



FINANCIAL IMPACT OF THE 1986 ACT ON REAL ESTATE INVESTMENTS—A VIEW FROM THE SPREADSHEETS

by Calvin H. Johnson*

Calvin H. Johnson is Arnold, White & Durkee Centennial Professor of Law, University of Texas. This paper is based upon an outline presented at the Federal Taxation of Real Estate Transactions Conference at the University of Texas Law School in Austin, Texas.

On paper, the 1986 changes in the tax treatment of real estate caused a dramatic reduction in the purchase price that an investor would be willing to pay for real estate. In a typical investment in residential property, for instance, the purchase price lost 44 percent of its value because of tax reform. The results are sensitive to leverage, moreover, and assuming no down payment a property would lose 60 percent or more of its prior purchase price. The results are sensitive to assumptions about growth and assuming six percent annual growth, a property would lose 70 percent of its prior purchase price. Most of the loss is attributable to ending the advantage of capital gain.

The spreadsheets carry policy implications, moreover, because, under certain circumstances and even under current law, they show negative taxes better than tax exemption given to real estate that merits no special subsidy.

The paper losses may not occur in the real world, however, to the extent that investors are able to pass the losses on to future owners, tenants, or banks and to the extent that market purchase prices under prior law failed to reflect the value of available tax subsidies. The best evidence is that the purchase price for real estate under prior law reflected little if any of the value of the negative tax is given to real estate.

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I. Overview

The Tax Reform Act of 1986 affected real estate by cutting back on depreciation deductions, by ending the tax advantage for capital gain, and by enacting a series of anti-shelter overrides. This paper will analyze what the changes in the 1986 Act did to the purchase price that an investor would be willing to pay for real estate. The paper first develops spreadsheets showing the purchase price for a typical investment in luxury residential real estate under tax law as it was before the 1986 Act. Then, keeping all of the assumptions the same except for tax, it compares the purchase price after the 1986 Act. The major conclusions from the spreadsheet analysis are:

1. **Loss of 44 percent of value and more.** Assuming all other things being equal except for tax benefits, an investor after tax reform would pay a purchase price for the sample investment that is only 56 percent of the purchase price he would pay under prior law. The losses for nonresidential property are significant but not quite as bad (loss of 38 percent of value).

An investor after tax reform would pay . . . only 56 percent of the purchase price he would pay under prior law.

2. **Sensitive to leverage.** With greater leverage, the losses are even greater. The sample assumes a 20 percent down payment, but assuming no down payment, tax reform takes away 61 percent of the purchase price. The impact of tax, moreover, still depends on leverage; tax subsidies better than tax exemption are still available where property is entirely debt-financed.

3. **Conversion to capital gain.** The end of favorable rates on capital gain is responsible for almost all of the loss in value. Much of the value of real estate under prior law came from achieving depreciation deductions with debt and then repaying the debt with "capital gain." Rapid depreciation and high leverage maximized use of capital gain. Once we assume the loss of capital gain, then slower depreciation, passive loss limitations, and minimum tax do not have any material added impact.

The importance of capital gain means that the results are sensitive to assumptions about growth or decline in property. The sample assumes four

percent growth in purchase price (which is consistent with 1985-1986 patterns); with a six percent growth assumption, reasonable in some markets, the losses are on the order of 70 percent of the purchase price.

The losses to investors, shown on spreadsheets that keep all assumptions the same as tax treatment changes, might be avoided if investors are able to pass the losses on to tenants (in the form of higher rents), to the banks (in the form of lower interest), or to future owners (in the form of lower returns from real estate). It is plausible, moreover, that investors never had to pay for the full value of the tax subsidies under prior law. If the market price for real estate had reflected the value of negative taxes, then, for instance, tax-exempt and low-leveraged buyers would have been driven from the market and yet apparently both groups remained active as purchasers of real estate. Capitalization rates in the market were, moreover, lower than models reflecting tax benefits would imply. High bracket taxpayers apparently had inexpensive alternative ways to avoid tax and did not need to pay dearly for real estate benefits. If the purchase price never reflected the tax subsidies, then their reduction will have less effect than the spreadsheets would imply.

A negative tax . . . is still available after tax reform if there is enough leverage on the property.

The study also carries implications for future law. The 1981 accelerated depreciated schedules, when combined with leverage and capital gain provisions, generated tax subsidies far better than mere tax exemption. The subsidies for luxury apartments and other routine real estate were apparently unintended. A negative tax—better than exemption—is still available after tax reform if there is enough leverage on the property. There is thus need for further limits on leverage, for instance limits on accrued deduction of interest and other expenses. Moreover, the power of converting ordinary deductions into capital gain was so overwhelming, that if lower capital gain rates do return, the lower rates should not extend to real estate until after depreciation and interest are recaptured.

