JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

II. CLASSES AT THE UNIVERSITY OF WISCONSIN--MADISON

P. Assorted Bits from Additional Classes Taught by Graaskamp

6. Business 847 (Management Analysis--Real Estate) and 837 (Real Estate Retailing Seminar): Lecture notes, student projects, and problem sets

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Commerce 837 -- March 13, 1968

I -- Next class at Wisconsin Center, March 20, Room ___ Real Estate for Retailing Seminar, 3:30-5:30 and 7:00-9:30. Sign-up list for dinner and cash bar.

II -- Term paper--Subject matter can be divided between corporate real estate problems and retail real estate problems. These two subjects can then be further defined into marketing, finance, or physical design to serve a user purpose.

A. Corporate
   1. Marketing
      a. Construction and sale of new towns
      b. Marketing opportunities in urban renewal
      c. Merchandising large buildings
   2. Finance
      a. Federal corporate taxes--a subsidy to real estate
      b. Alternative financing methods for industrial facilities
      c. Sale and leaseback financing
      d. Appraisal of income property
   3. Physical design
      a. Office building and office layout
      b. Industrial plant layout
      c. Real estate law, public controls, and design

B. Retail
   1. Marketing
      a. Theories of retail location drawing power
      b. Theories of transportation and retailing
   2. Finance
      a. Percentage leases
      b. Shopping center development packaging
      c. Retailing approach to banks and bank location
   3. Physical design
      a. Theory of retail store design
      b. Theory of shopping center design
      c. General theory of urban land use planning

III -- Comments on readings to date. The commodity in urban land economics is space in which to house urban activity. The space is artificially defined, generally as a manufactured item. One must house all kinds of activities so that real estate is a housing problem in the broadest sense.

A. Population growth and demolition have an impact on demand. But so do shifts in population from rural to urban, from core to suburban, from high density to low density housing.

B. Just as significant is the fact that space is environment and people are becoming more sensitive to both good and bad environment tilting the slope of economic obsolesence so that real estate is not so durable as it once was.

C. We can build what we can finance. The problem is capital may not be adequate to build everything we might want and the rates of return relative to risk so not necessarily give financial priority to those things which have social priority.
   1. Mortgage money is inadequate because we are becoming capital shy and mortgage lending is the cheapest loan money available. Money goes elsewhere and savers go elsewhere with the result that we are experiencing disintermediation of the mortgage money market.
   2. Big scale equity money is seldom available except by a few capital pools such as the Rockefellers, the Guinness family, etc.
   3. More recently participation loans by insurance companies and building material suppliers are now possible.
   4. The idea today is to match a long-term real estate venture with negative cash flows with a stable corporate venture with excess cash flows: object subdivision.
   5. Result has been to recognize the lender as the risk-taker and therefore eligible to share in the profits of risk as well as in the rent on capital.
   6. As a corporation matures the rate of return on invested capital will fall suggesting that earnings should be paid out in dividends at the cost of future corporate power of alternative investments are possible which were once marginal.
   7. As corporate management matures after a period of expansion, they seek to memorialize their successes in brick and mortar and image-building campaigns.

D. If capital is in short supply, so is managerial talent. A lot of young men enjoy large responsibility because there are so few people who are sophisticated in matters of real estate finance and development. The most successful real estate firms are those which have borrowed their management know-how from other fields. A retail marketing man, a mortgage lender, and an industrial engineer and perhaps a CPA make a wonderful combination.

E. Successful real estate involves a combination of capital budgeting, critical path programming, cash flow forecasting and the valuation of cash flows.

IV -- Feasibility analysis for any real estate is basically establishing a chain of relationships which generates rental revenue, expenses, and net income. The feasibility problem is either discovering the proper ratios for disaggregating available blobs of data or for definition of desirable aggregates by projecting from particulars.

A. The supermarket problem is one of reducing aggregate population, income, and traffic patterns to sales per store per line figures from which we can derive gross rent-paying

capacity, net income, and available capital budget for facilities.

