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An Approach to Real Estate Finance Education by Analogy to Risk Management Principles

by James A. Graaskamp, C.R.E.

I. INTRODUCTION

Risk Defined

Real estate investment of either mortgage or equity money requires the investor to accept a set of assumptions about the future productivity of a property and its management, assumptions that may be facts presumed to be true or future conditions over which the investor has only partial control. The passage of time will always reveal some variance between expectation and realization, between pro forma budgets and accounting history, between management hopes and individual performance. It is this inevitable variance between assumptions and realizations that is termed risk. Virtually all devices of real estate finance are related to the strategic and tactical methods of holding the variance in expected receipts and outlays within acceptable limits of predictability. Surprise, unpredictable variance, must be allocated through negotiation among parties to any transaction. Within the concept of risk management can be found an analytical framework to structure and edit the morass of descriptive detail that otherwise smothers courses in real estate finance.

Risk Management and Real Estate Finance

The educational value of providing an analogy between real estate finance and risk management principles as taught in current college insurance department programs has significance to the basic philosophy of real estate education. In the late 1950s insurance education at the college level was shifting from courses on how to manage and market insurance companies toward how to control financial variance from a variety of potential contingencies for any enterprise, a process in which insurance plays some part. In short, the educational thrust shifted its primary concern from purveyors of insurance to users

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of insurance. Similarly, today's real estate education at the university level is changing from concern for the few students who plan to go into the real estate business to virtually any user who will need to make real estate related decisions.

At the classroom level risk management principles provide a base for textbook selection, analytical problem exercises, and explanation of the dynamic factors that fit together in the real estate transaction process. The classics in real estate finance, such as *Real Estate Finance* by Hoagland and Stone, provide rich mechanical detail and some view of the bargaining objectives of the parties but little analytical technique.¹ Case problems in mortgage loan underwriting and cash flow projections become manageable as the student is taught to discover implicit assumptions about the ability to pay, tolerance in the numbers for surprise contingencies, and security against specific contingencies. In class discussions the risk management viewpoint provides a common point of departure for explanation as it provides a comprehensive analytical viewpoint that ties real estate finance to the main stream of corporate finance and budgeting thought. These elements are missing or fragmented in recent textbooks.² The effort at the University of Wisconsin to structure the real estate finance course around the risk management analogy is the basis for this essay.

Broader Applications of Risk Management Insights

Continuing education for those in the real estate finance game would also benefit by an emphasis on risk management principles. The collapse of most mortgage investment trusts can be attributed to the lack of any semblance of management of their assumption about interest rates in a capital market, about effective demand in specific project markets, or about desirability of diversification even at the expense of reduced volume and increased administrative budgets. At the highest executive levels there is a willingness to ignore risk management concepts. In 1974 the Federal Reserve Board was willing to consider private mortgage insurance as an extension of credit rather than as a form of property insurance.³ In another case a private guarantor had no concept of financial risks as an insurance company and challenged the Mortgage Corporation of the Federal Home Loan Bank as to minimum capital required to be eligible for participation in the secondary market.⁴ Application of basic risk management techniques in both court cases led to straightforward and obvious resolution of the issues. Somehow educators as well as real estate professionals have forgotten that risk in financial management matters is an explicit and measureable phenomenon and not banal, conventional wisdom, a shrug of the shoulders, a simple perception that hotels are always riskier than apartments to everybody concerned.

Essay Outline and Purpose

Part II will review the principles of risk management and then apply these by analogy to a variety of topics in real estate finance. Part III will suggest an analogy to the residential mortgage-lending field, while Part IV will sketch income property lending as shaped by basic risk management tools. Part V will suggest the appearance of risk management concern in all sectors of real

estate institutions. A full real estate textbook could be written from the risk management viewpoint; this essay focuses only on cognate relationship of real estate finance and the basic principles of risk management. The conclusions in Part VI are limited to the tutorial values of the risk management theme in business school instruction and in the development of a critical viewpoint for land economics literature in general.

II. PRINCIPLES OF RISK MANAGEMENT

Control of Variance in Financial Expectations

The real estate process is the exchange of a space/time commodity, such as a room for the night or a tennis court by the hour, for a money/time commodity. Real estate always involves three cash cycle enterprises that are attempting to find cash solvency equilibrium, with land the nexus of tension between space users, space producers, and the public infrastructure. Accounting tools are capable of budgeting items fixed in time and amount such as rent, items of predictable frequency and severity such as machinery repair, or items providing a funded reserve to anticipate a future expenditure for replacement or repair. Accounting cannot prepare for the financial contingencies that are unpredictable in terms of frequency and amount or whose timing and consequential total cost could consume all cash resources of the enterprise, remote as these contingencies might be in terms of probability. Those contingencies and surprises that surpass the capacity of normal accounting and budgeting techniques are the concern of risk management control. The financial consequences of such contingencies must be funded or eluded in order to maintain the reality of balance sheets and to achieve the goals of financial budgets.

