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THE ROLE OF INVESTMENT REAL ESTATE IN PORTFOLIO MANAGEMENT

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THE ROLE OF INVESTMENT REAL ESTATE IN PORTFOLIO MANAGEMENT

by

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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 that 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 and ference 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 that 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 multi-dimensional 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 man-made 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 space ships 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 as 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;*

[1] For further discussion see *Law and Land. Anglo-American Planning Practice*, edited by Charles M. Haar: Harvard University Press and M.I.T. Press, Massachusetts, 1964.

[2] For a nontechnical discussion of the relationship between population growth and urban construction patterns read *Community and Privacy. Toward a New Architecture of Humanism*, Serge Chermayeff and Christopher Alexander: Doubleday & Company, Inc., New York, 1963.

[3] The psychological impact of space is reviewed in readable fashion in *The Hidden Dimension*, Edward T. Hall: Doubleday & Company, Inc., New York, 1966.

[4] "Real Estate Decisions are Different," Arthur M. Weimer in *Harvard Business Review*, November-December, 1966.

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 70's 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 twenty 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 1960-1970 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 absorbs 60 percent of gross revenue dollars. The potential for real estate investments in 1970-1980 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. Table 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 15-24 age group (apartment dwellers) and the 25-44 age groups (home buyers 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.

Table I

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. Current Population Reports, Population Estimates, Series P-25, No. 359, Feb. 20, 1967. Published in *Urban Land*, July-August, 1967, Vol 26, No. 7, by Urban Land Institute, Washington, D.C.

2. Historically *the need for urban facilities* in the U. S. 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 25-30 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 such a house at interest rates of 8¾ 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 home-owners 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 makes such innovations mandatory as both present sewage treatment systems and natural surface waters will be physically incapable of absorbing the wastes of 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

[5] *Financing Real Estate, Principles and Practices*, Sherman J. Maisel: McGraw-Hill Book Company, New York, 1966.

[6] *Managing Corporate Real Estate*, Howard F. McCloy: American Management Association, Pennsylvania, 1967.

shift in the modal split between public transportation systems and private autos will have a pronounced effect on 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 educational 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. Grassroots 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, non-profit 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 largest 500 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 5½ percent twenty-five year mortgage equal 7½ percent of invested capital, the developer-investor enjoys a 4½ 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 proplem, 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.

[7] For a short prose and visual presentation of transportation choices see "Transportation and the City." *Architectural Forum*, Time-Life, Inc. New York, October, 1963.

[8] *Capital Formation in Residential Real Estate*, Leo Grebler ,Louis Winnick and David Blank: Princeton University Press, 1956.

(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 saving 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 1965-1980 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 1970-1980 is in the ironic position of offering the equity investor an opportunity to exploit the monopoly potentials of location, 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-units; prefabrication is increasing in importance to site assembly; 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 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 land ownership, 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 and 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 con-

[9] "A Practial Computer Service for the Income Approach," James A. Graaskamp in *The Appraisal Journal*, American Institute of Real Estate Appraisers, Chicago, January, 1969.

cealed 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 up-zoning 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.

[10] "The High Cost of Molding Land," Roy P. Drachman in *Urban Land*, Urban Land Institute, Washington, D.C. October, 1968.

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 1960-1970 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 equity 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 twenty-five years or more and in practice the assets of a savings and loan turnover 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-

[11] *Savings and Loan Fact Book*: United States Saving and Loan League, Chicago, Illinois, 1970.

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 7½ 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. *Mortagage 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 of servicing of mortgages will deposit in escrow mortgages of residential or occasionally 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 paper work 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 investors' 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 fifty of these organizations were created. Wall Street floated $750 million of new shares in MIT's. While some of the older MIT's 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 3½ percent over borrowing rate, covering a 1½ 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

[12] "Collateral Trust Issues," William F. Leahy, *The Mortgage Banker, The Mortgage Banker Association of America*, Washington, D.C., February, 1969.

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 while depreciation distributions, if any, are treated as a return of investment. Many believe that the decade of the 1970's 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 deliquent 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 1960's. 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 sweetner" 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 sweetner in the form of stock warrants attached to industrial

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[13] "The Real Estate Investment Trust—New Wonderchild", Kenneth D. Campbell, *Real Estate Review*, Warren, Gorham & Lamont, Inc., Boston, Mass., Winter 1972. For a more extensive treatment of this complex subject, try the book *The Real Estate Trusts: America's Newest Billionaires*, Kenneth D. Campbell, Audit Investment Research, Inc., New York.