II. Spreadsheets Before and After Tax Reform

A. The Spreadsheets: Pre-Reform Law

Exhibit 1, described in detail in the Appendix, is a spreadsheet showing the projected cash and tax savings from a sample investment in residential real property. The sample investment is in a "luxury" condominium unit. It is held for investment and rented to others, although if it were not for the tax detriment, the owner might use it himself.¹ Exhibit 1 assumes a purchase price (\$150,000) and derives the net income that would produce a 10 percent after-tax return under prior law. The assumptions include:

- (a) four percent annual growth in the rents and sale price,

¹See *infra* note 66 and accompanying text.

- (b) a 25 year, 11 percent mortgage with 20 percent of the purchase price as down payment,
- (c) resale at the end of five years,
- (d) a taxpayer able to use the tax losses from the investment in a 50 percent tax bracket, and
- (e) a 10 percent after-tax discount rate.

It also is assumed that the investor rents the land beneath the condominium under a long-term ground lease and does not own the land. Exhibit 1 shows that with a starting net operating income of a modest \$7,082 (a 4.7 percent cap rate), the investor could get his required 10 percent after-tax return given the benefits of prior tax law.

1. Contribution of Tax. Much of the value that the investor got from the investment in the sample condominium came from tax benefits. The net present value² of the nontax benefits from the investment is a negative \$19,085: ignoring tax benefits, the detriment of the cash put into the investment is greater than the benefit in cash that can be expected from the investment. But the investment generated significant tax savings under pre-reform law and with the tax savings taken into account, the purchase price of \$150,000 was rational. Tax benefits were the equivalent of a grant of \$19,085 (deposited for the investor in a 10 percent tax-free account) to build the condominium.

Tax reform . . . [changed] the old negative tax into a real tax [at 20 percent downpayment].

The benefit that the tax system added to the investment can be measured in a number of other ways. The pre-tax cash flows from the investment represented a return of negative 2.3 percent annually: without the tax system, cash invested in this project decayed instead of generating profit. But the after-tax return on the investment was 10 percent. Thus, the tax system provided an improvement in return of 12.3 percent (from a -2.3 percent to a +10 percent). There was a negative tax—a subsidy—from the Federal income tax rather than a real tax reducing value.

A church or pension fund or investor that could not use tax losses could not rationally buy the condominium for \$150,000. Under the assumptions about rent, expenses, and financing, a tax-exempt investor requiring 10 percent return would pay only \$90,287 for this property given the net cash that it generates. A rational 50 percent bracket taxpayer, however, would pay \$150,000 for the condo-

²Net present value is the common—and theoretically correct—tool to measure the value of an investment. It compares the cash or cash equivalents from this investment with having a hypothetical bank account paying some rate of interest—here a 10 percent after-tax interest rate. The present value of any future cash is the amount needed in the hypothetical bank account now that will grow to equal that future cash when it in fact comes in (or is due). (A positive \$100 present value at 10 percent would be like having an extra \$100 now in a bank account giving tax-free 10 percent interest.) The negative net present value means the amounts needed to be set aside now to pay the current or future costs are greater than the present value of the cash that can be taken from the project.

minium. Tax benefits added \$59,713 (40 percent) to the purchase price.³

B. Tax Reform Act of 1986

In September 1986, Congress passed the Tax Reform Act of 1986,⁴ which reduced and under some cases took away the tax losses available under prior law. The Act reduced depreciation deductions by increasing the 19 year life to 27.5 years and by allowing only a straight-line schedule.⁵ After 1987, capital gain will be taxed at the same rate as ordinary income.⁶ The Act also cut the tax rates.⁷

1. All Other Things Being Equal. Exhibit 2, explained in detail in the Appendix, shows what purchase price would be rational after the tax reform of the 1986 Act. All nontax assumptions remain the same as those in Exhibit 1. The tax assumptions in Exhibit 2 conform to the 1986 Act, however. It shows the purchase price that a buyer requiring the same 10 percent return would pay after tax reform. The condominium that sold for \$150,000 under prior tax law would now sell for only \$84,250. The reduced purchase price is only 56 percent of the prior price. Forty-four percent of the condominium's value has been lost.

Tax reform caused the loss by changing the old negative tax into a real tax. After tax reform, the investor bears a tax that reduces his return from the condominium. The pre-tax cash flows in the post-reform case represent an interest-like return ("internal rate of return") of 12.2 percent. The after-tax return was set to equal 10 percent. The 2.2 percent drop in return (12.2 percent to 10 percent) represents a real tax of 18 percent. While the effective 18 percent tax is not as high as the nominal rates (28 percent rate), it does reduce the investor's return.

