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WORKING PAPER 82-45

PERSPECTIVES ON REAL ESTATE INVESTMENT

BY
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GRADUATE SCHOOL OF BUSINESS ADMINISTRATION

CENTER FOR REAL ESTATE AND URBAN ECONOMICS
UNIVERSITY OF CALIFORNIA, BERKELEY

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Working Paper No. 82-45

February 1982

PERSPECTIVES ON REAL ESTATE INVESTMENT

Investment is an art! Real estate investment is a special art, until recently practiced by relatively few. Like most investments, real estate requires a capital outlay, provides a flow of returns over time, and has some future capital value. However, real estate differs from typical security investments:

1) Real estate has land under it and is immobile.

2) It is subject to property taxation, police powers, and condemnation powers of government.

3) Real estate investments are not homogeneous and markets are highly imperfect and generally unorganized.

4) Most real estate investments require expert management.

5) The availability and terms of debt financing are key considerations in real estate investment.

6) Real estate owners enjoy special income tax advantages.

These and other distinctive characteristics of real estate have resulted in restricted market participation, geographical compartmentalization of its many submarkets, and a high degree of specialization in investment expertise. Confusion among appraisers, assessors, mortgage lenders, and legal experts as to the meaning of the term "value" has added to the mystery of real estate investment.[1]

Management problems associated with real estate investment present further obstacles to broad real estate investment participation.

On-site, day-to-day management of a real estate project is usually provided by a local management firm which negotiates the leases, arranges for house service, collects rents, and pays the bills. The cost and importance of tenant selection, tenant relations, and good maintenance cannot be overlooked by a real estate investor.

The management of a real estate investment portfolio includes a broader range of responsibilities, including the development of an investment strategy, the selection of properties, supervision of their acquisition and financing, and timing of sales and exchanges. The breadth and importance of these considerations and the costs involved have deterred many potential investors from pursuing more aggressive real estate investment policies. The REIT offered the small real estate investor the promise of professional management at reasonable cost, although the record shows that the promise of professional management was not fulfilled by many of the early REITs.

The Discovery of Real Estate Investment in the 1970s

It is fair to say that the public "discovered" equity real estate investment in the period from the late 1960s to the mid-1970s, when its attractions of leverage, tax shelter, and inflation protection became apparent to home owners and others. Wall Street, the Emporium of investment know-how, merchandised billions of dollars in REITs in the early 1970s to a public eager to share in equity ownership of real estate, previously reserved to a privileged few.

The surge of over $10 billion in REIT equity capital into real estate investment markets fueled an inflation in prices of real estate which culminated in the failure and reorganization of many REITs and financial difficulties for many sponsoring banks during the 1974-75 real estate crash.[2]

The recession that followed in the wake of the collapse of the REITs proved only a temporary public disenchantment, however, and the continued inflation from 1977 to 1980 sparked a renewed and broadening public interest in real estate equities.

The tax bracket creep and rising income tax payments during these years made investors more conscious of the tax shelter attractions of real estate. A lagging stock market during much of this period added to the relative attractions of real estate.

During the 1970s real estate syndicators, many aligned with Wall Street firms, promoted the sale of shares in limited partnership syndications as tax shelters and inflation hedges. Investors who bought fractional interests in apartment buildings, office buildings, shopping centers, and warehouses learned the real estate jargon of "Cap Rates," gross income multipliers, cash flow, and the internal rate of return, while the more sophisticated learned the meaning and importance of looking at front-end and back-end load charges.

Passage of the Employee Retirement and Security Act of 1974, designed to regulate the investment policies of pension funds, became the foundation for broadened interest in real estate investment by these institutions.

Real Estate Appraisal Theory and Investment Analysis

One had to search the literature of finance and investments to find more than a passing reference to equity real estate investment prior to 1960. The 1962 edition of Security Analysis by Graham Dodd and Cottle, the investments "bible" prior to the Markowitz, Sharpe, and random walk era, confined attention to real estate bonds and mortgages and made no mention of equity real estate investment.

Interesting parallels can be drawn between security analysis, which provided the background for common stock investment theory, and appraisal theory, which is the foundation for real estate investment analysis. The rules of thumb and margins of safety used in bond analysis were translated into similar standards for real estate investments. Price earnings ratios used in common stock analyses are similar to gross- and net-income multipliers used in equity real estate investment analysis. Cash flows and before- and after-tax yields have similar meanings across the spectrum of stocks and real estate.

