, 449-50, 454, 456, 459, 460, 465-69, 475, 480-81; and risk, 464-65, 468, 478-83; structure of, 461-62; and taxes, 465-66; and yield, 478. *See also name of specific type of mortgage insurance*
Mortgage investment trusts [MIT], 324-25, 373-74
Mortgages: applications for, 422-23; and appraisals, 424; and capital, 418-20, 428-32; and cash flow, 58, 526; and collateral trusts, 323-24; commercial, 439; complexity of, 322; content of, 424; as contracts, 322; definition of, 267; graduated-payment, 426; income-participation, 325-26; and interest rate, 419, 425-26, 427, 430, 431, 436, 440, 443, 455, 456; and investments, 319, 323-26, 331; and portfolio management, 431; price-level-adjusted, 426; and regulation, 419, 430, 431, 432; rejection of applications for, 425; and rental properties, 325; residential, 434, 439, 440, 441, 445, 449; and risk, 267-68, 421-24, 431, 475-78; and savings, 418-20, 421, 425, 428, 429-30, 434-35, 440; shared-appreciation, 426; and site analysis, 424; speculation in, 325; supply/demand of funds for, 418-19, 429; and the tilt effect, 426; variable rate-indexed, 425-27, 547; and yield, 425, 431. *See also* Financial markets; Mortgage insurance; *name of specific financial market*
Most fitting site, 244
Most fitting use, 34, 60-61, 118-20, 239-41, 264, 490, 494
Most probable price, 137-38, 181-82, 202, 203, 213, 347, 476
Most probable use, 34, 60-61, 118-20, 133, 137-38, 150, 239-41, 264
Mutual banks, 439

Naisbitt, John, 192, 527
National Association of Home Builders [NAHB], 219, 222, 303
National Association of Real Estate Boards [NAREB], 184
National Association of Real Estate Investment Trusts [NAREIT], 189
National Association of Realtors [NAR], 18, 23, 31, 72, 197, 219, 221-22, 405
National Association of Securities Dealers [NASD], 365, 370
National Council of Real Estate Investment Fiduciaries [NCREIF], 189, 193, 214, 385-86
National Credit Association [NCA], 211, 213
National Environmental Policy Act [1969], 117, 236, 237
National Institute of Real Estate Brokers, 337
Net income, 34, 348, 353
Net reversion to equity investment, 145-47
Net worth participation loans, 325-26
Northern Development Project [Wisconsin], 10

Oetzel, Terrell R., 222
Office buildings, 270-74
Office of the Comptroller of the Currency [OCC], 201, 211, 213, 222, 435
Operating expenses, 318-19
Options to buy, 328, 517
Orbison, Dianne, 36-37
Ownership, 34, 54, 332-38, 448, 492, 493, 514-15, 533. *See also name of specific type of ownership*

Partnerships, 326, 327, 364-71. *See also* Limited partnerships
Peltzman, Robert A., 23
Pension funds: and appraisals, 199, 201-15, 216; bailouts of, 407; and commercial real estate, 201-15; and investments, 388, 408, 528; management of, 204-8, 384-88; and mortgage insurance, 459; and mortgages, 430, 437, 439; and the real estate process, 253; and regulation, 419, 430; termination of, 535-37; and vested benefits, 538-44
Pension Real Estate Association [PREA], 176, 189, 193, 194, 214
Planning: business schools' attitudes toward, 41, 52; definition of, 70, 103; and developers, 41, 52; and feasibility analysis, 82-83, 103-4, 111-12; and investments, 527-28; and market research, 394-95; and problem solving, 111-12; and real estate education, 71-72; and the real estate team, 78-79; and TDRs, 511-19
Police power, 54, 490
Political apathy/action, 507-10
Political research, 396
Portfolio management, 384, 412-14, 431, 468, 477-48, 478, 482. *See also* Investments
Portfolio theory, 23, 412-14
Pose, Tony, 110
Power, 41
Prefabrication, 320
Prefabrication companies: publicly held, 330-31
Price: and appraisals, 137-38, 161-66, 168-69; brokerage concepts of, 347-48; and decision making, 61; and income, 137-38; and investments, 347-48; and land use, 493, 499; and monopoly, 316; multipliers, 348; and risk, 412; sales for indeterminate, 342-43; and the Wilderness Evaluation System [WES], 162-63. *See also* Market comparison approach; Most probable price
Private Mortgage Insurance [PMI], 424, 441, 442, 445, 456-61, 472-83
Probability, 131. *See also* Most probable price; Most probable use
Problem solving, 107-12, 119-21, 288-90
Producer group, 228-29, 230-31, 232, 238-39, 243-54, 489-90
Profit centers, 34, 57, 114, 130, 232, 251-52, 321-22, 332, 377, 425, 438, 492
Profits, 80, 81, 99, 278
Promotional research, 396-97
Property analysis, 334-37
Property improvement, 529
Property management, 62, 210, 283, 332, 334-37
Property rights, 238-39, 313-14
Prudential Insurance Company of America, 22, 199-200, 388
Public: and real estate industry, 71-72
Public administration schools, 70, 71-72
Public infrastructure group, 228, 230, 231, 232, 237-38, 489-90
Public interest, 53-54
Publicly held companies, 330-31