The impact of tax before and after tax reform can be contrasted using a number of different measuring tools. Before tax reform, there were net tax benefits which added to the net present value, internal return, and purchase price of the sample condominium.

Before tax reform, the negative before-tax net present value of \$19,085 was increased to a net present value of \$0 by the tax system. The internal rate of return was increased from a negative 2.3 percent pre-tax to positive 10 percent post-tax. The purchase price of the condominium increased from \$90,297 for tax-exempt purchasers to \$150,000 for buyers in the 50 percent tax bracket.

After tax reform, there were no tax benefits but, rather tax detriments. The tax reduced the net present value, inter-

³The tax system also adds indirectly to the value of the condominium. By taxing investments competing with real estate, the Act lowers the discount rate on the other investments. With a lower discount rate, the net present value of the sample condominium rises. (Net present value is just a mechanism for comparing one investment with another competing opportunity.) The text focuses on the cash and tax savings from this investment and does not take into account the discount rate in some hypothetical tax-free world. The approach here is appropriate to the task (and contrary to the pessimistic conclusions here).

⁴Pub. Law No. 99-514.

⁵IRC section 168(c) as enacted by Pub. L. No. 99-514 section 201(a).

⁶Pub. Law No. 99-514 section 301(a), repealing IRC section 1202.

⁷IRC section 1(a)-(e) as amended by the Tax Reform Act of 1986.

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nal rate of return, and purchase price of the sample condominium:

After tax reform, the positive before-tax net present value of \$1,847 was reduced to 0 after tax. The internal rate of return decreased from 12.2 percent to 10 percent after tax. The \$90,297 purchase price that tax-exempt purchasers would pay decreased to \$84,520 for taxpayers in the 28 percent bracket.

2. Anti-Shelter Overrides. The 1986 Act also contained a series of tax overrides. The overrides were intended to limit abusive or artificial tax losses or to insure that investors pay at least some tax on salary or other sources of income, notwithstanding generous depreciation deductions. It is assumed in Exhibit 2 that the highest and winning bidder for the condominium can avoid all of the overrides for the reasons described:

a. Passive Loss Limits (IRC section 469). The Act suspends the deduction of losses from "passive activities" until the investor has enough passive income to offset the losses or until he disposes of the investment. Real estate is *per se* a passive activity, even if the investor actively participates in management and even if he is the only owner-manager. There is an exemption for \$25,000 of tax losses a year (phased out with income over \$100,000).⁸ It is assumed here either that losses from the condominium fit within the \$25,000 exemption or that the investor has or can acquire sufficient income from other passive activities to use the losses from the sample condominium.

If we assume IRC section 469 applied to the condominium, however, to defer losses until sale in year 5, the purchase price in Exhibit 2 would be \$82,320 rather than \$84,520. The difference section 469 makes is small (2.6 percent of the post-tax value and 1.4 percent of the pre-reform value) because the post-tax reform losses are so small. What losses there are, moreover, are deferred until sale at the end of five years.

b. At-Risk Rules (IRC section 465). The Act applies the anti-tax shelter "at-risk rules" to real estate for the first time.⁹ The at-risk rules limit deduction of losses from nonrecourse liability. Investments like the sample condominium commonly use nonrecourse liability. But the assumptions in the sample were fully consistent with use of recourse liability. The debtor does not need the limited liability because the debt can be repaid from the sale proceeds with a cushion to spare. Moreover, the at-risk rules applied to real estate have an exemption for nonrecourse liability from a third-party bank¹⁰ and it was assumed the sample condominium used only bank debt.

c. Investment Interest (IRC section 163(d)). The Act prohibits the deduction of interest incurred to acquire or carry investments, except to the extent of income from investment. The condominium is not an "investment," subject to section 163(d), if it is a passive activity.¹¹ Alternatively, it is assumed that the buyer has sufficient unrelated investment income (over investment interest) to justify deduction of all the interest from the sample condominium.

d. Minimum Tax (IRC sections 55-59). In an effort to require individuals to pay tax on their real economic income, the Act imposes the alternative minimum tax at a 21 percent rate on an expanded base. Among the tax preferences in the expanded base is the difference between depreciation over 27.5 years and depreciation over 40 years.¹² The alternative minimum tax could be as much as \$202 a year,¹³ but even at that level the minimum tax would not be material (\$202 is only 0.2 percent of the purchase price). The minimum tax, moreover, has a \$40,000 exemption and is not payable unless 21 percent of the expanded tax base is greater than regular income. It is assumed that the regular tax or exemption will prevent payment of the minimum tax.