Appraisal theory and practice provided the foundation for real estate investment analysis. Grimes and Craigue, in their 1928 work Principles of Valuation, cited a long list of authorities who accorded recognition to the capitalization method of appraisal. Frederick M. Babcock, in his 1932 book entitled The Valuation of Real Estate, asserted that "investment" properties should be evaluated by the capitalization of income method.

The capitalization of income by use of a single overall rate had been long established in the notion of the "years purchase" used in

British appraisal practice, which expressed selling prices for investment properties as a multiple of the annual net operating income before financing charges, a methodology still widely employed in Europe and elsewhere.

Babcock's classic work provided a foundational framework for real estate valuation and investment theory and practice in the United States. His exposition of the relationship between risk and rates of return is a model of clarity and logic today.

> Probability serves as the basis for the determination and selection of the capitalization rates. Various forms and kinds of real estate properties represent the entire range from the most secure and safe investments to the most speculative and most hazardous gambles. High rates of capitalization are used where the risks borne are the greatest and low rates where relative certainty and safety are offered to the pre-supposed purchaser.[3]

Babcock's chapter on "The Determination of Fractional Rates" cited some thirty factors influencing the selection of capitalization rates, and presented a series of charts for rate determination. Although he cautioned users on the subjectivity and other limitations of the grid methods employed, his rate charts can be viewed in retrospect as an ingenious attempt to employ a methodology not dissimilar to regression analysis where the coefficients or weights were estimated judgmentally.

Babcock cautioned that histories of past returns may provide valuable data on which to make more accurate predictions of income, but that "they do not give us clues with respect to suitable capitalization rates." Capitalization rates are market phenomena, he asserts, and "they must be set at amounts which attract intelligent capital."[4]

Commenting on the accuracy of real estate valuations, Babcock concedes they are relatively low in accuracy and argued for the presentation of valuation estimates in the form of a probability distribution rather than as a single point estimate.[5]

Four notable contributions to Babcock's framework of real estate appraisal and investment theory have occurred in the five decades following his work:

1. the Ellwood technique for developing a weighted, adjusted band-of-investment overall rate applicable to net operating income;

2. major improvements in basic market data concerning special classes of property and individual market areas;

3. the introduction of after-tax cash flow as the relevant criterion for rate of return analysis on real estate investment;

4. the emergence of the computer as a device to facilitate multiple regression and sensitivity analysis of rates of return.

The 1952 edition of the text of The American Institute of Real Estate Appraisers advised that "The [capitalization] rates should be selected with utmost care and only after sober scientific reflection."[6] The going market rate, according to the authors, should be determined by current market conditions. If the appraiser is uncertain about the proper rate to use, he is advised to obtain it by one of the following three techniques:[7]

1. the summation or built-up method

2. the band of investment theory

3. by comparison

L. W. Ellwood, chief appraiser for the New York Life Insurance Company, outlined a technique for developing a single overall band-of-investment capitalization rate, given a forecast of stabilized income, an equity yield rate to be estimated by the appraiser, a ratio of mortgage to total investment, a mortgage coefficient which varies with mortgage terms, and an expected appreciation or depreciation in reversionary selling price at the end of an assumed holding period.

His system of equations can be represented as:

$$V = NOI/R$$

where: NOI is some actual or stabilized net operating income and R equals $Y - MC \pm App/Dep \times 1/S_n$

and

R = Overall rate applicable to any estimated level income.

Y = Equity yield rate to be estimated by the appraiser.

M = Ratio of mortgage to total investment as a percentage.

C = Mortgage coefficient which varies with mortgage terms.

App/Dep = Expected percentage appreciation or depreciation in the reversionary sales price of the investment.

$1/S_n$ = Sinking fund factor at the equity yield rate for the period of assumed holding of the investment.

The significance of Ellwood's contribution was that he was able to demonstrate algebraically the relationship between mortgage lending terms, the target yield of investors, expected appreciation or

depreciation in reversionary selling prices, and a single overall rate to be applied to net operating income. His technique permits an investor to determine the price he should pay for a real estate investment given mortgage terms, holding period, a target yield, and expected appreciation or depreciation, or to determine the yield he might expect given the other variables.