R 41 [Barnard legislation], 176, 197-98, 202, 217-23, 407
Rahenkamp and Associates [Philadelphia, PA], 118
Ratcliff, Richard U., 29, 30-31, 32, 48, 69, 133, 150, 216, 518, 537
Rate of return, 315, 321-22, 350, 351-53, 358-60, 409
Real estate: assumptions concerned with, 411; basic problems in, 288; definition of, 42-43, 93, 112, 130, 229-30, 313, 488-89, 512; demand for, 317-18; essence of, 52-53; fungible/nonfungible, 408; high cost of, 319-21; nature of, 313-22
Real Estate Appraisal Reform Act [1987], 216-23
Real estate education: as an applied social science, 62-64; and the faculty, 49; and feasibility analysis, 104-5; graduate programs in, 64; multidisciplinary nature of, 51-67, 70-71; obstacles in, 68-72; prototype of, 68-69; and the real estate industry, 69-70, 104-5; and the real estate process, 51-67; restructuring, 59-61; and risk management, 68; topics in, 72; undergraduate programs in, 42, 63-64. *See also* Design schools; Planning schools; Public administration schools
Real estate education—UW: admission to the, 44; and alumni, 37; axioms and premises of the, 34-35, 44-46; business school as best place for, 34; and cash cycle, 33; and consulting, 35; courses offered in the, 17, 33, 35, 45-49; and courses outside the business school, 47, 48-49; degrees in the, 32-33, 44; development of the, 32-35; and the faculty, 34-35, 47, 48, 64; funding of the, 17, 18, 69-70; and the future curriculum, 49-50; Graaskamp's contributions to the, 20; grading in the, 46; graduate program in the, 35, 48-49; and guest speakers,