The causes of such financial surprises are called perils, and perils can be static or dynamic.⁵ Static perils always cause a loss. They are related to physical cause and effect, occur at random, and are beyond the control of the enterprise. Dynamic perils, on the other hand, are those that can mean either profit or loss. They are caused by variations in business expertise or entrepreneurial motivation.

The primary objective of those entrusted with the application of risk management to financial planning is to avoid loss of assets already in hand due to static or dynamic perils. Of secondary priority is the realization of net income through the stabilization of outlays and receipts relative to a financial plan. Thus the risk manager strives to reduce the maximum exposure of existing assets to direct loss and then to avoid consequential losses of future income that would erode expectations of future spendable cash and of growth in net worth.

The Process of Risk Management

The various risk management texts⁶ describe the risk management process as:

- 1) Identification of significant exposures to loss in terms of frequency and severity.
- 2) Identification of alternative control procedures.
- 3) Selection of appropriate risk management methods at acceptable cost.
- 4) Implementation of the appropriate procedures.

While the definition of "significant" varies with the scale of the enterprise, the utility of money, and the degree of willingness to accept considerable variance in future financial outcomes, a significant event might be termed one that could cost the enterprise .5 of 1% of its present net worth or future income. The identification of exposure to the contingencies of a faulty assumption or an unpredictable future event might begin with the analysis of an enterprise balance sheet, profit and loss budget, or the underlying functions and activities of the enterprise itself. Does not a mortgage lender examine financial capacity, net operating real estate income assumptions, and the basic functional aspects of the real estate enterprise?

The Tactics of Risk Management

In the never-ending pursuit of certainty, enterprise management can choose procedural alternatives that will mitigate financial consequences of some risks. Nine of these tactics are listed below.

- 1) Avoid the risk by refraining from an activity, the ownership of an asset, or the pursuit of a future income when it exposes the enterprise to possible surprises of a character or amount that is unacceptable to the enterprise. For example, to avoid insolvency due to rent controls, lenders might avoid multi-family rental projects in certain communities.
- 2) Improve information since much uncertainty or financial surprise is due to ignorance of the facts rather than to any inherent unpredictability. An analysis of all available facts provides superior control on future expectations. Combinations for statistical predictability can advance data gathering to scientific rather than intuitive control. For example, because normal foundation costs can be affected by soil conditions, a factual study of those conditions in a property might permit a more accurate budgeting for rock removal or design of spread foundations.
- 3) Reduce frequency of loss by changing procedure or techniques once patterns have been identified from past experience. For example, careful loan servicing might reduce the frequency of loan delinquency just as fire-resistant construction reduces the frequency of fire.
- 4) Control severity of loss from static or dynamic contingencies regarding direct or consequential amounts. For example, a conservative loan ratio reduces the severity of loss in excess of foreclosure proceeds just as sprinklers do not prevent fires but do reduce the severity of fire damage.
- 5) Shift a risk by insurance contract, given the willingness of the risk manager to substitute the small, timely, but certain premium cost for the uncertain magnitude and untimely costs due to an insurable event. The insurer, of course, achieves predictability of financial outcomes through statistical combination, reinsurance to stabilize loss severity, and control through better information and expertise in drafting and executing the coverage. For example, the lender gives up $\frac{1}{4}\%$ to $\frac{1}{2}\%$ of annual interest to secure mortgage guaranty insurance to indemnify for losses due to mortgage foreclosure of a specific loan.
- 6) Transfer an unpredictable dynamic cost by contract to the second party. Unlike insurance the second party may shift the burden of increased cost to others by subcontract, retail price changes, or absorption of the increase from discretionary resources. There is no previously established actuarial pool of funds behind the acceptance of risk by the second party. For example, in residential mortgages

it is common to find clauses permitting periodic increases in interest charges which shifts the increasing opportunity costs of money to the borrower.

- 7) Limit the financial consequences of surprise by operation of contract "hold-harmless" clauses, by the statutory characteristics of corporate or limited partnership forms, or by the pooling of capital fund risks in a single venture among multiple investors. For example, the exculpatory clause might limit recourse of the lender to retaking the property while use of private mortgage insurance might require the lender to relinquish pursuit of a deficiency judgment.
- 8) Hedge changing values of money by taking opposite but equal positions in present and future markets for a fungible good. Despite the physical uniqueness of real estate, the interests in real estate are often fungible as space/time units (i.e., square foot per year of office space or room per night in a motel) or as money equivalents of space/time in terms of rents per square foot or interest rates per dollar of investment. Thus any real estate investment is an exchange of present dollar values for future space/time values expressed in dollars, a subject to be explored more fully under the topic of income properties. To hedge in residential finance the Chicago Board of Trade has recently created an explicit futures market in residential mortgage interest rates by using \$100,000 GNMA certificates at a stated interest at 8%.⁷
- 9) Motivate entrepreneurial execution of a plan by increasing incentives and penalties for management of dynamic risks. For example, much mortgage negotiation is concerned with defining the progressive levels of pain that can be applied to the delinquent borrower, ranging from late payment charges to court orders for specific performance and forfeiture.