The principal shortcomings of Ellwood's formulations were that the investor had to assume some stabilized net operating income and a target yield rate for the equity investor. The income forecast and the target yield rate are the most difficult to estimate, as Babcock had emphasized, and are dependent upon other parameters in the estimating process. Further, Ellwood's technique made no provision for the all-important elements of tax shelter to the investor, and provided rates of return that had limited relevance for tax shelter conscious investors.

Notwithstanding these shortcomings, Ellwood's analytical framework stands as a major contribution to real estate investment analysis, and provided a tool for use in appraisal.

Improving the Quality of Real Estate Market Data

Growing investor interest in real estate has been accompanied by major efforts to improve available market data. Multiple listing data, usually available to Realtors only, has been available in most large cities since the 1950s, and has given rise to the development of market data banks in many localities. Organized real estate research groups have been active in Northern and Southern California for over thirty

years, and are active in many other metropolitan areas, providing significant market information for lenders and investors.

The Apartment House Experience and Exchange Report, published annually by the Institute of Real Estate Management since 1967, the Office Building Exchange Report, published by Building Owners and Managers International since the 1950s, and the Dollars and Cents of Shopping Centers, published by the Urban Land Institute since 1963, have provided investors with substantial amounts of financial and operating information useful in projecting future incomes, and operating experience for special classes of investment real estate.

In addition, publications such as the National Real Estate Investor have provided city and area reviews for specific market areas, and monitor the extreme diversity in various real estate submarkets.

Introduction of After-Tax Cash Flow

Ratcliff and others argued in the late 1960s that recommended capitalization formulas in appraisal literature "do not even closely replicate or simulate the real world system by which the market price of income property is established."[8] The principal concern of critics was that real estate investors' primary concern was with the after-tax returns expected on their equity investment rather than with before-tax returns on the total property investment.

Professional real estate literature such as Real Estate Investment Planning, by William J. Casey, was built upon analysis of the tax shelter advantages of real estate investment. As incomes and tax rates

rose during the 1960s and 1970s, the attractions of tax shelters increased.

Coldwell Banker & Company drew attention to the important after-tax advantages of real estate investment in a widely circulated trade publication entitled Real Estate Investment Analysis circulated to their clientele in 1976 and in 1981. The general conclusion which followed from their comparative analyses of bond, common stock, and real estate investments was that before-tax returns appeared roughly similar over the decade from 1965 to 1975, but that after-tax returns on real estate investment were significantly higher.

The following model was presented in the 1969 edition of Real Estate Investment Analysis and Taxation to demonstrate the method of calculation of after-tax yields on real estate investment:

$$V - D = E = \sum_{t=1}^{n} \frac{R_t - I_t - A_t - T_t}{(1 + r)^t} + \frac{P_n - GT - UM}{(1 + r)^n}$$

where V = Value of property.

R_t = Annual net income in period t.

I_t = Interest paid on mortgage in period t.

A_t = Mortgage amortization in period t.

T_t = Income tax allowance in period t.

P_n = Sales price or residual in period ($t = n$).

GT = Capital gains tax.

It is important to recognize that depreciation is deducted before calculating federal and state income tax liabilities, a fact that may result in negative tax liabilities for some investors able to shelter other earned income. This circumstance can provide positive after-tax cash flows in place of negative before-tax cash flows. One of the earlier articles comparing the returns from common stock and real estate investment drew particular attention to the importance of real estate tax shelter.[9] The intricacies of depreciation and interest tax deductions underlie the whole limited partnership syndication movement, which has created a boom in demand for real estate investments in recent years.

Computer Analysis of Real Estate Investments

The emergence of the computer has made it possible to produce a whole range of measures of return on a real estate investment at negligible cost and time. The computer program needed to solve the equation for calculating after-tax cash flow yields reproduced above can be solved in a few seconds on most computers. More simplified programs are adaptable to hand-held computers today. This and other similar programs compute before- and after-tax IRR, and adjusted IRR assuming any reinvestment rate, the Ellwood factors, cash-on-cash returns, loan coverage ratios, payback periods, gross- and net-income multipliers, and many other measures desired by the investor.[10]

Following Babcock's early injunction to appraisers to estimate a probability distribution of values and rates of return, special computer

programs have been developed which permit the input of a range of future values for income and expenses with a probability assigned to each estimate. The output of such a model provides mean returns and mean valuations with standard deviations. Armed with this information, an investor can compute average returns and standard deviations on a real estate portfolio for comparison with security portfolios.

