MEASURING THE SIGNIFICANCE OF ACCOUNTING AND TAX SHELTER VARIABLES IN REAL PROPERTY

by Austin J. Jaffe

One of the most widely held assumptions in the analysis of income-producing real estate is that tax shelter benefits for equity investors are of primary importance. Accounting literature is filled with articles that review, summarize, and analyze the mechanics of tax shelter opportunities. This has been especially the case since the recent Congressional legislation designed to limit or eliminate tax shelter provisions under the guise of tax reform.

Although Congress did not further limit the basic depreciation rules contained in the Tax Reform Act of 1969 when enacting the 1976 Tax Reform Act, the recapture provisions were altered. The most recent analysis of the 1976 Act's effect dealt with the significance of depreciation method selection for real estate investment projects.[1]

Similar analysis has appeared in the accounting literature suggesting a widespread presumption of the importance of accelerated depreciation provisions for influencing returns and values in real estate. [2,3,4,5] This proposition has been underlined in typical fashion, e.g., "Looking at real estate investments after the Tax Reform Act [of 1969], it is obvious that the tax shelter in nonresidential real estate has been significantly reduced ... and that many investments which formerly were attractive will no longer be so."[6]

The importance of tax shelter in real estate has been argued for by the magnitude of projects in the market. "The significance of the real estate tax shelter as device for tax avoidance is exemplified by the fact that in the first half of 1975 alone, more than $190 million in tax-sheltered real estate investments were offered to the general public."[7] This argument has a long following in many circles. However, it fails to answer the question of how significant the tax shelter provisions are for real estate investment decision-making. The magnitude of real estate investment begs the question of the significance of tax shelter provisions. In addition, it can be argued that many, if not all, of the tax shelter benefits are capitalized into selling prices at the time of sale.[8]

Another argument avoids "the significance of tax shelter" issue as well. The presumed importance of tax shelter benefits is accepted but the ultimate benefits are considered accrued to state and local government rather than to the private investors.[9] Thus, depreciation provisions are viewed as a value source for municipalities and it is reasoned that additional tax reform would deprive localities of additional benefits to be used in public interest.

By using a well known real estate investment valuation model, which has generally been used in analyzing equity values and rates of return for real estate projects, sensitivity analysis results can be derived to determine, under some limiting conditions, the significance of the impact of changes in accounting variables on rates of return. The results indicate that the sensitivity of return to changes in the choice of depreciation method is relatively insignificant in many cases. Furthermore, the impact that changes in effective tax rates and changes in the depreciable lives of the improvements has on rates of return is generally very small relative to possible changes (or "errors in measurement") in other variables. Finally, the paper will conclude by reassessing the role of tax accountants and accounting information in real estate decision-making.

Further, in a broader context, the effect of tax shelters used to offset tax liability from other outside in-

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come may be substantial and thus lead the investor to different conclusions than those provided here. This analysis suggests that *the effect of changes in these variables on the return of real estate projects individually is surprisingly small,* and thus the marginal tax shelter benefits are significantly lower than previously presumed, based upon the project as a single investment alternative.

Measuring Tax Shelter Benefits

Modern real estate investment analysis has adopted a discounted cash flow approach to the measurement of investment value and rate of return. Its development is generally credited to Paul F. Wendt and Sui N. Wong but was also quickly adopted by many others.[10, 11, 12, 13, 14, 15, 16, 17] This approach provided a conceptual decision framework to the real estate investment problem that only a year earlier had been claimed not to exist: "The real estate field itself lacks a body of literature on investment theory. True, real estate texts touch on various attributes of real estate investment such as the indestructibility of land, and the physical and functional obsolence of improvements. But this describes only general attributes and advantages and disadvantages of real estate investment by quantifying investors' objectives, risks, and decision rules."[18] By the early 1970's the "formal body of literature" had developed into the beginning of a financial science.

Emphasis was placed upon *after-tax cash flows,* which provided a measure of *ex ante* benefits for the equity investor. This measure consisted of the following components, using Wendt's and Wong's symbols.

$$ATCF_i = R_i - I_i - A_i - T_i \qquad \textbf{Equation 1}$$

where $ATCF_i$ is the After-Tax Cash Flow per period i, R_i is the Net Operating Income per period i, I_i is the Interest Expense per period i, A_i is the Principal Repayment (amortization) term per period i, and T_i is the Tax Liability per period i.