Credit Extension versus Risk Assumption

In 1974 the Federal Reserve Board (FRB) was petitioned to permit bank holding companies to own and operate private mortgage insurance companies on the grounds that mortgage insurance was credit (a permissible function of the holding company) as opposed to property-liability insurance (presently not permissible).⁸ The existing private mortgage insurance companies resisted the competitive threat by petitioning the FRB to carefully distinguish between credit risks and insurance risks. Credit risks involve the deviation in the program to collect the balances due on schedule at the least possible servicing cost; lenders nevertheless intend to incur zero net losses by proper substitution of collateral and lay off of the consequences of other threats to collection. This objective is significantly different from that of insurance, which is designed to absorb the losses of future contingencies, if not from budgets predicated for rate-making purposes, then from policyholders surplus.

Consider the mortgage lender at the closing of the loan as he covers each assumption which is the basis for credit and collection:

- 1) Marketable title is insured with a title insurer or a title search by a lawyer of means.
- 2) Location of improvements on the pledged title is assured by a bonded surveyor.
- 3) Destruction of improvements is insured against by required property coverages in specified amounts.
- 4) Loss of income of the borrower due to illness or death is compensated by income replacement or life insurance adequate to repay loan.

- 5) Indemnity is sought from government or private mortgage default insurance programs, should pledged collateral have a possibility of netting less in the event of forced sale than outstanding debt balance.

Both the mortgage creditor and the mortgage guarantor are explicitly involved in risk management but are utilizing decidedly different specialized techniques, thus demonstrating the need for institutional specialization in real estate finance.

The mortgage guarantor depends almost entirely on the certainty of outcome produced by the theory of large numbers applied to geographic dispersion, heterogeneity of property and borrower types, past foreclosure experience, and policy provisions to protect against casualty losses to the collateral or gross negligence on the part of the lender. To the degree that economic cycles overpower loss expectations, the guarantor depends on financial pooling of surplus premium and stockholder capital to create financial mass to underwrite the guaranty. The lender, to the contrary, is regulated to avoid all foreseeable losses and employs a wide variety of options to lay off the contingencies of error, change of conditions, or random upset of the assumptions on which credit was granted.

The Real Estate Mortgage Transaction

In his effort to provide a unified approach to the multi-disciplines of economics and the other social sciences, Alfred Kuhn has identified the subsystems of the decision-making process as detectors, selectors, and effectors (DSE).⁹ Detection involves the process of gathering information, while the selection process involves the formation of values with which to choose among alternatives. Effectation is doing whatever course of action has been decided upon. A transaction occurs when two entities exchange positive values despite separate detector and selector systems. The devices to effect a transaction attempt to neutralize the doubts each party has regarding their assumptions or measurements of value.

A mortgage lender's selection depends on safety of principal, maximum return on investment, and liquidity. On the other hand the potential borrower seeks the use of someone else's money as a way to avoid the high risk in real estate investment, to exploit the leverage between cost of borrowed funds and their earnings invested in real estate, and to avoid the illiquidity of real estate in poor economic times. 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. The inherent incompatibility between lender and borrower is essentially mitigated through the explicit and implicit risk management and allocation tools that are employed by each. The history of mortgage law is a struggle of lender and borrower, each trying to gain an edge on the other regarding potential of all future contingencies. Indeed, a mortgage is a straddle position for the borrower, giving him a call on future values but permitting a put to the lender under specified conditions. The lender negotiates to neutralize the straddle by making the cost of the put in terms of downpayment and other claims unacceptable relative to the advantages of the

call on future value benefits. The borrower negotiates to perfect the straddle with high loan to value ratios, exculpatory clauses, or other limitations on liability.

III. RESIDENTIAL LENDING AS A DEMONSTRATION OF RISK MANAGEMENT TACTICS

Introduction

The nine basic techniques of risk management in Part I are well demonstrated by the making and servicing of a residential loan and the assembly of a residential mortgage portfolio. A review of the mortgage loan process will illustrate the risk management approach applied almost subconsciously since the repetitive nature of a standardized residential mortgage loan has institutionalized financial risk management into a set of forms and procedures that are thought of as legal procedure rather than risk management administration. It is only when observing special features of the income property loan that explicit negotiation of who bears the consequences of variance is ever present. Although the borrower may shop alternative institutions for the best terms of the moment, the residential loan is basically a contract of adhesion. The security of any mortgage loan is a combination of the continued satisfaction of the borrower with possession of the property, of painful penalties imposed for delinquency, or ultimately of bail-out by repossession of collateral. Many contingencies can destroy the psychic income of home ownership so that the lender must look to risk management through pain and bail-out techniques.