If the investor can not avoid these overrides, the post-reform purchase price of the sample condominium will be lower than \$84,520 and the losses will be greater than 44 percent. Even if the investor avoids the anti-shelter limitations, personally, moreover, the limitations may reduce the resale price the investor can get because his buyers are hurt by the overrides. But the impact of the overrides, even if they affect value, will not be very large. The most stringent of the overrides is the passive loss limitations and it can take away at most only 1.4 percent of the pre-reform purchase price.

C. Nonresidential Real Estate

Nonresidential real estate also was badly hurt by tax reform, but the impact on nonresidential property was slightly less than on residential. While, after-tax reform nonresidential real estate is taxed slightly more detrimentally than is residential, nonresidential real estate also was taxed more detrimentally under prior law, and its value did not reflect quite so much tax value. As shown by Exhibit 3 and Exhibit 4, explained in detail in the Appendix, the purchase price of nonresidential real property could be expected to decline from \$150,000 to \$93,280 (loss of 38 percent of value). This is less than the projected loss on residential property (44 percent loss in value), but loss of 38 percent of value is still a substantial loss.

III. Tax Determinants of Value

The aggregate losses due to tax reform can be broken into parts. The impact of both tax and tax reform, for instance, varies with changes in tax rates, with changes in assumptions about growth of the resale price, and with changes in assumptions about the proportion of debt used to purchase the property. The impact of reform, moreover, can be broken down into effects caused by tax rate changes, by slower depreciation, and by repeal of capital gain.

A. Tax Rates

The investor's tax rate has a dramatic effect on the purchase price he would pay for the condominium, but the effect of tax rates on the purchase price of the condominium depends upon the structure of the tax law. Where the investment generated tax losses and negative tax as under prior law, higher tax rates raised the purchase price of the investment. Under post-reform law and the 20 percent down payment assumption, however, the invest-

⁸IRC section 469(i).

⁹Pub. Law No. 99-514 section 503 striking out IRC section 465(c)(3)(D) of prior law.

¹⁰IRC section 465(b)(6)(B).

¹¹IRC section 163(d)(4)(D).

¹²1/27.5th - 1/40th = 1/88th.

¹³1/88 x \$84,520 basis x 21 percent = \$202.

ment generates positive taxable income and higher rates worsen the impact of tax.

In Table 1, the net operating income is set so that the condominium has a \$100x purchase price (to give 10 percent return) to a tax-exempt investor. The assumptions on debt (i.e., 20 percent down, 11 percent interest, constant payments to amortize principal over 25 year term), and four percent growth rate are the same as those used in Exhibits 1 and 2. High, now extinct tax rates are shown because they clarify the effect of rates. For each tax rate (extinct and current), Table 1 shows the purchase price generating a 10 percent return after tax, given the tax law before and after tax reform.

Table 1
Effect of Tax Rates on Purchase Price
 (\$100 Pre-tax Purchase Price)
 (20% down, 4% annual growth)

Tax Rate	(1) Pre-1986 Value	(2) Post-1986 Value
0%	\$100.	\$100.
10%	104.6	98.1
15%	107.6	97.0
20%	111.0	96.9
28%	118.3	93.6
30%	120.6	93.0*
34%	125.8	91.7*
40%	136.1	89.5*
50%	166.1	85.0*

*Table 1 assumes that capital gain and ordinary income bear the same tax rate, post reform, even for high, now extinct rates. But IRC section 1(j) limits the maximum tax on capital gain to 28 percent (plus a five percent tax imposed by IRC section 1(g) to phase out low brackets) even though in 1987 tax on ordinary income is taxed at 35 percent and 38.5 percent. If the brackets (ignoring the five percent phase out tax) go above 28 percent in the future, those brackets will not apply to capital gain. Using the assumption that capital gain tax is capped at 28 percent rate (instead of the assumption that capital gain and ordinary income bear the same rate) yields post-reform purchase prices as follows:

Tax Rate:	30%	34%	40%	50%
Purchase Price:	\$94.5	\$96.8	\$100.9	\$111.4

Chart 1, illustrates Table 1.

There was a subsidy available in the structure of tax law under prior law. The subsidy made the purchase price with tax higher than the purchase price without tax. The higher the tax rate, the higher the subsidy and so the higher the purchase price. Tax reform took away the subsidy where there is a 20 percent down payment. Thus the higher the tax rate, after tax reform, the lower the purchase price that would be paid.