Since the tax liability T_i is based upon taxable income and not cash flow, Equation 1 can be rewritten as follows:

$$ATCF_i = R_i - I_i - A_i - t(R_i - I_i - D_i) \qquad \textbf{Equation 2}$$

where D_i is the Depreciation Allowance per period i and t is the tax rate presumed constant for all i periods.

Rearrangement of the terms provides a more convenient measure of cash flow for the analysis of tax shelter.[19]

$$ATCF_i = (R_i - I_i)(1-t) - A_i + tD_i \qquad \textbf{Equation 3}$$

Since tax shelter occurs as a result of depreciation allowances, it is interesting that tax shelter affects after-tax cash flow only in the final term in Equation 3.[20] It is also interesting to compare this measure of after-tax cash flow with measures used in financial accounting.[21]

Another type of cash flow is called the after-tax equity reversion. It is the cash flow that occurs at the end of the holding period of the investment. Using Wendt's and Wong's notation again, this figure may be represented as follows:

$$ATER_n = P_n - GT - UM \qquad \textbf{Equation 4}$$

where $ATER_n$ is the After-Tax Equity Reversion at the end of the expected holding period n, P_n is the net sale price in period n, GT is the capital gains tax (including the tax on recapture), and UM is the unpaid mortgage balance at the end of period n.

Since depreciation affects only one term in Equation 4, GT, the impact of tax shelter in the after-tax equity reversion can be measured by isolating GT.

If the analyst wanted to evaluate the optimal depreciation method for the real estate investment, given the investor's tax rate, expected holding period, allowable depreciation methods and capital gains tax treatment, the investor would choose the method which maximized the present value of tax shelter benefits, B, when discounted by the after-tax required rate of return on equity, k_e.

$$\text{Maximize } B = \sum_{i=1}^{n} \frac{tD_i}{(1+k_e)^i} - \frac{GT}{(1+k_e)^n} \qquad \textbf{Equation 5}$$

$$= t \sum_{i=1}^{n} \frac{D_i}{(1+k_e)^i} - \frac{GT}{(1+k_e)^n} \qquad \textbf{Equation 6}$$

where B is the present value of tax shelter benefits and k_e is the required rate of return on equity.

The Equity Valuation Mode

Equations 3 and 4 can be combined to form the basis of the equity valuation model.

$$E = \sum_{i=1}^{n} \frac{(R_i - I_i)(1-t) - A_i + tD_i}{(1+k_e)^i} + \frac{P_n - GT - UM}{(1+k_e)^n} \qquad \textbf{Equation 7}$$

where E is the investment value of equity invested in the project.

The decision rules for this model are easily derived. If E is greater than or equal to the market value less the mortgage debt, the investment will be acceptable. If E is less than the difference of market value and mortgage debt, the project is unacceptable.

This model has also been used to derive the internal rate of return on equity, r. This measure is defined as the rate r which equates the present value of after-tax cash flow and after-tax equity reversion with the difference between market value and mortgage debt. Algebraically, it is r which satisfies the following equation.

$$O = \sum_{i=1}^{n} \frac{ATCF_i}{(1+r)^i} + \frac{ATER_n}{(1+r)^n} - (MV-MD) \qquad \textbf{Equation 8}$$

where MV is the market value of the property, MD is the mortgage debt used to calculate cash flows and r is the internal rate of return on equity.

If r is greater than or equal to k_e, the project would be acceptable. If r is less than k_e, the project would be rejected.

Hossein Askari has calculated internal rates of return for owner occupied housing using a similar model.[22] He presented results which suggest that large discrepancies exist in rates of return on real property between different income classes due to the impact of the progressive income tax rate system. Although this proposition is not necessarily new, the results presented here support the direction of Askari's findings but, at the same time, show that the *magnitude* of the impacts which changes in tax rates have on rates of return is considerably less than generally presumed. Furthermore, it has also been suggested that the impacts of the tax rate differentials and tax shelter benefits are incorporated into asking prices prior to the acquisition of the property.