1. There is no problem in getting census data and family income information. The problem is knowing how to disaggregate this into a PTA and then to predict how many of these potential customers and dollars will be attracted to a particular store. Kane is arguing that these ratios can be derived by studying existing store patterns both spatially and monetarily. Spatial patterns lend themselves to mapping--to analysis of urban geography as modified by man-made barriers such as streets and visual blocks.
2. The problem of working from the particular could be reversed this way: the site would permit a 25,000-sq. ft. store which would cost $400,000 to construct with land. An investor on a sale and leaseback would expect an overall net rate of return of 8% per annum or $32,000 and operating cost might be 4.5% per annum including taxes, so we need 12.5% or $50,000 a year rent. If our gross margin is such that we can spend 4% of sales on occupancy costs, then we need a minimum sale of $1,250,000. The question then becomes what kind of consumer base must we have to meet this minimum and does it exist around the selected site.

B. Kane lists a variety of methods of determining the spatial ratio of the PTA:
   1. Riley's law
   2. Trading area analogy
   3. Competition surveys
   4. Newspaper circulation
   5. Gravity models
   6. A variety of maps are available from city planning departments, traffic departments and title companies.

C. The most important part of population projections is the are of excluding data which does not represent effective buyers for a particular product. Madison is an excellent example because population growth is due to annexation, college enrollment, and in-migration of families with children so that the 0-9 age group is expanding far more rapidly than is expalined by the birth rate. Census data of community population must always be disaggregated.

D. Given population one needs income average per capita or per family and then a ratio of income spent on a given line of goods such as retail food. The question is then how adequately served is this market. In a given market, everybody is eating as best they can so an additional store generally means a redistribution of sales among existing retail areas. The same is true of most retail uses so that analysis of the retail location within the urban context is only the first step.

E. Given a potential retail location, there remains the competitive problem of attracting customers, putting them in

a buying mood and then exploiting this susceptibility with the right mix of goods and service.

1. Attraction is a matter of convenience, accessibility, and product differentiation.
2. The buying mood is illustrated by all the tricks of environmental design in a Kohl's store or the closed mall shopping center. Physical design is stressed in the Handbook and will be played down here.
3. The mix of goods and service is meat for the marketing depattment.

F. Note what Kane has to say about making sales volume estimates. Here he begins with the particular in terms of number of employees and then adjusts by sales ratio per employee.

1. Also note the inference of shopping environment power in the need to inspect facilities.
2. Analyze competition relative to traffic patterns and community capital budget plans for highways, new schools, and sewers.
3. Saturation is a function of total weekly food store potential, total sales area of existing supermarkets, actual sales per sq. ft., and break-even point per sq. ft.
4. Note the emphasis on store differentiation, the development of quasi-monopoly advantages.

V. All of the above items are screening criteria to eliminate alternative sites from unnecessary costs of development research. A significant element of feasibility analysis is learning how to excludes alternatives as quickly as possible. Once you have excluded alternatives and reduced the choice to one or two locations, then the problem of careful revenue estimating begins. Hence Kane puts this part last as it should only follow some preliminary screens and tests. Read Chapters 12, 13, and 14 carefully.

A. PTA-STA per capita sales method--first the total market then the share space ratio experience of previous stores.

B. Zone projections are also possible, using quarter-mile radii additions with adjustments for natural topography crimps, etc.

C. The subtractive method.

D. For next week remember to bring your maps to class and be sure you have read Part Four of Kane.

Class Session #1
BUSINESS 847

I. Administrative detail
   A. Apology
   B. Textbook distribution - make checks payable to Real Estate and Construction Club - $10.00 including "Corporate Real Estate" and "Sale and Leasebacks"
   C. Format of course:

      Basic material of the course is contained in the reading assignments for which there will be a final exam weighted at 40% of semester grade.

      Two short problem sets to be written out and handed in will be weighted at 20% of semesters grade. A research paper on a specialized aspect of industrial real estate or finance is required and will be weighted at 40% of the semester grade.

   D. RED #3 & #5 refer to anthologies of general Real Estate Department material on the reserve shelf. In addition there is a binder labled 847 with readings specially selected for this course.