Risk Avoidance

Risk avoidance by pre-selection of borrowers, property types, and terms is the first defense of the mortgage lender. The board of directors provides initial guidelines as to the percentage of funds managed to be allocated to residential mortgage loans, the acceptable range of loan ratios to property values, the acceptable range of housing costs to disposable income, and a variety of constraints intended to avoid those loan opportunities that statistical experience or intuition suggest as expansive to service and costly to foreclose. Information about the borrower might reveal uncertain family motivation or no capacity for penalties incurred for nonperformance—a borrower to be avoided.

In the past, the directors may have chosen to avoid some perceived risk by blanket prohibitions on loans for reasons of sex, race, or neighborhood location. Failure to discriminate on a case basis has been scored as against the public interest or as unsubstantiated bias in policies to control variance in mortgage loan returns and cost, to the injury of specific individuals. Indeed, mortgage lenders are now facing the same arguments that have long confronted insurance companies that attempt to discriminate among different classes of insureds, to offer rate preference, or to avoid some classes of business altogether. Allocation of the costs of risk by means of discriminate selection has always been a major social issue, whether one is attempting to avoid risk of military service, of neighborhood friction, of political fragmentation, or costs of financial services. The current dilemma of mortgage lenders is made more apparent to the student by analogy to the traditional pricing and selection issues of risk underwriting.

Risk Control through Better Information

Past experience might provide better information by cross distributions of the frequency of delinquency correlated with foreclosure losses, property attributes, or borrower characteristics.¹⁰ To further improve the predictability of the individual mortgage loan outcome, the loan officer takes an application form and then attempts to verify it directly by contacting employers, relatives, or others, or indirectly through credit services and inferences from the interview, and so forth. Information gathering may include property inspection, a visit to the home of the borrower, as well as a review of existing neighborhood conditions. The object is to estimate the psychic income of the borrower from home ownership and the sensitivity or capacity for correcting delinquencies upon some painful stimulus. When the young family has no credit record from which to infer motivation to meet the terms of agreement, the loan officer attempts to improve the motivation and shift the risk by contract, using the relatives of the borrower as guarantors or the coverages of a public or private guaranty agency. The borrower might be required to provide income insurance as well as life insurance in the amount of the payments due to assure repayment despite the worst that might befall the income earner of the household. The ultimate product of the information gathering process is a set of facts that have been verified and a set of inferences (assumptions) about the future willingness or capacity of the family to repay the loan. Should recourse to the collateral asset be necessary, the asset or the equivalent must exist.

Closing the Residential Mortgage Loan

The closing process is a sequence of arrangements executing a risk management program for the collateral asset. While title has been verified, the possibilities of errors on the records upon which verification depended is shifted by title insurance. The lender requires affidavits from the seller or borrower regarding the absence of other liens or lien rights that have not appeared on the public record. Lest the improvements to serve as collateral are not properly located on the insured title, the lender requires inspection and survey by a bonded surveyor, the bond providing a cushion against error by the surveyor who is further qualified by licensing examination. In addition to basic property insurance to the benefit of the lender, destruction of collateral may be further insured against earthquakes, seiche, or other perils unique to the property. Payment plans provide for advanced collection of future premiums for continuity of insurance coverage to the benefit of the lender, as well as advanced funding of real estate taxes, nonpayment of which would undermine first lien position of the lender. Acquisition of the property by foreclosure is further protected when the borrower acknowledges that he was informed of various charges in advance as a requirement of truth-in-lending¹¹ and that he was charged for various closing costs within maximum limits imposed by federal law.¹²

Should the collateral in default provide less cash than required to meet the debt, the lender may anticipate the shortage by previous acquisition of public or private mortgage default insurance, supplementary collateral, or third

party endorsements. There is also the after-the-fact remedy of a deficiency judgment. All of these measures are intended to provide full recovery of both debt and collection expenses to produce zero net loss in dollars, if not in good will. At the closing the documents are shuffled around in careful sequence to maintain the defenses or priorities of each party. Filing of the documentation is required, but in addition prudent lenders might maintain insurance for sins of omission or commission in the documentation of the transaction. Is not this confusing myriad of documents best explained as risk management of the assumptions relative to credit collection in almost any future circumstance?

Servicing the Mortgage Loan

History has shown that the majority of defaults occur from a failure of the will to pay rather than the ability to pay so that servicing is involved in the dynamic risks of the mortgage loan relationship, as well as in the execution of the contractual shifts of risk found in the closing process.