[14] "Lender-Development Participation," John C. Opperman, *The Mortgage Banker*, The Mortgage Banker Association of America, Washington, D.C., September, 1968.

[15] *Ibid.*

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 intra-subsidiary 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 survivial 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 ten 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

[16] For a thorough introduction and reference book on federal taxes and real estate, see *Federal Taxes Affecting Real Estate*, John O. McCoy, Harry A. Olsen, et. al., National Institute of Farm and Land Brokers of the National Association of Real Estate Boards, Chicago, Illinois 1971.

[17] The best source for basic real estate law written for the layman is *Real Estate Law* (Fifth Edition), Robert Kratovil: Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1969.

[18] For a more thorough introduction into forms of ownership, acquisition, and disposal of real estate see Chapter 4 of *Real Estate Investment Analysis and Taxation*, Paul F. Wendt and Alan R. Cerf: McGraw-Hill, Inc., New York, 1969.

[19] "Limited Partnerships—Their Use in Real Estate Syndications," Paul Bernstein in *Taxes. The Tax Magazine*.

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 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) 75 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 leasee.

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 multi-family housing projects or recrea-

[20] "How to Find Tax Shelter As a Limited Partner", Sheldon Schwartz, *Real Estate Review*, Warren, Gorham & Lamont, Inc., Boston, Mass., Summer 1971. "The Regulated World of the Real Estate Syndicates", Peter M. Fass, *Real Estate Review*, Warren, Gorham & Lamont, Inc., Boston, Mass., Winter 1972.

[21] For a listing of major real estate investment trusts use *The Handbook of Member Trusts*, National Association of Investment Funds, Boston, Massachusetts, 1970.

[22] *Cooperative Housing*: National Association of Housing Cooperatives, Washington, D.C., Fall, 1963.

tional 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 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.

[23] *How to Organize and Sell a Profitable Real Estate Condominium*, Daniel Berman: Prentice-Hall, Englewood Cliffs, New Jersey, 1966.

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 shares. 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 similiar subsidiary of the partner. The joint venture is a conduit of earnings under the formula of the agreement to the subsidiaries and since each subidiary 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 stock 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 home building 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

[24] "The ABC's of Going Public, *House and Home*: *McGraw-Hill, Inc.*, New York, May, 1970

[25] "Equity Participations" (Joint Ventures) in *The Mortgage Banker*, The Mortgage Bankers Association of America, Washington, D.C., June, 1968.

[26] For a critical review of land development companies see "Castles of Sand?", Abraham J. Briloff, in *Barron's Weekly*.

[27] For an excellent demonstration of comparison techniques for housing and real estate securities refer to "How 43 Publicly Owned Housing Companies Fared in 1967," Kenneth D. Campbell, in *House and Home*, McGraw-Hill, New York, August, 1968.

earnings and dramatic changes in acceptable price earning 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 1960's 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 material 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 1970's. Many of the building materials companies have extensive holdings in natural resources such as timber land, 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 in 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.

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[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*, McGraw-Hill Inc., New York, February, 1970.

[29] "Pacific Northwest Forest Products," *Financial Analysts Journal*, John Flanagan, January-February, 1969, Financial Analysts Federation.

[30] "Real Estate as a Corporate Investment," Samuel L. Hayes, III., and Leonard M. Harlan, in *The Harvard Business Review*, Harvard Press, Cambridge, Massachusetts, July-August, 1967.

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 in 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 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 twenty-five 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 minutia 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

[31] *Recent Trends in Institutional Real Estate Investment*, R. Bruce Ricks; Research Report No. 23, Center For Real Estate and Urban Economics, University of California, Berkeley, 1964.

gain 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 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 home owners, 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 Section 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

[32] For an expanded treatment of feasibility studies see *A Guide to Feasibility Analysis*, 2nd Ed., James A. Graaskamp, Society of Real Estate Appraisers, 7 S. Dearborn, Chicago, Ill. 60603, 1972.

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 micro-markets 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 rice 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 commission 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*[28]
   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 these 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 ten feet is too wide and therefore wasteful of space. If 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

[28] The best handbook on design trends and research with mailing addresses to hundreds of sources of special-use property data is *The Community Builders Handbook*, J. Ross McKeever, editor, Urban Land Institute, Washington, D.C., 1969.

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. *Esthetic-ethical constraints and alternatives*

   a. Project impact on immediate community of non-users (For example, it may be possible to rezone a marsh area for apartments but how does that affect wet lands 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 enterpreneur 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 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, market ability 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 advisors, 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 nor audited by corporate computers and field-men. 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 the C.L.U. or C.P.C.U. 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 less than 500 members and their directory can be obtained by writing their Executive Secretary at 155 East Superior Street, 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 their home office at 7 South Dearborn Street, Chicago, Illinois 60603.