B. Capital Gain

The lower tax on capital gains under prior law is the single strongest explanation for the negative tax and its elimination by the 1986 Act is the strongest explanation for the loss in value with tax reform. Ending capital gain alone turns negative taxes into real taxes, at the 20 percent down payment assumption. Slower depreciation deductions in a system with capital gain would reduce the negative tax significantly (\$166 value to \$125.6 value in a 50 percent bracket). But once capital gain is taxed at the same rate as ordinary income, the slower depreciation schedules have little additional impact (\$92.9 to \$85 in a 50 percent bracket).

Table 2 uses the same assumptions as in Table 1 (a condominium with sufficient net operating income to have a \$100 price before-tax and Exhibit 1 assumptions otherwise apply) and shows how the reduction in price in tax reform is caused mostly by ending capital gain. Column (1), taken directly from Table 1, shows the post-tax values under pre-reform law. Column (2) assumes that only 40 percent of capital gain is included in income but uses the new slower depreciation schedules and shows the modest reductions is due to change in depreciation. Column (3) uses old depreciation schedules but ends a lower tax on capital gains. The Column (3) drop from Column (1) is dramatic and ends the old negative tax under the assumptions. Column (4) (directly from table 1, Column (2)) shows new law in full and shows little further drop from Column (3):

CHART 1
TAX REFORM IMPACT ON PURCHASE PRICE
 (\$100 PRETAX PURCHASE PRICE)

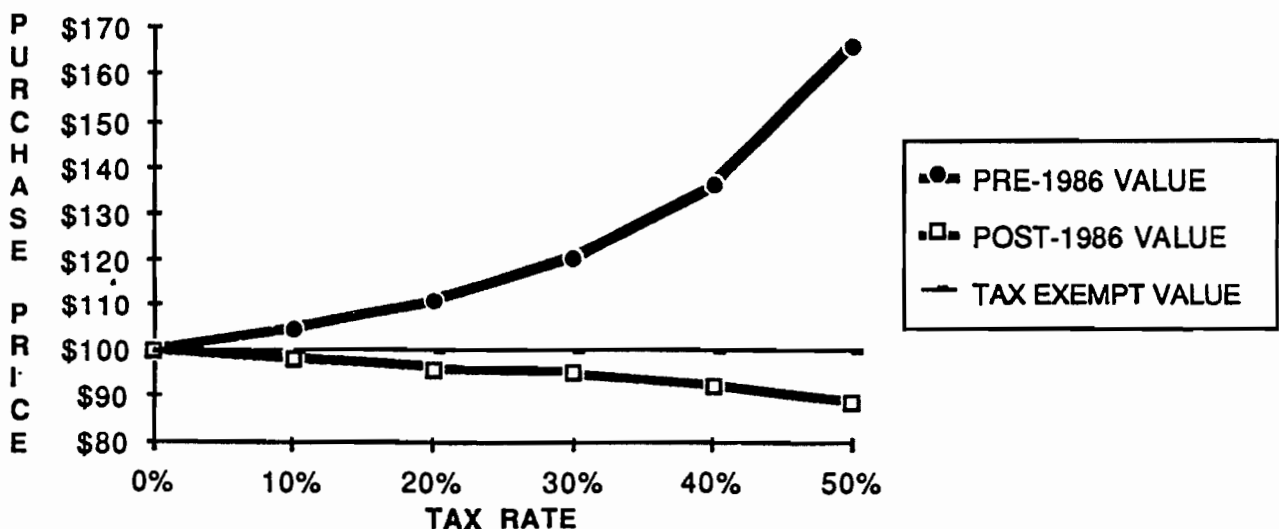


Table 2
No Advantage for Capital Gain
Purchase Price Under Various Tax Regimes
 (\$100 pre-tax purchase price)

Tax Rate	(1) Pre-1986 law (from Table 1)	(2) Post-1986 deprec. but old cap gain	(3) Pre-1986 deprec. but no cap gain	(4) Post-1986 (no cap gain) (from Table 1)
0%	\$100.	\$100.	\$100.	\$100.
10%	104.6	102.3	99.2	98.1
15%	107.6	103.7	98.7	97.0
20%	111.0	105.4	98.1	95.8
28%	118.3	108.6	97.1	93.6
30%	120.6	109.6	96.8	93.0
34%	125.8	111.7	96.2	91.7
40%	136.1	115.7	95.2	89.5
50%	166.1	125.6	92.9	85.0

Chart 2 illustrates Table 2.