A recommended outline of the steps in reaching a real estate investment decision is shown below.

APPLICATION OF REAL ESTATE INVESTMENT ANALYSIS TECHNIQUES

SEQUENCE OF ANALYSIS	SUBJECT	FACTORS TO BE CONSIDERED
Step I	Suitability of real estate	Investor objectives Management expertise Portfolio diversification Marketability criteria
Step II	Classes of real estate suitable	Size of project Degree of risk Ease of financing Holding period Development vs. investment Residential, commercial, or industrial
Step III	National and regional economic analysis	Selection of growth areas National and regional econometric models Shift/share projections
Step IV	Micro locational analysis	Intraregional projections Local market trends and studies by banks and real estate research groups

Step V	Financial analysis and projections for selected properties	Pro-forma analysis of income and expenses
	Traditional <u>first-year indicators</u>	Potential gross multiplier Net income multiplier Before-tax payback period After-tax payback period Mortgage constant Overall cap rate Before-tax cash-on-cash After-tax cash-on-cash Loan to value ratio
	Holding period analysis by years	Operating expense ratio Debt coverage ratio Default ratio Before-tax cash flow Tax shelter After-tax cash flow including tax shelter
		Rate required on alternative reinvestment of sale proceeds
		Before-tax IRR (a) before reversion (b) after reversion After-tax IRR (a) before reversion (b) after reversion Modified IRR rate of return allowing for specified reinvestment rate
Step VI	Sensitivity analysis of pro-forma returns[a]	
	A. Alternative economic scenarios	Estimates of IRR and present values
	1. Separate runs under each assumption	a. Pessimistic b. Most likely c. Optomistic
	2. Assign subjective probabilities to each scenario	Estimate of most probable investment value, IRR, and and standard deviations

	B. Use Monte-Carlo random probability computer program[b]	Input subjective probabilities for selected variables Output shows mean rates of return, standard deviations, mean present value, and probable range
Step VII	The investment decision	Comparison of first-year indicators with market norms for area Comparison of indicated investment values from computer analysis with prices per unit and per square foot for existing properties Comparison with replacement costs for properties with similar amenities in the area.
Step VIII	Final conclusion on portfolio suitability	Criteria of geographical diversification Criteria of property type diversification Adequacy of return for indicated risk

[a]Several discounted cash flow programs are available for use. A brief description of these programs can be found in Paul F. Wendt and Alan R. Cerf, Real Estate Investment Analysis and Taxation (New York: McGraw Hill, 1979), pp. 54-86.

[b]Oklahoma University Real Estate Investment Analysis Program, copyright by the University of Oklahoma, 1976, College of Business, Real Estate Programs.

One of the most important side benefits of the development of computer technology in real estate analysis is that it has helped to dispel outmoded notions about the accuracy of point estimates of value and the primacy of any single valuation technique. Multiple regression studies have made it clear that many factors, often not working in quite the same way over time and among different submarkets, explain differences in valuations. Discounted cash flow programs compute

before- and after-tax IRRs, adjusted reinvestment rate IRRs, Ellwood factors, cash-on-cash returns, loan coverage ratios, payback periods, gross and net-income multipliers, all significant and useful analytical tools for the real estate investor. Growing institutional participation in real estate investment markets has placed these new analytical tools in the hands of more sophisticated users.

Not all investors use the same decision criteria in real estate investment. The extended debate over the IRR, reinvestment rates, and multiple rates of return has occupied much attention in recent literature. Solutions have been posed for the problem of multiple rates of return, and the use of modified IRRs using safe reinvestment rates has provided an answer to those concerned with the reinvestment rate problem. Computer analysis programs which calculate unadjusted and adjusted IRRs and net present values provide needed flexibility for the investor analyst.