The lender expects to control variance in repayment of the loan according to its terms by means of its mortgage servicing procedures, which depend on timely measurements of the significance of any delinquency or default. Servicing collects information (as well as money) about those liens, tax delinquencies, or other encumbrances that might erode the collateral or reveal some change in the borrower's intention to repay (permitting prompt corrective action). Should all these efforts fail to prevent a default on loan terms, the lender may look to public or private agencies that guarantee repayment of interest, principal, and other accumulated costs. Indeed, the guaranty insures against the consequences of an inaccurate appraisal on which the property loan was based and hedges the lender against property value deflation or a rate of inflation insufficient to recover balances due. Since these guaranties tend to encourage careless lending and servicing, the federal government has promoted coinsurance programs where the lenders could incur losses against current income expectations, an incentive device presumably of sufficient strength to motivate the lenders to do better.¹³

In summary, mortgage servicing monitors and executes the risk management plan surrounding the residential loan transaction. The first security is to maintain control of the dynamic risk by monitoring family pride, family satisfaction with neighborhood social and investment values, and the other psychic benefits of home ownership that are expected to maintain mortgage payments on schedule. In the absence of positive benefits perceived by the debtor in continuing to meet payments, the mortgage servicer might inflict increasing discomfort with various collection ploys to motivate payment on schedule. Ultimately when management of the dynamic risks fails, the lender seeks a bailout by liquidating his capital investment through a foreclosure sale, endorsement collection, or indemnity through some form of credit insurance. The significant fact is the heavy dependence of residential lenders on psychic income to equalize the value exchange in the transaction. That element is far more elusive than in the income property loan where income is essentially in cash or of little weight in the transaction.

Interest and Money Risks for the Mortgage Lender

The residential mortgage lender has at least four functional subsystems including:

- 1) A savings attraction system.
- 2) A lending transaction system.
- 3) A liquidity system.
- 4) A safety system.

To control variance in attracting savings flows, the lender needs to insulate dividends to savers from capital markets or to respond with competitive dividend rates. In the United States the risk management device has insulated the savings rate through Regulation Q, through concealment of interest returns by means of apparent benefits such as insurance, savings discipline, preparation for retirement, and so forth. In more capital-shy countries interest paid to savers must be more directly comparable with capital markets. Nonetheless, the cost of money to the lender varies more or less, and to maintain spreads between money cost and money lending rates, alternative loan forms might be used:

- 1) Loan provisions can be designed to trigger maturity of the loan under a wide variety of domestic situations such as divorce, resale under land contract, delinquency, and so forth, in order to create frequent opportunities to renegotiate the interest.
- 2) Interest rates can be raised at irregular intervals as an assessment on borrowers by such lenders as savings and loans and credit unions.
- 3) Short-term loans automatically renewable at rates that provide a guaranteed spread can be used as in Canada.
- 4) More sophisticated variable rate mortgages, tied to internal indexes of institutional costs of funds or external indexes of competitive capital market lurk in the background to lay off the risk of savings pools fluctuations due to changing cost of savings.

Note that various plans to alter rates paid to savers (and stabilize the flow of savings to residential mortgage finance) trade off the inconvenience of frequency of adjustment against severity of the impact on the budgets of the borrower. Again the student can quickly perceive the negotiation to allocate the impact of changing interest rates among the saver or the borrower or the intermediary institution as an issue of risk allocation.

Residential mortgage lenders have significantly different requirements for liquidity, depending on their ability to protect the savings pool from demand withdrawals within a web of periphery benefits from free checking to pensions, to life insurance, to income tax exemptions. Nonetheless, the institution provides liquidity reserves to meet unpredicted drains and attempts to affiliate with larger systems that provide additional liquidity sources. These systems include holding companies, the Home Loan Bank, the Federal Reserve Bank, and other agencies created by government or the securities market to permit liquidation of mortgage portfolios. Because the liquidating value of mortgages varies inversely with interest rates, government has found it necessary from time to time to provide liquidity at par to protect safety

through nonmarket loans, purchases, or indirect subsidies through such agencies as the Home Loan Bank and Government National Mortgage Association (GNMA). All these methods combine a shift of risk by contract, limits placed on liability, hedges, as well as internal accounting preparations for variance. The student quickly perceives that holding interest rates constant on mortgages shifts the interest risk and the liquidity risk to the mortgage lender who then transfers the cost of that variance to savers, a super agency, or a capital pool subsidized by government. Presumably government absorbs the cost since the political dynamics of its policies contributed greatly to the variance in the first place. Thus the politicians protect against obvious consequences of their own policies by pooling the risk of error through oblique taxation of the residents—and the circle of risk transference is complete.

The safety system is ultimately concerned with variance in the value of mortgage-lender assets to a point where net worth is destroyed and payment of all creditor claims, including those of savers, is threatened. Here again reinsurance devices provide another cognate to real estate financing institutions.¹⁴

- 1) Loan participations, endorsements, and loan guaranty plans are not unlike facultative treaties in which each party agrees on every individual risk regarding the exact level of participation.
- 2) The new coinsurance program for FHA eligible lenders is actually an excess-of-loss agreement on a defined class of business as found in reinsurance.
- 3) GNMA guaranties of collateral modified pass-through trust certificates for timely payment of interest and principal are not unlike income stabilization agreements as found in reinsurance.
- 4) Ultimately the Federal Deposit Insurance Corporation (FDIC) or Federal Savings and Loan Insurance Corporation (FSLIC) coverage of individual savings accounts provides liquidity for the saver, as a reporting form coverage of assets funded by pooling of a risk charge among all members of the respective systems.