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, their Executive Secretary is located at 155 East Superior Street, Chicago, Illinois 60611.

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 their office at 155 East Superior Street, 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 155 East Superior Street, 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 at 7 South Dearborn St., Chicago, Illinois 60603.

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 (R.M. for Residential Membership) and a senior award (M.A.I., signifying Member of the Appraisal Institute). For government work and courtroom testimony, the designation M.A.I. is as well-known as the C.P.A. title for accountants. Current membership lists are available from 155 East Superior Street, 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 1011 17th Street, N.W., Washington, D. C. 20036.

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 C.L.U. 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 as 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 home ownership, 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, drainage ways, 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 carry-over 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 gain 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

[34] A good summary of real estate investment implications of the 1969 Tax Reform Law is "The Tax Reform Act of 1969 As It Affects Real Estate," *The Real Estate Appraiser*, Vol. 36, No. 2, March 1970, pp. 5-14.

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 gain 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, are 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 write-down 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 formula, 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 one 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 multi-unit 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

[35] The 1969 law on accelerated depreciation applies to buildings acquired or constructed after July 24, 1969.

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 few remotely 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 down payment and installment received equal his unrecovered basis and transaction expenses. The leveling feature of installment 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 sales 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 exmple, an office building of a certain type might sell for ten 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 ten 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, with involuntary conversion situations, and with 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

[36] FHA 221 (d.) (3) residential rental projects.
[37] FHA 236 subsidized interst, limited dividend rental projects for low income families.

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 provide 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 réceive 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 Law 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 gain 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 costs. 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 wisdoms 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 reveiewed 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 is 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 of 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 over-simplification 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 of conventional wisdom of "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 sale price is very accurate,[39] and practitioners adjust the multiplier downward for furnished apartments which have higher maintenance costs or upwards for new prestige buildings, etc. However, the gross rent multiplier can be misleading as it may not allow for differences in operating cost

[38] *Modern Real Estate Valuation*, Richard U. Ratcliff, Democrat Press, Madison, Wisconsin, 1967.

[39] "Capitalized Income Is Not Market Value," Richard U. Ratcliff, *The Appraisal Journal*, Vol. XXXVI, No. 1, American Institute of Real Estate Appraisers, January, 1968. pp. 33-41.

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 operating costs may vary. Since net income is not adjusted for debt service, income tax gains or payments, or down payments, 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 prophency 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 home buyer 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

[40] For a thorough treatment of the appraisal of income property, see *Income Property Valuation*, William N. Kinnard, Jr., Heath Lexington Books, Lexington, Mass. 1971.

[41] For more detailed explanation see Chapters 9 and 10 of *The Valuation of Real Estate*, Alfred A. Ring, Prentice-Hall Inc., 1970.

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 pre-tax 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 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 could 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 is 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 who 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 down payment 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

[42] "Mortgage Equity Capitalization: Ellwood Method," James E. Gibbons, *The Appraisal Journal*, Vol. XXXIV, No. 2, American Institute of Real Estate Appraisers, April 1966, pp. 196-202

[43] "Recent Developments in Appraisal Theory," Paul F. Wendt, *The Appraisal Journal*, Vol. XXXVII, No. 4, American Institute of Real Estate Appraisers, October 1969, pp. 485-500.

[44] For an expanded discussion see Chapter 2 of *Real Estate Investment Analysis and Taxation*, Paul F. Wendt and Alan R. Cerf, McGraw-Hill Book Co., 1969.

based on five and ten-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 immediate 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 and 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 appear 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 or 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

[45] For a more thorough and readable explanation of "modified internal rate of return", every real estate analyst should be familiar with the article "How to Assess Investment Proposals", Robert H. Baldwin, Harvard Press, May-June 1959, pp. 98-104.

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 pre-leasing 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 five dollar 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 down payment 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

There is an illustrative apartment house investment case with a computer profile of financial expectations provided in the appendix. 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 on the first page of the output, but the financial analysis is presented on the second page. While the annual pro forma income statements and net worth statements are generally self-explanatory, the counseling value of the ratios and values derived in the lower half of the second page need some discussion:

1. *Percent initial equity payback after tax* is a measure of the 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 down payment in order to cover the smaller equity exposure from spendable cash more quickly. This cumulative pay-back 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 apartment buildings for which there is always a need, or .50 on unproven motel operations. In this case, refinancing is excessive in years 8 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.

[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.

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.