Once we see how much the differential tax rate on capital gain contributes to the impact of tax and of tax reform, we can return to Exhibit 1 and pick out the source of the advantage. A significant part of the value of the sample condominium under prior law arose from the conversion of ordinary income taxed at 50 percent rates into capital gain taxed at 20 percent. Depreciation of \$57,000 was deducted from ordinary income, but it showed up on sale—the amount deducted was not really lost—and was largely taxed as capital gain.¹⁴ Even the net appreciation of the property (\$21,548), moreover, represented conversion of ordinary deductions into capital

¹⁴Only \$17,526 of the cumulative \$57,000 depreciation taken was recaptured as ordinary income; the rest was capital gain. The computations are explained *infra* text accompanying notes 61-65.

gain: interest at 11 percent was deducted from ordinary income but the four percent appreciation made available to the investor by his interest cost was taxed as capital gain. The advantage of converting ordinary income into capital gain was eliminated by the 1986 Act for years after 1987.

C. Growth Assumptions

Capital gain is so important that assumptions about net sale price have dramatic impact on the initial purchase prices and on the loss due to tax reform. Exhibits 1 and 2 assumed four percent net growth in the purchase price of the project annually, but the following Table 2A shows the pre-reform and post-reform purchase prices if assumptions other than four percent growth in the resale price are used.

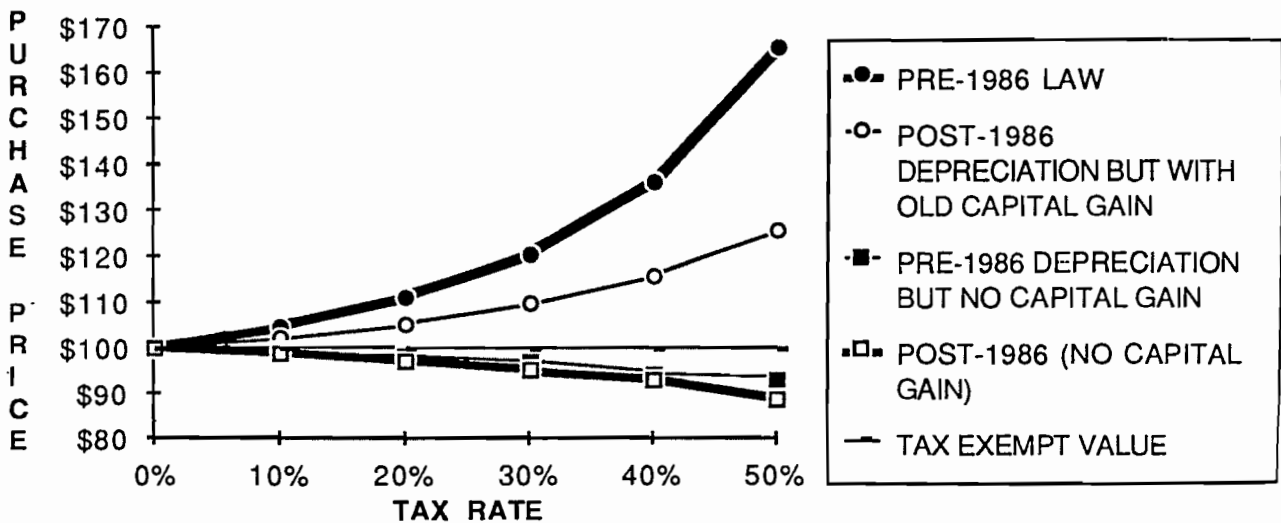
Table 2A sets the net operating income such that there is again a \$100 purchase price (with 10 percent discount rate); it assumes 20 percent down payment and the other assumptions from Exhibits 1 and 2. Rents are assumed to continue to grow at four percent.

Table 2A
Resale Price Affects Purchase Price
 (\$100 pre-tax purchase price)

Annual growth (loss) for 5 yrs in Resale Price	Pre-Reform (50% tax)	Post-Reform (28% tax)	Percentage Lost by Tax Reform
(4%)	\$ 93.7	\$97.2	1%
(2%)	103.7	95.8	8%
0	113.0	95.3	16%
2%	129.5	94.6	27%
4%	116.1	93.6	44%
6%	315.1	91.9	71%

Table 2A gives the full interesting range of growth rates (or declines), at least with the given down payment, interest, and discount rate. Growth rates above seven

CHART 2
TAX REFORM IMPACT ON PURCHASE PRICE
(CAPITAL GAIN AND DEPRECIATION)



percent just illustrate the greater-fool theory: if you can sell a dog house to the next buyer for a great enough price over what you paid, you can get by with zero net operating income from the dog house and still rationally pay the bank under any purchase price. Once tax reform comes along, however, a zero net operating income will destroy the "infinite" purchase price for the dog house. On the other side of the range, for declines in values of more than four percent a year (first row above), the reduced tax rate on net operating income in the 1986 Act will improve the value of the property and swamp the detriment of losing conversion to capital gain.

payment of 20 percent of purchase price, whereas Table 3 assumes various amounts of down payment.