Of course there are a variety of subsystems to protect the safety and integrity of the mortgage lender that are internal to the enterprise including audits, blanket fidelity bonds, loan committees, and all manner of administrative checks and balances.

The risk of devaluation of money during the long term of a mortgage commitment is now being addressed in foreign countries by elaborate indexing arrangements applicable to mortgage balances due as well as interest rates. Inflation in the United States has been less dramatic, and so its costs are concealed in the rise of interest rates, the rise in government subsidies to housing costs, subtle taxation of the saver by means of Regulation Q, progressive income taxation, and transfer payment escalation. Nevertheless, U.S. lenders have been selectively seeking investment devices to soften the erosion of long-term advances to real estate, primarily in the income property area where political sentiment to grant the borrower all the leverage benefits of inflation is not so strong.

Conclusions

Just as a course in real estate law might dwell on the nuances of "Title, title, where lies the title?" the teaching of the dynamics of residential mortgage

lending has the constant refrain "Variance, variance, where lies the burden of variance?" The mechanisms through which the variance in cash flows and values is allocated among individual borrowers, individual lenders, and pools of lenders, borrowers, or the public at large are the heart of the subject matter. Development of the continuing negotiation refinements of this issue seems far more instructive than requiring memorization of long lists of mortgage clauses, lending rules, or institutional attributes. To date, however, the strategy of real estate investment to lay off excessive risks on others is best articulated in the humor of trade publications.¹⁵

IV. INCOME PROPERTY LENDING AS FURTHER DEMONSTRATION OF RISK MANAGEMENT TACTICS

Introduction

Nonresidential income property loans lack the standardized, fungible character of residential mortgages, an attribute that makes possible the super institutional pools with which to homogenize residential loan risks. Thus lenders are far more dependent on customizing the loan agreement to allocate the risk between borrower and lender. However, income properties provide more opportunity to create monopoly values for property through the synergy of money and talent than is true for the individual homeowner who must compete in a far more homogeneous market. Thus, there is more opportunity to employ the risk/pay-off matrix which is the essence of free enterprise, that is, those who take the risks take the profits.

It should be noted that virtually every outlay for an income property investment is revenue and therefore a profit center to some other enterprise system. Those profit centers are for material, services, or expertise, the types and amounts of each differing over the time cycle of an income property. Thus, the timing of benefits and outlays is greatly out of synchronization as compared with the purchase and enjoyment of a single-family home. If anything, during a period of inflation the benefits of home ownership might increase downstream, while the costs of mortgage payments and other housing related expenses might decline as a percentage of disposable income. Just the opposite can be true of an income property investment unless it is carefully structured by both the borrower and the lender to accomplish a more even distribution of benefits and outlays over time. Thus, all of the concerns of variance in the residential loan must be dimensioned by the additional attributes of flexibility for variance in the timing of the income property collateral.

Definition of Timing

Application of the pleasure, pain, and bail-out considerations of any mortgage loan in order to structure dynamic and static risk management arrangements depends on when the borrower plans to take the most cash from the income property. Cash profits are in part a function of the profit centers retained by the borrower as compared to those subcontracted away to avoid the unknown costs inherent in doing some function without adequate experience. The borrower may enjoy profits from loan values on land, from construction contracts, from services for design, marketing, or management which make it

unnecessary for him to risk any of his net worth beyond the date of closing on the permanent loan. These cash profit centers make the hard dollar maximum exposure of the borrower to loss equal to zero, greatly reducing threat of loss as a motivation to repayment. Of course these profit centers might be non-existent due to ineptness, changes in conditions not anticipated by contract, or failure to achieve marketing goals.

Thus income lenders sometimes seek to avoid these risks with loans that can be closed only when critical conditions have been met, such as completion of construction, payment of all obligations, achievement of occupancy levels sufficient to carry mortgage payments, or deadline dates. The borrower attempts to shift the risk of not meeting these conditions to subcontractors, to payment and completion bond companies, to tenants willing to prelease, and to standby lenders. All of these arrangements come at a cost in terms of higher contract prices, premiums, rent concessions, and commitment fees.