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 pre-tax 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 pre-tax yield which does not recognize the refinancing surplus. While the approach in this ratio follows real estate 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 (pre-tax 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; or 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 gain 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 similiar 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 1½ 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 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 down payment. 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 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 pre-tax 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 1970-80 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]

[47] "Caveat Emptor in Real Estate Equities", Samuel L. Hayes, III and Leonard M. Harlan, *Harvard Business Review*, March-April 1972, pp. 86-96.

APPENDIX

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 twelve two-bedroom apartments that each rent furnished for $140 per month and twelve 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 an $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 only entitled to 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 $150 per month. The gross rent roll of the building would then be:

$$\begin{aligned} \$170 \times 12 \times 12 &= 24{,}480 \\ \$150 \times 12 \times 12 &= 21{,}600 \\ \hline &\$46{,}080 \end{aligned}$$

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% 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.

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 pre-tax 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 re-

* University of Wisconsin, Real Estate Investment Teaching Model Demonstration Case Study.

paid in ten 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 7¾ percent
5-year balloon

Private loan 15,000 10-year 8½ percent
$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 #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 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 nine percent and eighteen 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.

   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 ercent 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 ten-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.)

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ANALYSIS OF 24-UNIT APARTMENT — CASE 1

Components	Pct. Depr.	Begin Use	Useful Life	Depr. Method	Cost
Land	.00	1	.	0	$ 40000.
Building	1.00	1	35.	3	$165300.
Elevator	.80	1	9.	3	$ 12500.
Furnishings	1.00	1	7.	5	$ 13200.
Parking	.50	1	10.	3	$ 7200.
Transaction Cost	1.00	1	35.	3	$ 1800.
7th Yr. Refurbish	1.00	8	7.	1	$ 10000.
Total Initial Investment					$240000.

Gross Rent	$46080.	Rate of Growth of Gross Rent	.0200
Expenses	$ 8400.	Rate of Growth of Expenses	.0200
R E Taxes	$ 9000.	Rate of Growth of R E Taxes	.0500
Income Tax Rate	.3000	Rate of Growth of Project Value	.0100
Vacancy Rate	.0500	Working Capital Loan Rate	.0900
Equity Discount Rate	.1800	Extraordinary Expenses	$7625.
Staging Yr. (0), Factor	.00	Cost of Equity Capital	.1200

	1	2	3	4	5	6	7	8	9	10
Cash Equity Required	45000.	45000.	45000.	45000.	45000.	50000.	50000.	50000.	50000.	50000.

Financing Plan

First Assumed Mortg. $180000. Monthly Payment $1477. Interest Rate .0775 Starts 1 Ends 5 Bonus Interest .0000 of Gross Rent

	1	2	3	4	5	6	7	8	9	10
Principal	3919.	4234.	4574.	4942.	5339.	.	.	.	.	.
Interest	13812.	13497.	13157.	12790.	12393.	.	.	.	.	.
Balance	176080.	171845.	167270.	162328.	156989.	.	.	.	.	.

Sellers 2nd Mortg. $ 15000. Monthly Payment $ 185. Interest Rate .0850 Starts 1 Ends 5 Bonus Interest .0000 of Gross Rent

	1	2	3	4	5	6	7	8	9	10
Principal	994.	1082.	1178.	1282.	1396.	.	.	.	.	.
Interest	1236.	1148.	1053.	948.	835.	.	.	.	.	.
Balance	14005.	12922.	11743.	10460.	9064.	.	.	.	.	.

Refinanced First $190000. Monthly Payment $1589. Interest Rate .0800 Starts 6 Ends 10 Bonus Interest .0400 of Gross Rent

	1	2	3	4	5	6	7	8	9	10
Principal	.	.	.	.	.	4016.	4349.	4710.	5101.	5524.
Interest	.	.	.	.	.	15054.	14721.	14360.	13969.	13546.
Balance	.	.	.	.	.	185983.	181634.	176924.	171822.	166297.

Refurbish Chattel $ 10000. Monthly Payment $ 150. Interest Rate .0900 Starts 8 Ends 10 Bonus Interest .0000 of Gross Rent

	1	2	3	4	5	6	7	8	9	10
Principal	.	.	.	.	.	.	.	938.	1026.	1122.
Interest	.	.	.	.	.	.	.	861.	773.	677.
Balance	.	.	.	.	.	.	.	9061.	8035.	6913.