Theory of Tax Capitalization

It has been argued that if perfect capital markets existed, there would be no advantage to tax shelter. In such a world, no favorable tax treatments would have an effect on the rate of return from real property or the investment value of property as calculated by market participants. Suppose real estate assets were treated more favorably by the taxing authority in this hypothetical world by allowing accelerated depreciation, for example. Investors would perceive such a tax break as a governmental wealth-transfer due to reduced tax liability as soon as the information was made available to the public.[23] These keen investors would no doubt quickly observe that these tax-favored real estate assets were now receiving more favorable governmental treatment than other assets of equal risk. Wise investors would move into this market and acquire these assets. This new demand for real estate would bid up its price and thereby take advantage of any temporary risk-return disequilibrium. The result would be that any profitability created by differential tax treatment would be eliminated by market forces. This is the theory of tax capitalization and tax shelter.

In a perfect market, the reevaluation of real property values (and therefore returns) would occur instantaneously. With market imperfections, the adjustment time would offer opportunities to other investors. This same story could be told for differential treatment of specific types of real estate as well. It also would apply to a system with progressive tax rates, in which all property would be held by individuals with the highest tax rate (since this would permit the greatest tax shelters, as in Equations 5 and 6). Therefore, the real question regarding tax capitalization is whether or not it exists in real world real estate investment markets and if so, to what extent. This is the same as asking to what extent imperfections exist in real estate markets which permit the tax shelter variables to influence rates of return and values of specific assets.

The questions raised above are quickly recognized as empirical ones, which require empirical studies for answers. However, there are a number of observations and possible explanations as to why it might be expected that complete tax capitalization generally *has not* occurred. First, real estate investors have employed and continue to employ accountants and real estate counselors to provide optimal depreciation method analysis and normative tax shelter analysis between alternatives. Second, it seems likely that we could find pieces of property nearly identical in many ways except depreciation treatment by different investors. Since it has been shown what import depreciation methods have on cash flow earlier in this paper, it would be evidence of market imperfections (and incomplete tax capitalization) if two investors chose to use different depreciation methods for similar property. In other words, in very competitive markets one would expect to find only the *best* depreciation method used for each type of property.

Finally, it can be observed that some market participants have acquired property and continue to do so even with low or moderate marginal income tax rates in a progressive income tax system. With perfect markets, the highest income-taxed individuals would be able to bid more for all property *with the same market information* than could all others, as shown in Equations 5 and 6. Since less than 100 percent of all investment property rests in the portfolios of our richest citizens, this provides further indication of the possible advantages to tax shelter analysis and tax planning for real estate investment. Therefore, to the extent that some tax shelter benefits have not been capitalized into property values in 1913 (or earlier!), that is the extent to which normative tax shelter analysis may provide results for investors. The results, however, provide some further doubts as to the value of such endeavors.

Methodology and Results of Study

The technique used to assess the impact on values and return of changes in tax shelter variables is a form of sensitivity analysis. "[Sensitivity analysis] . . . is quite literally an analysis of the sensitivity of the model to changes in its assumptions or the levels of its parameters. What we hope to learn through sensitivity analysis is whether a particular assumption really makes any difference with respect to the results yielded by the model, or the solutions and inferences drawn from it. . . ."[24] In order to determine

the importance of depreciation method selection, tax rate estimation, or the effects of extended depreciable lives of improvements to real property, a sensitivity analysis was performed to measure the impacts of changes in those parameters on rates of return and values. These results also could be derived by calculating the partial derivatives of the internal rate of return function with respect to each of the variables in question.[25] However, since the valuation equation is quite complex, a computerized sensitivity analysis becomes an increasingly attractive alternative approach. Thus, the results reported in this paper have been generated by a series of deterministic rate of return calculations.[26]

Using the input data reported in Figure 1, the "base case" results were found to be E equal to $62,585.12 and r equal to 9.85 percent. The values for the base case were based upon data analysis where possible, and the initial values used in the analysis were carefully selected as representative values based upon empirical and theoretical analysis.[27]

FIGURE 1

Summary of Typical Project Inputs for Sensitivity Analyses

Variables	Values
Effective Gross Income	$4,103 per month
Operating Expense Ratio	53.4%
Cost of Construction	$20 per square foot
Equity Yield	10%
Interest on Loan	7.25% per year
Loan-to-Value Ratio	74.2%
Term of Loan	25 years
Depreciation Method	Straight-Line
Tax Rate	35%
Depreciable Life	40 years
Holding Period	10 years
Constraints	**Values**
Capital Gains Tax Rate	35%
Cost of Land	$83,300
Size of Building	8,085 square feet
Depreciable Basis	75%

Figure 2 presents the results of the sensitivity analysis for the three accounting variables examined in this study: depreciation (D), average income tax rate (t), and depreciable life (L).