The Reliance on Take-outs

To unravel risk management of the income property loan, one must reverse the chronological time line of development events. The ultimate source of satisfaction to the borrower and security for the lender is a tenant willing to pay rent adequate to meet operating costs, real estate taxes, interest and principal payments, and cash dividends to the equity investor and still allow a cushion for unexpected variance in rents collected and expenses incurred. All cash requirements should not exceed a desired ratio to gross income, called breakeven point or default ratio. On the basis of the business forecast and cash flow projections, it should be possible to secure a permanent loan commitment, subject, of course, to a variety of conditions as to completion, occupancy levels, and other qualifications. This qualified permanent loan commitment provides hope of liquidation for the progressive commitment of funds by the construction lender. The latter seeks a variety of assurances that this hope can be realized, including escrowed equity, letters of credit, performance and payment bond, and other evidences of borrower ability to qualify for closing the permanent loan commitment. The student will quickly perceive how the permanent lender identifies the assumptions on which a solid loan depends and shifts the risk of nonconformance to the construction lender up to the point where no construction lender would regard the commitment as a probable cash-out of the construction loan. Too many conditions due to too many unsubstantiated assumptions by the borrower kills the deal. The wise construction lender then needs to shift his risk of loss to the borrower or others. Presumably the maximum potential loss for the construction lender is the difference between cost to complete and market as compared to funds not yet disbursed from the construction loan or available from various security instruments mentioned earlier.

Traditionally the lenders have assumed that the satisfaction of the borrower will be found in completion of the project in order to receive cash dividends, and that the motivational pain will occur through the loss of equity provided by the borrower in the form of land, escrows, and front money cash. In recent years, however, these assumptions were insidiously undermined by the fact

that competition for loans had led to recognition by the lenders of soft dollar equities from land appreciation, contractor profits and fees, contribution of cash by limited partners or other silent investors. In addition there were serious errors regarding building cost due to over-estimation or under-supervision. As a result many borrowers found their profit centers in the construction process itself and relied little on the need for a take-out at the end of the line by cash paying customers. Application of pain to instill performance was dulled by the skill with which the developer used devices for limiting his liability or defending his position.¹⁶ In any event the permanent loans seldom required personal liability on the theory that the balance of the loan far exceeded the ability of the borrower to pay so that the lender must and could look only to the property for his bail-out. While the lenders would spend a considerable portion of total funds lent on property insurance, on completion escrows, or on bonds, seldom would the lender require that even 1% of project cost be spent on consumer research to provide reasonable certainty as to the quantity and character of effective demand on which the liquidity and safety of the loan depended. As a result the fundamental assumption that there was a need for the project was never tested, and ultimately the lender and/or equity position had to absorb the cost of an imperfect straddle, that is, a put to the lender without balancing take-outs in the marketplace.

Timing and Adequacy of Interest Returns For the Income Property Loan

A look at the phenomenon of participating loans provides one additional illustration of the risk management process at work in the mortgage loan negotiation.¹⁷ At first lenders were concerned that high ratio loans on shopping centers with little or no recourse other than the property meant lenders were taking equity risks (accepting a put on a weak center) for only interest returns on money. Thus they offered the borrower alternatives of progressively higher interest rates and progressively lower participation in future net worth for the lender, accomplished through stock warrants in development corporations. Developers were willing to trade away a share of the indefinite future for the immediate benefits of building a center with the higher loan possible with lower interest rates without exceeding a specific default point. With inflationary increases in retail sales, lenders regretted retaining a futures market in net worth in lieu of a share of current shopping center percentage rents in excess of debt service.

Then came the issue of which revenue line represented the risk position appropriate to something termed "an equity participation." Depending on the bargaining position of lender and borrower, an infinite variety of agreements have been struck as to how defined gross potential rents, effective gross rents, net income, cash throwoff, after-tax cash flow, or spendable after-tax cash are to be the basis for participation. Obviously at each step along the profit and loss statement, the balance becomes more volatile, that is, more subject to variance. At the same time each allowable deduction for operations provides a potential for discretionary, preferential diversion of equity dollars to the borrowing institution or its subsidiary. Conversely, cash returns in which the lender might participate could exceed anything justified by the passive con-

tribution of funds, by the maximum potential loss to the lender at some specific time, or by the maximum interest rate permissible under applicable usury laws. Thus the loan agreements became a maze of controls on participation that would either avoid stripping the borrower of management incentive or solvency, or stripping the lender of a profitable loan, public good will, or his position as a secured creditor, should he violate usury constraints.

What is significant here is the evolutionary recognition that all foreseeable contingencies leading to variance in cash shares had to be anticipated by contract. At the same time that the relationship of landlord to lender became articulated in terms of variance, the landlord reshaped his arrangements with his tenants. Pass-through of increasing operating expenses by means of escalator clauses expanded from simple proration of real estate taxes to sophisticated lease-construction packages. Architectural design coordinated with lease terms either isolated mechanicals and maintenance to the space occupied by a single tenant or prorated all expenses through compulsory tenant associations that assessed members but were managed by the landlord. Projects without direct ties to retail sales found various applications of the consumer price index to escalate collections, sometimes independently of a change in operating costs. Once the student recognizes the strategic interplay between allocation of variance between landlord and lender and landlord and tenant, he is prepared to approach the appraisal process, investment analysis, and contract negotiation with more willingness to test alternative positions with careful cash flow projections.