The use of net present value has been recommended as an appropriate decision model for determining optimum property use and the holding period for real estate investment.[11] An illustration of the use of a net present value computation to determine the optimal holding period was presented in a recent article.[12] Alternative techniques, including the "pull factor," suggested by Friedman, and the necessary reinvestment rate on released capital to justify capital withdrawal are described in Real Estate Investment Analysis and Taxation.[13]

Evaluation--The State of the Art

Babcock's conclusion in 1932 that "at best, real estate valuations are relatively low in accuracy" was written on the eve of the greatest real estate depression in history. He pointed out that valuations of other productive long-life investments are equally inaccurate, and that real estate valuation is comparable in accuracy with estimation possible in other fields of valuation.

How much improved are real estate investment analysis techniques today? More reliable historical information about operating ratios and historical returns under varying financial terms, and more efficient computational techniques with the aid of the computer and probability analysis have been offset by increasing uncertainty in economic forecasts, investor confidence, and inflation.

Real estate investment analysis techniques are probably as good as the economic analysis and interest rate assumptions upon which the projections of net operating income and present values of cash flows are based. Unfortunately, improved historical data and computer technology provide no reliable insights into these uncertain elements in the valuation process.

The author returns to his initial contention that real estate investment is a special art, which flows from the distinctive characteristics and nonhomogeneity of the product. It is difficult not to concur with the conclusion of some authors that, as the quantities and quality of real estate market data improve, and as the application of analytical techniques is broadened, markets will become more efficient.[14]

A recent analysis of "Alternatives for Assessing Risk in Real Estate Investment" concludes that the specialized characteristics of real estate investments and markets place heavy limitations on the application of the CAPM to direct equity real estate investing.[15] The search for appropriate indexes of real estate prices and investment returns should be encouraged. However, micro-analysis will no doubt continue as the foundation for real estate investment decisions.

Changing Market Structure for Investment Real Estate

Significant developments in market organization and participation have accompanied the broadened interest in equity real estate investment. The shift into equity investments by insurance companies, foundations, REITs, foreigners, and pension funds has been the most important single market development. As a result of these influences, participation in real estate investment markets has broadened and become more institutionally oriented.

Insurance companies, commercial banks, investment bankers, syndicators, and large real estate brokerage firms are expanding their real estate investment organizations vertically and horizontally to gain or hold competitive positions in the field. Real estate brokerage firms are entering the syndication and REIT fields regionally and nationally. Syndicators are extending their real estate brokerage and management activities; life insurance companies are acquiring real estate development, brokerage, and management subsidiaries and offer commingled open-end funds; and Wall Street firms are expanding into real estate brokerage, management, development, syndication, and

investment. All of these institutions are seeking to attract real estate investment capital from the rapidly growing pension funds, estimated to hold over $519 billion in assets in the 1000 largest funds in 1981.[16]

These revolutionary changes in market structure and competition in the field will require improved market data sources and more sophisticated real estate investment and market analysis techniques. A review of recent market developments provides a basis for looking at the future.

Looking at the Future of Real Estate Investment

Many real estate investors, including significant numbers of foreign investors, purchased properties in 1980 and 1981 on a very low and sometimes negative cash-on-cash basis, the buyers counting on continued inflation in rents and selling prices to provide a satisfactory long-term return.

This inflation psychology in real estate had its parallel in the growth stock philosophies of the 1960s and 1970s, when investors bought stocks paying no dividends on multiples of sixty to seventy times current earnings.

"Buying on the come" in real estate, was evident in residential, office building, industrial and shopping center markets. Many real estate investors argue that even with negative cash-on-cash returns, net after-tax returns in the early 1980s are still attractive enough to many investors in high tax brackets, to justify purchase at the prevailing prices.

Some experienced observers point to the oversupply conditions in some sectors of the office building and commercial market, and predict that a moderation in inflation psychology, continued high financing costs, and rising investor target yield rates will result in declining values for investment real estate. The political risk of losing interest and depreciation tax shelter is real.

Others argue that present values do not discount the long-run potential for rising incomes and appreciation in real estate values under present prospects for continued world-wide inflation. They draw attention to the prospect that pension fund investment in real estate will increase dramatically through direct investment and use of commingled funds.

Pension funds and life insurance companies, which are expected to be the largest sources of debt and equity funds for real estate investment in the future, are fiduciaries not accustomed or legally permitted to assume high risks in their investments. Further, most of these institutions are now staffed with experienced professionals who remember the lessons of the REIT era of the early 1970s. For these reasons, institutional investors appear likely to pursue long-run real estate investment strategies tailored to the economic scenarios they project for the future, and their own target yields and risk assessments.