II. Basic characteristics of real estate.
   A. The layman concept of real estate is that of land, brick and morter, and a mystical entrepreneurial technique of wild-catting and confidence games. Anybody is an expert because we all stand on real estate everyday. Small facts are no substitute for big rumors and success is directly proportional to political clout.
   B. Although in real estate, like most everything else, I would rather be lucky than smart but being smart increases the probability of being lucky more than once and remaining solvent between each lightning bolt of success.
   C. First of all the essence of real estate is empty space, not material solids. Real estate is created as soon as we differentiate some spade from the natural voids in which we live.
      1. Rolling a rock in front of a cave artificially differentiates space and creates real estate.
      2. The first improvement of property is a surveyors monument, whether it is a pylon on the Nile or a plat in the court house identifying some condominium space in the sky.
   D. It is not the enclosure but the space enclosed that is valuable. Land provides a locus, a surface with which to reference a volume of space and improvements provide a means of providing that space with desired attributes such as shelter, esthetics, privacy, or whatever is necessary with the activity to be enclosed.
   E. Real estate is therefore space to house all manner of activities, agricultural, domestic, commercial, industrial, or recreational. Any business operation must be housed in some manner or other and the form of this housing relates to the functions performed. Therefore in industrial real estate we are concerned with the decision making process for selecting a method of housing any given corporate activity.

III.

III. The basic business strategy is to convert cash to goods for sale to accounts receivable and back to cash. Cash gives you flexibility to change your activities to meet the times, to respond to risk and opportunity. The longer the cycle of cash to cash the greater the risk and the higher the profit required. Inventory turnover and receivable turnover and working capital turnover relative to marginal sales opportunities are the basic measures of efficiency. Capital payback is often measured in months and not more than five years.

A. In this tranditional view of the commercial cycle, real estate is about the worst investment you can make as it is the fixed asset with the longest payback period, the most inflexibility, the highest cost and the least marketable of any resource in the commercial-industrial cycle.

B. On the other hand more people have become millionaires because of real estate than any other single business enterprise and two-thirds of the nation's wealth is represented by real estate assets. Indeed more than one-half of all the new capital created from savings each year is reinvested in real estate.

C. This course is going to attempt to reconcile this apparent contradiction by using corporate real estate as an excuse to talk about real estate in genera.

IV. Since real estate is a capital asset it follows that its use in business should be essentially a rational process in decision making. In general the corporate real estate manager must take the view of a user of property and establish his own criteria for evaluating alternatives.

A. The objectives of his organization are unique in many ways and therefore his criteria must be generated internally. He operates more like a feasibility analyst than an appraiser or broker. He is constantly attempting to judge the likelihood of satisfying corporate objectives given certain limiting constraints in any specific situation involving housing of the firm.

B. For many years the corporate real estate function was a staff function rather than a line position. More recently many corporations have discovered their real estate mistakes have been more profitable than their marketing successes and therefore real estate is regarded as a dynamic tool in corpprate strategy.
   1. Illustrate with Penny strategy
   2. Illustrate with paper-box plant near Disneyland

C. Real estate operates within a context of much that is outside its borders and only in part by means of investments within its own turf it is possible to profit tremendously by doing nothing and letting others do everything. Unlike any other investment asset land is indestructible and does not often waste away from neglect, it is virtually fixed in supply, and the need is a multiple function of the population density.

D. Each site is unique and immovable and cannot be precisely duplicated. Free enterprise is the art of creating imaginary or real monopolies and the nature of land makes each site a potential monopoly.

847 Class Topics

I. Review elements of feasibility analysis

1. A creative process of identifying attributes, positive and negative, in an effort to match components to produce a net positive total

   a. Flat barren farm site at Pleasant View Golf Course
   b. High density for low unit costs versus rapid absorption of land for low holding costs

2. The time line of development is a common thread. Present value of cash returns to capital costs is the ultimate criterian.

3. Feasibility analysis is the creative process (direct creativity by attribute listing) use Fantus example of factory location.

4. Description by attribute is a way of analyzing real estate interests and financial plans.
   The mortgage with equity participation
   The low ratio mortgage
   The high ratio mortgage
   The high ratio insured mortgage
   The high ratio mortgage with insured rental income
   The high ratio mortgage with equity participation
   The land contract with equity forfiture
   The option or call
   Analysis by analogy with the corporate financial structure

5. Wells Fargo Bank classification of bank loans by attributes - 86 attributes which can be combined into different securities as a means of analyzing quality-profitability of the loan portfolio.

II. Each attribute of a real estate investment might be classified as an item in the capital budget, the critical path of development, revenue, expense, and tolerance for surprise.

1. Capital budget includes offsite improvements, onsite improvements, structure, interior and mechanical, land, and professional fees.

2. Critical path is concerned with time sequence, duration, and distinction between a capital expenditure and an operational expenditure.

3. Revenue is not only concerned with rent bur also shared expenses, escalation increases, amd derivatives concessions. In source and application analysis it would include equity committment, short and long ter m borrowing, deposits held, etc.