The lower tax on capital gains under prior law is the single strongest explanation for the negative tax

D. Leverage

The purchase price is sensitive to the amount of debt. Tax reform had a greater impact on highly leveraged investments than on investments with little debt. But both before and after tax reform, borrowing increases the price that the investor can pay for the property and still achieve his required return. The greater the amount of leverage assumed, the lower the amount of net operating income that is needed to justify any given purchase price.

Table 3 shows the impact of leverage under pre-reform law. The more the leverage is the more the after-tax purchase price rises above the pre-tax or tax-exempt value. The results are sufficiently dramatic that, if purchase price reflected tax values, it is doubtful that any bidder could have been a successful purchaser if he had to pay substantial down payments.

Table 3 uses the same assumptions and format as in Tables 1 and 2, Column (1) (pre-reform purchase price). But Column (1) of Tables 1 and 2 assumed a down

Table 3
Purchase Price Varies With Leverage
Pre-tax Reform
(\$100 pre-tax purchase price)

Tax Rate	0% down	20% down	40% down	60% down	100% down
0%	\$100	\$100	\$100	\$100	\$100
10%	107.4	104.6	101.9	99.2	93.9
15%	112.2	107.6	103.1	98.8	90.6
20%	118.2	111.1	104.4	98.2	87.2
28%	131.6	118.3	107.0	97.3	81.4
30%	135.9	120.5	107.8	97.0	79.8
33%	143.6	124.5	109.1	96.6	77.5
40%	169.8	136.1	112.7	95.5	71.8
50%	260.9	166	120.3	93.3	62.9

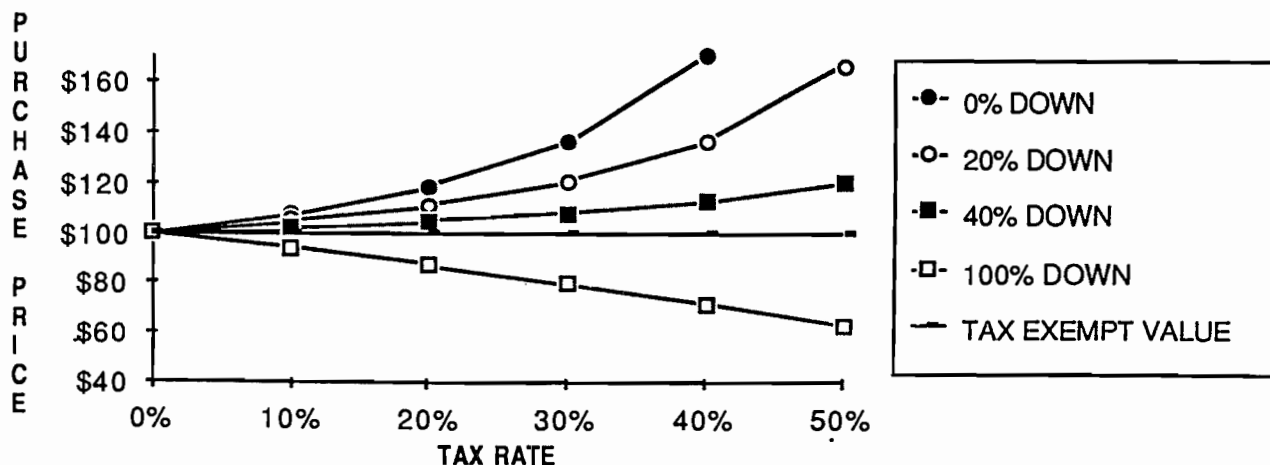
Chart 3 illustrates Table 3.

Under post-reform law, it remains that the more leverage the better. Moreover, for very highly leveraged investments, there remains a tax subsidy making the post-tax value higher than the pre-tax value.

Tax reform hurt highly leveraged investments more than it hurt investments with less leverage.

Table 4 is based on the same assumptions and format as Table 3 except that post-reform tax law (including no rate differential between capital gain and ordinary income) is used to calculate post-tax purchase price.

CHART 3
PURCHASE PRICE VARIES WITH LEVERAGE
PRE TAX REFORM
(PRETAX PURCHASE PRICE = \$100)



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Table 4

**Purchase Price Varies With Leverage
Post-Tax Reform**
(\$100 pre-tax purchase price)

Tax Rate	0% down	20% down	40% down	60% down	100% down
0%	\$100	\$100	\$100	\$100	\$100
10%	100.6	99.1	95.6	93.0	88.1
15%	101	97.8	93.1	89.4	82.3
20%	101.4	97.0	90.5	85.6	76.6
28%	102.2	95.3	86.0	79.3	67.8
30%	102.5	94.8	84.8	77.6	65.6
33%	102.8	93.8	82.9	75.1	62.4
40%	103.9	92.3	78.2	69.0	55.1
50%	105.9	88.8	70.5	59.8	45.0

Chart 4 illustrates Table 4.