Joint ventures involving debt and equity capital contributions are likely to assume a leading portfolio role for many institutions. The historical distinction between the developer's profit and the investor's return may gradually vanish as institutional investors assume more of the developer's role and risk. Current trends suggest that the

functions of real estate development, financing, management, and brokerage may soon be integrated under institutional umbrella organizations.

The divergence in investment objectives between the tax exempt pension funds and individuals seeking tax shelter will open the way for innovative joint venture financing. The tax exempt entity provides the loan capital and receives preferred dividends from current cash flows and capital gains, while the taxable entity provides the equity capital and receives the tax shelter and a share of the capital gains. It remains to be seen if Wall Street and the syndication industry can put such investment packages together at sufficiently low front-end and back-end loading charges to attract investors.

What will happen to the individual real estate investor under this highly institutionalized scenario? First, the great majority of individual properties are not of a dollar magnitude or size suited to the large pension fund, financial institution, or public syndication. Second, analyses of the probable effects of the 1981 tax law indicate that it has greatly enhanced the possible tax shelter benefits to the individual investor from real estate investment.[17] Speed, flexibility, local knowledge, and entrepreneurship will continue to gain their rewards for the individual investor in the local markets of the future.

FOOTNOTES

[1]McMichael's Appraising Manual, published in 1944, cited some fifty of the commoner types of value, including "investment value," and warned that in some cases several kinds of value must be considered in a given appraisal problem.

[2]Paul F. Wendt and Alan Cerf, Real Estate Investment and Taxation, 2nd edition (New York: McGraw-Hill, 1979), Chapter 10.

[3]Valuable data on which to make more accurate predictions of Frederick M. Babcock, Valuation of Real Estate (New York: McGraw Hill, 1932), p. 154.

[4]Ibid., p. 432.

[5]Ibid., pp. 532-3.

[6]The Appraisal of Real Estate, The American Institute of Real Estate Appraisers (Chicago: the author, 1952), p. 326.

[7]For an early review of these techniques, see Paul F. Wendt, Real Estate Appraisal--A Critical Review of Theory and Practice (New York: Holt, 1956), pp. 150-62.

[8]Richard U. Ratcliff, "Capitalized Income is not Market Value," Appraisal Journal 36 (January 1968): 33-40. See also Paul F. Wendt, "Recent Developments in Appraisal Theory," Appraisal Journal 37 (October 1969): 485-500.

[9]Paul F. Wendt and Sui Wong, "Investment Performance: Common Stocks versus Apartment Houses," Journal of Finance, December 1965.

[10]Descriptions of some of these programs are given in Paul F. Wendt and Alan R. Cerf, Real Estate Investment Analysis and Taxation (New York: McGraw-Hill, 1979); and Sanders A. Kahn and Frederick E. Case, Real Estate Appraisal and Investment, 2nd edition (New York: Ronald, 1977), Chapter 32.

[11]Paul F. Wendt, Real Estate Appraisal Review and Outlook, Athens Georgia, University of Georgia Press, 1974, pp. 161-2.

[12]C. F. Sirmans and Daniel E. Page, "The Real Estate Investment Decision--A Wealth Maximization Approach," Real Estate Issues, Vol. 6, Number 2, Fall/Winter 1981.

[13]Wendt and Cerf, Op. Cit., p. 56, p. 103.

[14]James W. Hoag, "Toward Measures of Real Estate Value, Return, and Risk," Working Paper No. 97, Institute of Business and Economic Research, University of California, Berkeley, 1981. See also, Peter E. Penny, "Modern Investment Theory and Real Estate Analysis," Appraisal Journal, Vol. L, No. 1, (January 1982) for an interesting article exploring the potentials for integrating real estate investment and common stock analysis.

[15]Richard J. Curcio, James P. Gaines, and James R. Webb, "Alternatives for Assessing Risk in Real Estate Investments," Real Estate issues, Volume 6, No. 2, Fall/Winter 1981.

[16]Pensions and Investment Age, January 18, 1982.

[17]See an interesting series of three articles on the 1981 Tax Act in Real Estate Review, Vol. 11, No. 4, Winter 1982.

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