4. Expenses include operating cost, interest cost and the addition money cost of concessions.

5. Intangible opportunity cost and personal cost or risk.

6. Risk - the fixed immobile resource located in a shifting, transatory energy field.

7. The problem for measuring yield where there is a progressive committment *and progressive withdrawal and variable* income and little prospective predictability and no assured productivity.

Business 847

Management Analysis- Real Estate Problems

Final exam
Monday, May 26, 1969 Prof. J. A. Graaskamp

I. Write on one of the following questions: (33%)

1. Why are real estate decisions somewhat different in character than other business decisions in the view of Prof. Arthur Weimer as found in the Harvard Business Review?

OR

2. Why are corporations returning to real estate investment and amending corporate policies and organization structure in regard to real estate management?

II. Write on one of the following questions: (33%)

1. Briefly discuss alternative methods of comparison evaluation of alternative sites for a new industrial facility for a major corporation, including determination of feasibility for the projected investment.

OR

2. Briefly identify and describe the important provisions in a lease contract of office space for a major sales office facility.

III. Write on one of the following questions: (33%)

1. Identify and briefly discuss the three approaches to value which form the approved appraisal format for income or investment property, indicating the typical application and potential pitfalls of each method.

OR

2. Discuss the strategy, considerations, and possible pitfalls of industrial park development.

Business 847

Summer Problem 1969

Office buildings cost $32 per sq. ft. complete with all tenant improvements, design fees, and indirect charges during construction. Of this cost 40% can be allocated to mechanical equipment components. These components have a 15 year useful life and are 90% depreciable while the balance of the structure cost can be depreciated for a useful life of 40 years.

Land costs $5 per sq. ft. and improvements to land can not exceed a gross area ratio of 3 to 1. 300 sq. ft. of land is required for an outside parking stall plus $300 for paving with a useful life of 5 years. Multi-level inside parking or ramp parking costs $3,000 per parking stall and has a 40 year useful life. An office building should have at least one parking space per 400 sq. ft. of rentable area. Only 80% of the gross square footage in a building is rentable.

Money is available for office construction under two options:

Option #1 - A loan for 75% of total cost for 8 1/2% interest amortized in 20 years.

Option #2 - A loan for 90% of total cost for 9% interest plus 4% of gross as participation for 30 years

Market rent for office space is $7 a sq. ft. and operating expenses run $1.20 per sq. ft. of gross area while taxes run $1.00 a sq. ft. of gross space. The smallest site available is 25,000 sq. ft. but additional land can be purchased in 10,000 sq. ft. increments. Describe an office project which would be feasible and would return 15% on after-tax basis if held for ten years and sold for its original cost. You may assume that taxes will be held constant because of escalator clauses in the lease but you may make assumptions on the rate of increase in rents and expenses and you may stage the project if you wish,assuming that the market cannot absorb more than 40,000 sq. ft. of rentable space in one year.

INVESTMENT ANALYSIS 847

Financial-Office Design Problem - 1970

Office buildings cost $20 per gross square foot of floor area for all structural items and including all tenant improvements, design fees, and indirect charges during construction. One can reduce structural costs by $4 per gross square foot if the building is only two stories high. However, it is necessary to add an additional $10 per gross square foot for mechanical equipment excluding elevators. Investment in mechanical equipment cannot be built in modules less than what is necessary to serve the gross area of at least three times of a single floor gross area. Elevators cost $10,000 each per floor; there must be a minimum of two elevators and an additional elevator for each 10,000 square feet in excess of the first 30,000.

For purposes of tax depreciation structural costs have a useful life of 40 years and are 100% depreciable while mechanical items including parking outside parking paving have an average useful life of 10 years and are 90% depreciable.

Land costs $5 per square foot and the ratio of gross building area to land area cannot exceed a ratio of more than three to one.

400 square feet of land is required for an outside parking stall plus $300 per stall for paving and landscaping, a cost which can be depreciated on the same basis as mechanical equipment. As an alternative an inside parking ramp stall costs $2,500 per unit, no additional land is required, and it has the same useful life as the structure. An office building should have at least one parking space per 500 square feet of rentable area and the use of the stall is included in the rent schedule. Only 80% of the gross square footage in an office building can be considered rentable.

The current market rent for office space is $7 a square foot and operating expenses run at $1.50 per square foot of rentable area. Real estate taxes run at $.20 per square foot of land per year plus $.30 per square foot of gross building area.