A number of observations are in order. Note that for depreciation, these results show that accelerated methods of depreciation have a positive impact on value and rate of return ($\partial E/\partial D > 0$ and $\partial r/\partial D > 0$) for positively leveraged investments. However, for the income tax rate, the opposite effects occur, as suggested. As the tax rate is raised, the value and return to property fall (i.e., $\partial E/\partial t < 0$ and $\partial r/\partial t < 0$). Finally, these results show that for positively leveraged projects, the desire to depreciate the improvements to the property over a short life results in increases in value and rate of return (i.e., $\partial E/\partial L < 0$ and $\partial r/\partial L < 0$).

These are well known and expected directional changes. More interesting is the analysis of the magnitude of the changes for these variables. These results indicate the relatively small impact that changes in the initial values of variables exert on values and rates of return. For example, positive fifty percent changes in the tax rate result in only 11.37 and 16.75 percent decreases in equity value and internal rate of return on equity respectively. Similar changes in depreciation method and depreciable life of the assets result in even smaller changes.

In the case of depreciation method, only double-declining balance, especially in the rate of return calculated, seems to have a large impact. For marginal changes of ten percent in the tax rate, the positive or negative effects are nearly negligible relative to the size of the input change. Further, minimizing depreciable life, contrary to the investment folklore, can only offer meager increases in value (5.18 percent) or rate of return (8.12 percent). Therefore, these results imply that E and r are relatively insensitive to changes (or "input estimation errors") in these accounting variables. Finally, it is clear from the results that *changes* in these input parameters are relatively unimportant in making real estate investment decisions.

A few qualifications are necessary to place these results in their proper perspective. First, the technique of sensitivity analysis presumes an independence of values among the parameters. This may not be true for some of the variables. For example, vacancies may vary inversely with rent levels. These results and their implications therefore hold only when the values of the parameters are assumed to be independent of each other. Second, additional investigations have shown that the absolute changes (and therefore resulting percentage changes) in E and r which result from the stimulated input change are functions of the initial set of inputs used. In other words, the results reported in Figure 2 would not remain constant if different initial inputs were used. Sensitivity results must therefore be used on a case-by-case basis. However, it has also been demonstrated that the rankings of variables according to their sensitivity impact on value and rate of return are constant for various sets of inputs.[28] In view of this finding, these results become important, i.e., changes in these variables have little impact on output, for all decision making, although the size of the percentage changes varies from case to case.

Finally, the relative impact these variables have exerted compared to the impact of others has also been investigated. Of the eleven variables tested, these accounting variables were ranked from eighth to eleventh in relative impact under various assumptions. This reinforces the results reported in Figure 2. Changes in most of the other variables had signifi-

FIGURE 2

Results of Sensitivity Analysis (E and r)
to Changes in Accounting Variables (D, t, L)

%Δ	D		t		L	
	E ($)	r (%)	E ($)	r (%)	E ($)	r (%)
- 50	———	———	69,702.70	11.51	65,823.97	10.65
	(———)	(———)	(11.37)	(16.85)	(5.18)	(8.12)
- 30	———	———	66,855.67	10.85	63.973.20	10.18
	(———)	(———)	(6.82)	(10.15)	(2.22)	(3.35)
- 10	———	———	64,008.63	10.19	62,945.00	9.96
	(———)	(———)	(2.27)	(3.45)	(0.58)	(1.12)
0	62,585.12	9.85	62,585.12	9.85	62,585.12	9.85
	(———)	(———)	(0.00)	(0.00)	(0.00)	(0.00)
+ 10	———	———	61,161.61	9.52	62,290.69	9.79
	(———)	(———)	(-2.27)	(-3.35)	(-0.47)	(-0.61)
+ 30	63,488.24*	10.04*	58,314.57	8.86	61,837.70	9.69
	(1.44)	(1.93)	(-6.82)	(-10.05)	(-1.19)	(-1.62)
+ 50	64,970.53†	10.41†	55,467.54	8.20	61,505.51	9.61
	(3.81)	(5.69)	(-11.37)	(-16.75)	(-1.73)	(-2.44)
+100	67,741.45‡	11.08‡	48,349.96	6.54	60,965.70	9.49
	(8.24)	(12.49)	(-22.75)	(-33.60)	(-2.59)	(-3.65)

D denotes depreciation method, t denotes tax rate on income, L denotes depreciable life of assets. Percentage changes are reported below each result in parenthesis.