17; and investment decisions, 309; mission/objectives of the, 33, 40, 49; multidisciplinary nature of the, 30, 32, 33-35, 38; as a pioneering program, 16, 22, 31; and the real estate industry, 69-70; and the real estate process, 227; reputation of the, 37; requirements in the, 35, 44-45; and research projects, 35; size of, 17, 70; topics covered in the, 45-48; tracks in the, 44; in transition, 46-49; undergraduate program in the, 44-45, 46-48; and the university mission/function, 34-35, 40-41; value to professions of the, 16-18; as the West Point of real estate, 37; and the Wisconsin tradition, 29, 30-31
Real estate enterprise, 43, 130, 389, 390-91, 489, 507-10
Real estate equity, 54-55
"Real Estate Equity Investment" [course], 309
Real estate industry, 69-70, 71-72, 78-79, 104-5
Real Estate Investment Trust Act, 364, 372
Real estate investment trusts [REITs], 324, 327-28, 332, 372-75, 385, 534
Real estate process: and the back-door/front-door approaches, 252, 253-54; basic concepts in the, 112-13, 229-41; and budget concerns, 243-54; and capital, 251-53; and cash cycle, 43, 115-18, 131, 228, 232, 233-38, 264, 489-90, 491-92; and cash flow, 131, 232, 238, 253-54, 489-90, 492, 493; characteristics of the, 55-57, 230; components of the, 131, 507; and constraints, 55-57, 62; and the consumer group, 228, 230, 254, 259-60; as a continuum, 230; and decision making, 61-62, 239; definition of, 43, 230, 489-90; and the economic-legal interface, 53-54; and error, 228; and feasibility analysis, 112-23, 243-51; and forecasting, 254; and the future, 507-10; groups in the, 228, 230, 264; importance of the, 264; and infrastructure, 253; and land, 114-15, 233; and land use, 58-59, 239-41, 264, 489-90, 509-10; and linkages, 115-16, 233-36; and location, 114-16, 233-36, 241; and marketing, 254-63; multidisciplinary nature of the, 19, 51-67; as political, 228; and problem solving, 119-21; and the producer group, 228-29, 230-31, 232, 243-54; and profit centers, 492; and property rights, 238-39; and the public infrastructure group, 228, 230, 231, 232, 237-38; purpose/function of the, 121, 491-92; and real estate education, 51-67; and research, 228-29; and risk, 121-23, 131, 228-29, 241-43, 264; and site selection, 232; and social equilibrium, 43; and solvency, 33-34, 43, 113-14, 131, 228, 232, 251, 264, 490, 491; summary of the, 263-64; and value, 43. *See also name of specific element in the process*
Real estate space, 313-15. *See also* Real estate: definition of; Space-time unit
Real estate team, 78-79
Real estate transaction, 266
"The Real Estate Process" [course], 33, 35, 45, 48, 55
Recreational land, 301-5
Recycling buildings, 261
Regency Hill, Inc., 10, 13
Regulation: and appraisals, 211, 213, 214; of banks, 430; creative, 465-69; and insurance companies, 419, 430, 465-66; and investments, 323, 333, 335, 369-70, 407, 527-28, 534; and mortgage insurance, 449-50, 454, 456, 459, 460, 465-69, 475, 480-81; and mortgages, 419, 430, 431, 432; and pension funds, 419, 430; and recreational development, 304-5; and savings and loan institutions, 323, 419; and syndicates, 369-70. *See also* Financial markets—and regulation
Regulation Q, 419, 441
Rehabilitation, 506
Reilly [Mamie] case, 501
Relocation, 502-6
Renaissance men, 49, 51, 227
Rent/rental properties, 269, 281-82, 316-17, 325, 347-48, 419, 545-47
Research, 35, 228-29. *See also name of specific type of research*
Residential mortgages, 421-24, 434, 439, 440, 441, 445, 449, 529
Retail real estate, 288-95, 411, 531
Returns on net worth, 359-60
Risk: alternatives for avoiding, 267; analysis of, 100, 266-67; and appraisals, 99, 203, 223; causes of, 412; credit, 473-74; definition of, 350-53, 412, 492-93, 545; dynamic/static, 473-74; and feasibility analysis, 80, 95, 100, 288; and the financial markets, 420, 431, 432, 447, 464-65, 468; and forecasting, 130; and land use, 492-93; and market research, 259-60; and mortgage insurance, 464-65, 468, 478-83; and mortgages, 431; and price, 412; and the real estate enterprise, 489; and the real estate process, 131, 228, 241, 264; types of exposures to, 266; and yield, 347. *See also* Investments—and risk; Risk management
Risk management: and apartment houses, 545-57; basic techniques of, 121-22, 241-43; and cash flow, 57-58; definition of, 121, 241, 266; and equity, 268; and feasibility analysis, 100; and financial management, 266-68; and forecasting, 121, 242; function of, 121; Graaskamp's contribution to techniques of, 23; and investments, 333-34, 352, 377, 382, 413-14; and land use, 492-93; and leasing, 266-69; and location, 241; methods of, 413-14; and monopoly, 491; and the mortgage lender, 475-78; and mortgages, 267-68, 421-24;objectives of, 266-67, 545; process of, 267; and real estate education, 68; and the real estate process, 121-23, 131, 228-29, 241-43; and risk analysis, 267; as the sequencing of decision points, 382; techniques of, 422; and time, 122-23, 243; tools of, 545-46
Rollins College, 10, 13, 15, 37
Rosenberg Real Estate Equity Fund, 199
Rouse, James, 409
Rouse, Willard G., 280