	1	2	3	4	5	6	7	8	9	10
GROSS RENT	46080.	47001.	47923.	48844.	49766.	50688.	51609.	52531.	53452.	54374.
LESS VACANCY ALLOWANCE	2304.	2350.	2396.	2442.	2488.	2534.	2580.	2626.	2672.	2718.
EFFECTIVE GROSS INCOME	43776.	44651.	45527.	46402.	47278.	48153.	49029.	49904.	50780.	51655.
LESS REAL ESTATE TAXES	9000.	9450.	9900.	10350.	10800.	11250.	11700.	12150.	12600.	13050.
LESS EXPENSES	16025.	8568.	8736.	8904.	9072.	9240.	9408.	9576.	9744.	9912.
NET INCOME	18751.	26633.	26891.	27148.	27406.	27663.	27921.	28178.	28436.	28693.
LESS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS INTEREST	15049.	14646.	14210.	13739.	13229.	17082.	16785.	17323.	16881.	16398.
TAXABLE INCOME	-7768.	1449.	3039.	4633.	6236.	3818.	5192.	3125.	4410.	5723.
PLUS DEPRECIATION	11469.	10537.	9640.	8775.	7940.	6762.	5942.	7729.	7144.	6571.
LESS PRINCIPAL PAYMENTS	4914.	5317.	5753.	6224.	6735.	4016.	4349.	5648.	6127.	6647.
CASH THROW-OFF	-1213.	6669.	6926.	7184.	7441.	30510.	6785.	15206.	5427.	5647.
LESS TAXES	.	434.	911.	1390.	1870.	1145.	1557.	937.	1323.	1716.
CASH FROM OPERATIONS	-1213.	6234.	6014.	5794.	5570.	29365.	5227.	14268.	4104.	3930.
WORKING CAPITAL LOAN(CUM BALANCE)	1213.	.	.	.	.	.	.	.	.	.
SPENDABLE CASH AFTER TAXES	.	4911.	6014.	5794.	5570.	29365.	5227.	4268.	4104.	3930.
TAX SAVINGS ON OTHER INCOME	2330.	.	.	.	.	.	.	.	.	.

* *

	1	2	3	4	5	6	7	8	9	10
MARKET VALUE	242400.	244800.	247200.	249600.	252000.	254400.	256800.	269200.	271600.	274000.
BALANCE OF LOANS	191298.	184767.	179014.	172789.	166054.	185983.	181634.	185985.	179858.	173211.
NET WORTH OF PROPERTY	51101.	60032.	68185.	76810.	85945.	68416.	75165.	83214.	91741.	100788.
CAPITAL GAIN	10253.	20506.	30759.	41013.	51266.	61519.	71773.	83455.	95329.	106757.
CAPITAL GAINS TAX	1537.	3075.	4613.	6151.	7689.	9227.	10765.	12518.	14299.	16013.
INCOME TAX ON EXCESS DEPRECIATION	1084.	1890.	2426.	2702.	2729.	2401.	1828.	1362.	663.	.

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	1	2	3	4	5	6	7	8	9	10
PERCENT INITIAL EQUITY PAYBACK AFTER TAX	.0517	.1609	.2946	.4233	.5471	1.0797	1.1843	1.2696	1.3517	1.4303
NET INCOME-MARKET VALUE RATIO	.0773	.1087	.1087	.1087	.1087	.1087	.1087	.1046	.1046	.1047
RETURN ON NET WORTH BEFORE TAXES	.1086	.3052	.2511	.2318	.2158	.1510	.1978	.3093	.1676	.1601
RETURN ON NET WORTH AFTER TAXES	.1290	.2372	.2196	.2061	.1933	.1406	.1939	.1762	.1665	.1553
CASH RETURN ON ORIG CASH EQUITY BEF TAX	-.0269	.1482	.1539	.1596	.1653	.6102	.1357	.3041	.1085	.1129
CASH RETURN ON ORIG CASH EQUITY AFT TAX	.0517	.1091	.1336	.1287	.1237	.5873	.1045	.0853	.0820	.0786
DEFAULT RATIO	.9763	.8339	.8054	.8029	.8004	.8204	.8185	.8508	.8484	.8461
LENDER BONUS INTEREST RATE	.0000	.0000	.0000	.0000	.0000	.0122	.0110	.0115	.0114	.0120

* *

	1	2	3	4	5	6	7	8	9	10
PRESENT VALUE OF PROJECT BEFORE TAXES	238306.	242903.	245505.	247329.	248531.	247609.	247992.	255579.	255349.	255001.
PRESENT VALUE OF PROJECT AFTER TAXES	238058.	240050.	241378.	242202.	242600.	241500.	241748.	246686.	246477.	246115.
EQUITY RATE W/ COST OF CAPITAL AT .120	.1290	.1793	.1887	.1889	.1862	.1775	.1742	.1706	.1672	.1639