* 125% declining balance method

† 150% declining balance method

‡ 200% (double) declining balance method

cantly greater impacts on return than did these accounting variable changes.[29]

Conclusions

Despite the history of tax shelter folklore, and doubts about complete tax capitalization and the recent tax accounting literature which assumes an importance and significance that depreciation and accounting variables and their analysts possess for real estate projects, the results presented here demonstrate the relative insensitivity of equity value and internal rate of return on equity to changes in these accounting considerations in the traditional investment valuation model. The major implication is that the emphasis on depreciation method selection, tax planning and shorter depreciable lives may have been overstated. These results support the importance and effect of the consideration of these variables in the valuation process. This does not imply that these variables are unimportant in determining value or in making rate of return calculations. But these results do suggest that changes in these variables have a relatively small impact on investment values and rates of return, and that more effective decision making would warrant consideration of more influential variables to a greater degree. It has been suggested that those professionals who have the greatest potential impact on return in terms of their abilities to influence decisions should be relied upon *at least* as much as other professionals involved in the investment process.[30] These results imply that the emphasis placed upon the accounting and taxation variables has to a considerable extent been overstated. If the ability to make effective decisions rests in the hands of those professionals who can significantly influence values and returns by making those decisions, investors, owners, developers and courts must rely upon the information and judgment of those professionals. For real estate investment analysis, this suggests a reevaluation and new direction for the field and the profession.

NOTES

1. Cynthia D. Dailey and Dennis J. Gaffney, "Anatomy of a Real Estate Tax Shelter: The Tax Reform Scalpel," *Taxes — The Tax Magazine*, 55 (February 1977), 127-44.

2. Thomas F. Cunnane, "Tax Shelter Investments After the 1969 Tax Reform Act," *Taxes — The Tax Magazine* 49 (August 1971), 450-59.

3. Arthur I. Gould, "Trends in Tax Planning for Real Estate Investments," *Taxes — The Tax Magazine* 50 (December 1972), 732-47.

4. Burton W. Kantor, "Real Estate Tax Shelters," *Taxes — The Tax Magazine* 51 (December 1973), 770-812.

5. Boris I. Bittker, "Tax Shelter and Tax Capitalization or Does the Early Bird Get a Free Lunch?" *National Tax Journal* 28 (December 1975), 416-19.

6. Cunnane, op cit.

7. Jonathan J. Davies, "The Administrative Assault upon the Real Estate Tax Shelter," *Taxes — The Tax Magazine* 54 (August 1976), 505-11.

8. Bittker, op cit.

9. Stephen E. Roulac and Alan J. Pouisse, "Tax Reform for Realty Depreciation: For Better or Worse," *Taxes — The Tax Magazine* 54 (September 1976), 532-48.

10. Paul F. Wendt and Sui N. Wong, "Investment Performance: Common Stocks Versus Apartment Houses," *Journal of Finance* 20 (December 1965), 633-46.

11. James R. Cooper, *Real Estate Investment Analysis* (Lexington, Massachusetts, D.C. Heath and Company, 1974).

12. James R. Cooper and Cathy A. Morrison, "Using Computer Simulation to Minimize Risk in Urban Housing Development," *The Real Estate Appraiser* 39 (March/April 1973), 15-26.

13. James R. Cooper and Stephen A. Pyhrr, "Forecasting the Rates of Return on an Apartment Investment: A Case Study," *The Appraisal Journal* 41 (July 1973), 312-37.

14. Edgar H. Hemmer, "How a Computer 'Thinks' About Real Estate," *Real Estate Review* 4 (Winter 1975), 113-23.

15. Peer Soelberg and Norbert J. Stefaniak, "Impact of the Proposed Tax Reform Bill on Real Estate Investments," *The Appraisal Journal* 38 (April 1970), 188-211.

16. Emil M. Sunley, Jr. "Changes in Depreciation and Recapture — Impact on Real Estate Investments," *The Appraisal Journal* 38 (October 1970), 524-35.

17. Paul F. Wendt and Alan R. Cerf, *Real Estate Investment Analysis and Taxation* (New York, McGraw-Hill Book Company, 1969).

18. R. Bruce Ricks, *Recent Trends in Institutional Real Estate Investment*, Research Report, No. 23 (Berkeley, California — University of California, Center for Real Estate and Urban Economics, 1964).