V. REAL ESTATE FINANCE INSTITUTIONS AS RISK MANAGEMENT DEVICES

Introduction

The essay has already alluded to some of the specialty institutions designed to provide liquidity and risk transfer for residential mortgage loans. Risk management strategies provide insight to all types of real estate institutions that have appeared over the years, highlighting weaknesses or advantages of each in ways that might not be found in most current real estate literature.

Some Institutional Risk Control Examples

The popular limited partnership form most often stresses its advantages as an income tax conduit or as a pooling of small investors in a larger property. However, those limited partners by law may have no part in management, and their shares of cash profits are subordinated to a variety of claims including management profit centers for the general partner and contingent shares to creditor positions. Thus the limited partners are in a position analogous to a second mortgage revenue bond holder with only the tax loss ploy as a sweetener. However, the feature of contingent return for the use of capital would justify financing real estate entirely with limited partnership funds to hold the debt service requirements within cash available for distribution. The default point of an income project financed exclusively with limited partnership units becomes equal to its expenses as a ratio of gross revenue so that holding power during the rental absorption period becomes impressively

secure. Only recently has the contingent interest feature been used to improve investment quality.¹⁸

Real estate equity trusts are parallel to the maritime joint ventures of previous generations and the trading companies which were the developers of colonialism. However, the identification as an equity risk capital pool is shown to be deceptive when the implications of Internal Revenue Service requirements for passive investment are studied. As suggested earlier, equity is the degree to which cash profit centers can be diverted to a specific position, and that power to divert is limited for the equity trust. Ironically some of the participating loans negotiated by insurance companies during the money crunch have more character as equity than shares in an equity trust where profit centers are limited. The general profit centers for the investor income properties are found in operating revenues, refinancing surplus, capital gains on sales, or tax savings attributable to the real estate to other income. The trust share investor who has limited access to the last three cannot be compared to property investors who enjoy all four without regulatory limitations. These other investors, as well as the equity trust management advisor, might also exploit the real estate investment as a customer for services of all types, thus diverting further cash flows to support justified investment values. Where then is the advantage of true equity investment for the small investor in the equity trust?

The elaborate joint venture arrangements between financial institutions and real estate developers¹⁹, mergers of building companies and corporate conglomerates²⁰, and the defects appearing in state housing finance agencies²¹, all appear in the literature as studies in inadequate preparation for potential variance of underlying assumptions. The legal literature is saturated with comment on this common theme of who bears the consequences of change in long standing assumptions about the use, sale, or rental of land.²² Institutional financing solutions are sought to the windfalls and wipeouts created by reimposing public control on land, land investments, and even housing rents of low income groups.²³ Risk measurement and management for real estate finance has also become a favored topic for academic research as the new generation of academics applies the most sophisticated techniques of finance to analysis of real estate portfolios or individual properties.²⁴

Certainly all of this literature and activity must begin to influence the regulation of real estate finance institutions. 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. Worse, traditional loan-to-value ratios are counterproductive as they do not reveal how changes in interest rates and term relate to the default point of the project. Moreover, default ratios and debt cover ratios or deficiencies therein immediately suggest what additional endorsement, escrow, holdback, marketing plan, or escalation clauses are required to reasonably anticipate cash needs for repayment of loans on schedule. Abandonment of the traditional loan-to-value ratio in favor of cash flow planning by the lender could be the motivation necessary to update the moribund appraisal process with contemporary business forecasting methods. There is reason to believe that the court and public administrative institutions are a significant deterrent to application of the best real

estate principles which build on the concept of real estate investment as business planning under conditions of uncertainty.²⁵ Financial risk management deals with control of those uncertainties.

VI. CONCLUSIONS

One of the basic objectives of business education is to teach students why and how to be explicit when defining assumptions for a business plan or forecast. By tracing the burden of possible variance in each assumption or surprise contingency, the student learns that most risks can be measured, that business bets can be shifted to others or systematically accepted as skill and transaction patterns permit. Rational balancing of potential losses and potential gain is the essence of entrepreneurship. To appreciate real estate finance the student must be taught to perceive the risk/payoff matrix in far different dimensions than simply the gross balance of the loan relative to the dollar amount of interest income.

When real estate finance is taught to include the financing of public infrastructure systems, of the development-production sector, and of the long-term user, there is then an opportunity to synthesize the subject matter into a total system. Each of these groups consists of cash cycle enterprises with different cash requirements and capacities for raising capital. The instruments of real estate finance ultimately allocate the shock and cost of variance in the assumptions under which each group and enterprise made its decisions among the three parties to land use decisions. Thus real estate finance is pivotal to the study of other aspects of land use and real estate ranging from the impacts of alternative public policies to construction design and contracting.

Student perception of the web finance-related contracts among public, user, and production segments then leads to the hypothesis that maintenance of cash solvency, and not value maximization, is the critical decision point for economic decisions about land and related improvements. That hypothesis, of course, subjects most of the traditional land economics theory to a skeptical review and might explain the recent importance of land economics value theory in directing or innovating land use policy.²⁶

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