The smallest site availabel is 15,000 square feet but additional land can be purchased in 10,000 square foot increments. Assume real estate taxes will be held constant because of excalator clauses in tenant leases. Make any reasonable assumptions on the rate of increase in rents and expenses that you wish. You may stage your project if you wish because the market cannot absorb more than 40,000 square feet of rentable space in this price range in one year.

Money is available for office construction under two options:

Option 1 - A loan for 75% of total cost for 8 1/2% interest amortized in 20 years. Default point not to exceed .85.

Option 2 - A loan for 90% of total cost for 8 1/2% interest plus 3% of gross as participation for 30 years. Default not to exceed .90.

Describe an office project which you think would be feasible, prudently financed, and would return 15% on an after-tax basis if held for at least 7 years and then sold for its original cost, under existing income tax rules.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

Instructions For Use of the Coding Form

1. One character or number for each blank. Decimal points, "X's", "-'s" may not be altered or written over.

2. Your personal Social Security number must appear in the space provided. The last two digits will be used to fill your coding sheet, punched cards and output.

3. "Cards 2" indicates the number of component cards (1-5)
"Cards 3" indicates the number of mortgage cards (1-4)

4. Starting Year - when component is to begin depreciating (1-10)

5. % Depreciable - (.00 - 1.00) ie. 00% - 100%

6. Useful Life - number of years component may be depreciated (0-99)
0 indicates that its not depreciated.

7. Depreciation Method - 0 - not depreciable
1 - sum of years digits
2 - straight line
3 - 1.5 x straight line declining balance
4 - 2.0 x straight line delcining balance

8. Original Cost - $XXX - rightmost digit must be in rightmost blank on form.

9. Information in Student's Name, Project Description, Component Description, and Mortgage Description fields will appear as they are coded.

10. All dollar amounts must be coded in the rightmost portion of the allowed space - do not include dollar signs (4).

11. Growth rates are constant annual rates. 5% growth rate = .05
-5% growth rate = -.05

12. All pertinent figures must be coded except Beginning and Ending Years for mortgages. If mortgage term is longer than ten years or is not refinanced, place a 10 in the column "Ending Year".

13. Indicate full amortization term of mortgage in column "Term".

14. Extraordinary expenses can be deductions for high vacancies in first year or commissions for leasing space, etc.

15. The Staging Multiplier will adjust gross rent, expenses, and real estate taxes to indicate the ratio of increase in rentable area. Indicate year increase is to take effect in "Staging Year".

16. Staging of Component Investment and mortgages is accomplished by indicating a starting year for an addition same as the Staging Year.

UNIVERSITY OF WISCONSIN SCHOOL OF BUSINESS

Real Estate Investment Teaching Model

July, 1969

Card 1

Student's Name	Social Security Number	Course & Section #'s	Project Description	Cards 2 3
	X -- -	X - X		X X

Card 2

Component Description	Starting Year	Percent Depreciable	Useful Life	Depreciation Method	Original Cost
X X X X X	X X	X X X .	X X X X X	X XX X	X X X XX X X X
X X X X X	X X	X X X .	X X X X X	X XX X	X X X XX X X X
X X X X X	X X	X X X .	X X X X X	X XX X	X X X XX X X X
X X X X X	X X	X X X .	X X X X X	X XX X	X X X XX X X X
X X X X X	X X	X X X .	X X X X X	X XX X	X X X XX X X X

Card 3

Mortgage Description	Principal Amount	Monthly Payment	Interest Rate	Start	End Or Pay-off Term	Bonus Interest Rate	Refinanced By Mortgage #
	X	X	X .	X X	X X X	X	X . XX X X X
	X	X	X .	X X	X X X	X	X . XX X X X
	X	X	X .	X X	X X X	X	X . XX X X X
	X	X	X .	X X	X X X	X	X . XX X X X

Card 4

Gross Rent	Rental Growth Rate	Expenses	Expense Growth Rate	Capitalization Rate	Income Tax Rate	Staging Multiplier
X X X X	X X X .	X X X X	X X X .	X X X X .	X X X X .	X XX

R E Taxes	R E Tax Growth Rate	Extraordinary Expenses	Project Value Rate of Growth	Vacancy Rate	Working Capital Interest	Staging Year
X X X X	X X X .	X X X X	X X X .	X X X X .	X X X X .	X X X X X