Sale price multipliers, 348
Sales: deferred payment, 342; for indeterminate price, 342-43
Sale to customers: real estate held for, 340
Salomon Brothers Inc., 18, 23
Satisfaction. *See* Decision making: and feasibility analysis
Savings: and mortgages, 418-20, 421, 425, 428, 429-30, 434-35, 440
Savings and loan institutions: and appraisals, 197, 198; banks compete with, 434, 437; as investors, 323; and liquidity, 435; and mortgage insurance, 455, 456, 459, 460; and mortgages, 407, 427, 430, 431, 432, 439; and regulation, 323, 419; reorganization of, 527; subsidies for, 419
Second-home development, 301-5
Security and Exchange Commission [SEC], 105, 178, 180, 186, 194, 214, 253, 328, 365, 370, 407, 430
Seymour, Charles F., 77
Shalala, Donna, 20
Shopping centers, 140-43, 278-83, 284-87
Singer, Bruce, 99
Single-tax entity equity positions, 326-29
Site selection, 114, 232, 288-95, 424
Society of Industrial Realtors, 337
Society of Real Estate Appraisers, 48, 77, 219, 337, 338
Solvency: and cash-cycle enterprise, 33-34, 131; definition of, 113-14; and ethics, 69; and feasibility analysis, 113-14, 251; and the financial markets, 421; and land use, 491, 494; purpose/function of, 490, 493; and the real estate process, 33-34, 43, 55-57, 113-14, 131, 228, 232, 251, 264, 490, 491; and value, 33
Space-time unit, 34, 52-53, 229-30, 488-89, 493-94. *See also* Real estate: definition of
Stark, Paul E., 69-70
State banks, 439
Stephenson, Sally F., 23
Strategic planning, 378-83
Students, 12, 20, 37. *See also* Alumni
Subsidized housing, 143-44
Syndicates, 327, 365-71, 527

Tax assessment, 147-48, 191, 194, 498, 501-2, 506, 512-13, 518, 528
Taxes: and apartment houses, 547; and double-tax entity equity positions, 329-32; and the financial markets, 432; and the globalization of real estate, 533-34; and investments, 318-19, 326-32, 338-47, 361, 380, 382-83, 404-5, 528; and mortgage banking, 529; and mortgage insurance, 465-66; and mortgages, 432; preferences for, 344-47; and REITs, 375; and single-tax entity equity positions, 326-29; and syndicates, 365-69; and TDRs, 518. *See name of specific type of tax*
Teaching: Graaskamp's views of, 23; William Henry Kiekhofer Teaching Award for, 11, 13
Teaching program. *See* Real estate education—UW
Tenancy-in-common, 326-27
Thurow, Lester, 531, 532

Tiering, 254
Time, 122-23, 243, 332. *See also* Real estate: definition of; Space-time unit
Trade/business: real estate held for, 340
Transferable development right [TDR], 511-19

Uncertainty. *See* Risk; Risk management
Universities, 40-41, 51-52, 191, 194-95
University of Wisconsin, 10-11, 12, 13, 18, 37, 38, 64-67, 72. *See also* Real estate education—UW
Urban Development Action Grants [UDAG], 144-45
Urban land economics, 131, 140-45, 270. *See also* Real estate education—UW
Urban Land Institute: college liaison program of the, 66-67, 72; *Community Builders Handbook*, 278; *Dollars & Cents of Shopping Centers*, 278; Graaskamp's activities with the, 18, 22-23, 24; *Standard Manual of Expense Accounts for Shopping Centers (Standard Manual of Accounting for Shopping Center Operations)*, 278; as a model for appraisal organizations, 192; and the need for an American College of Real Estate, 72; real estate development courses of the, 227; *Real Estate Development Principles and Process*, 227; resolution about Graaskamp of the, 24
Urban renewal, 495-506
U.S. Savings and Loan League, 219, 222, 430, 442, 455, 456, 464
U.S. Treasury, 442

Valuation issues, 33, 43, 131, 138-39, 140-45, 147-48, 150-51, 203, 347-61, 497. *See also* Appraisals; Fair market value; Market comparison approach
Veterans Administration [VA], 431, 440, 441, 445, 455, 459, 467

Wall, Dennis, 217, 220
Wendt, Paul F., 48, 99
West Pond Farms, 13
Wilderness Evaluation System [WES], 153, 161-63
Wilderness tracts, 149-69
Wisconsin Association of Realtors, 69, 70
Wisconsin economy, 524, 525
Wisconsin Housing Finance Authority, 18
Wisconsin Mafia, 36
Wisconsin Student Housing Development Corporation, 13
Wisconsin tradition, 29, 30-31
WPL Holdings Corporation, 25

Yankee Hill, 18
Yield, 347, 350-53, 360, 361, 377, 425, 431, 478