19. We have ignored minimum tax on excess depreciation provisions in current DRS regulations. This has recently been treated in C. F. Sirmans, "Tax Shelters, Minimum Tax and Excess Depreciation Recapture," Working Paper, University of Georgia, 1979.

20. Sexton has suggested that the repayment of principal, A_i, is also a type of tax shelter in "The Shrinking Tax Shelter Umbrella," *Taxes — The Tax Magazine* 52 (December 1974), 715-35.

21. Traditionally, after-tax cash flow has been defined by financial and accounting theory as $ATCF_i = R_i(1-t)+tD_i$. Note that neither interest nor principal repayments are deducted from this cash flow figure. Although these amounts are real and represent actual "cash outflows," it is argued that it would be inappropriate to deduct financial expenses from cash flow in evaluating discounted cash flow projects. A more complete discussion can be found in Austin Jaffe, "Toward a Theory of Capital Structure and the Valuation of Real Property," Working Paper, University of Oregon, 1979.

22. Hossein Askari, "Federal Taxes and the Internal Rate of Return on Owner Occupied Housing," *National Tax Journal* 25 (March, 1972), 101-05.

23. It is interesting to note that in his entertaining fable on this subject, Bittker, op cit., estimates wealth effects due to the imposition of tax shelter provisions for property owners during 1913, the date of the ratification of the Sixteenth Amendment, the personal income tax, but then concludes that the shelter was probably already capitalized into the value of property even prior to the existence of the tax law!

24. Ira Horowitz, *Introduction to Quantitative Business Analysis*, (New York, McGraw-Hill Book Company, 1972), 289-90.

25. Kenneth Carey and Ian MacKinnon, "Sensitivity Analysis of an Equipment Replacement Model," *Proceedings of the Fifth Annual Meeting of the American Institute for Decision Sciences*, November 14-16, 1973, 18-21.

26. A number of papers have investigated sensitivity analysis methodology. A few additional papers have applied. William C. House, Jr., "The Usefulness of Sensitivity Analysis in Capital Investment Decision Making,"*Management Accounting* 47 (February 1966), 22-29. Ronald J. Huefner, "Analyzing and Reporting Sensitivity Data," *The Accounting Review* 46 (October 1971), 717-32. Ronald J. Huefner, "Sensitivity Analysis and Risk Evaluation," *Decision Science* 3 (July 1972), 126-35. O. Maurice Joy and Jerry O. Bradley, "A Note on Sensitivity Analysis of Rates of Return," *Journal of Finance* 28 (December 1973), 1255-61. Richard B. Maffei, "Simulation, Sensitivity and Management Decision Rules," *The Journal of Business* 31 (July 1958), 177-86. Alfred Rappaport, "Sensitivity Analysis in Decision Making," *The Accounting Review* 42 (July 1967), 441-56. Martin B. Soloman, Jr., "Uncertainty and Its Effect on Capital Investment Analysis," *Management Science* 12 (April, 1966), 334-39. Ralph O. Swalm, "A Review of 'Uncertainty and Its Effect on Capital Investment Analysis'," *The Engineering Economist* 12 (Winter, 1967), 123-25. ———— "Sensitivity Analysis of Rates of Return," *Journal of Finance* 31 (March 1976), 63-69.

A few additional papers have applied this analysis to real estate projects: George W. Gau, and Daniel B. Kohlhepp, "Reinvestment Rates and Sensitivity of Rates in Real Estate Investment," *American Real Estate and Urban Economics Journal* 4 (Winter 1976), 69-83. William D. Whisler, "Analyzing the Effects of Deviations in Real Estate Investment Analysis," *The Appraisal Journal* 45 (January 1977), 35-48.

27. Austin J. Jaffe, *Property Management in Real Estate Investment Decision-Making*, (Lexington, Massachusetts, D. C. Health & Co., Lexington Books, 1979).

28. Ibid.

29. Ibid. The other variables included Effective Gross Income, Costs of Acquisition, Interest Rate on the Mortgage, Loan-to-Value Ratio, Length of the Mortgage, Operating Expenses, Reversion Growth Rate, and Holding Period of the Investment. [21] Jerome Kurtz, "Real Estate Tax Shelter — A Postscript," *National Tax Journal* 26 (September 1973), 341-46.

30. David W. Walters, "Just How Important Is Property Management?" *Journal of Property Management* 38 (July/August 1973), 164-68.