Tax reform hurt highly leveraged investments more than it hurt investments with less leverage. The losses are greater even though leveraged investments have a greater purchase price after tax reform. With large enough down payments, tax reform even improved the purchase price a bit. Table 5 and Chart 5 illustrate the point.

Table 5 and Chart 5 draw their figures from Tables 3 and 4, but organize the data to show changes in purchase price with different amounts of leverage. Column (1) of Table 5 represents the pre-reform purchase price at the then maximum rate (50 percent). Column (4) represents post-reform purchase prices at 28 percent. Column (2) (post-reform law at 50 percent) and column (3) (pre-reform law at 28 percent) are included to separate the effect of rates from the effect of tax structure.

Table 5

Impact of Reform Varies With Leverage
(Pre-tax Purchase Price = \$100)

Down Payment	Purchase Price at 50% Tax		Purchase Price at 28% Tax	
	(1) Pre-Reform	(2) Post-Reform	(3) Pre-Reform	(4) Post-Reform
100%	\$ 62.9	\$ 45.0	\$ 81.4	\$ 67.8
80%	76.6	51.5	89.1	73.2
60%	93.3	59.8	98.2	79.3
40%	120.3	70.5	104.4	86.0
20%	166.1	85.0	111.0	93.6
0%	260.9	105.9	118.2	102.2

Chart 5 illustrates Table 5.

The wider spread between pre- and post-reform purchase prices in Table 5 as the down payment decreases shows the greater harm tax reform did to higher leveraged investments. The greater losses come about because highly leveraged investments needed less net operating income to yield 10 percent return before reform and they thus had less nontax value to fall back on when tax subsidies were reduced or lost.

Another way of looking at the effect of tax reform as leverage varies is to look at the pre-tax return rates, before and after tax reform, that were turned into the set 10 percent after-tax return rates by tax. In the 20 percent down payment case, for example, the pre-tax internal rate of return was negative 2.3 percent (the assumptions used in Exhibits 1 and 2) and the post-tax return was set to be equal to 10 percent, so that tax had the effect of adding a subsidy of 12.3 percent of invested amounts to

CHART 4
PURCHASE PRICE VARIES WITH LEVERAGE
POST TAX REFORM
(PRETAX PURCHASE PRICE = \$100)

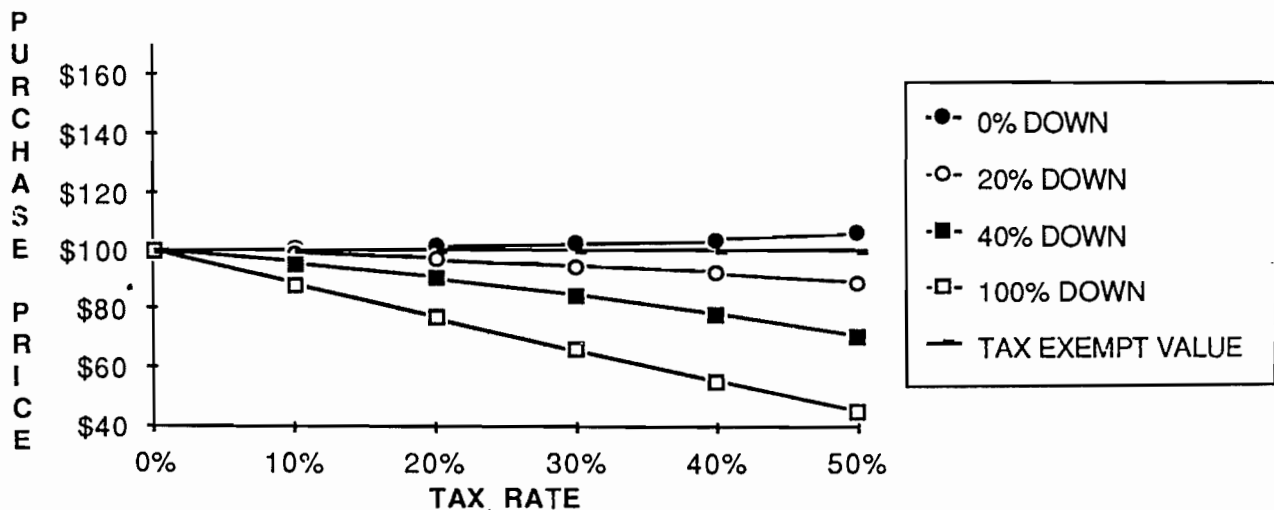
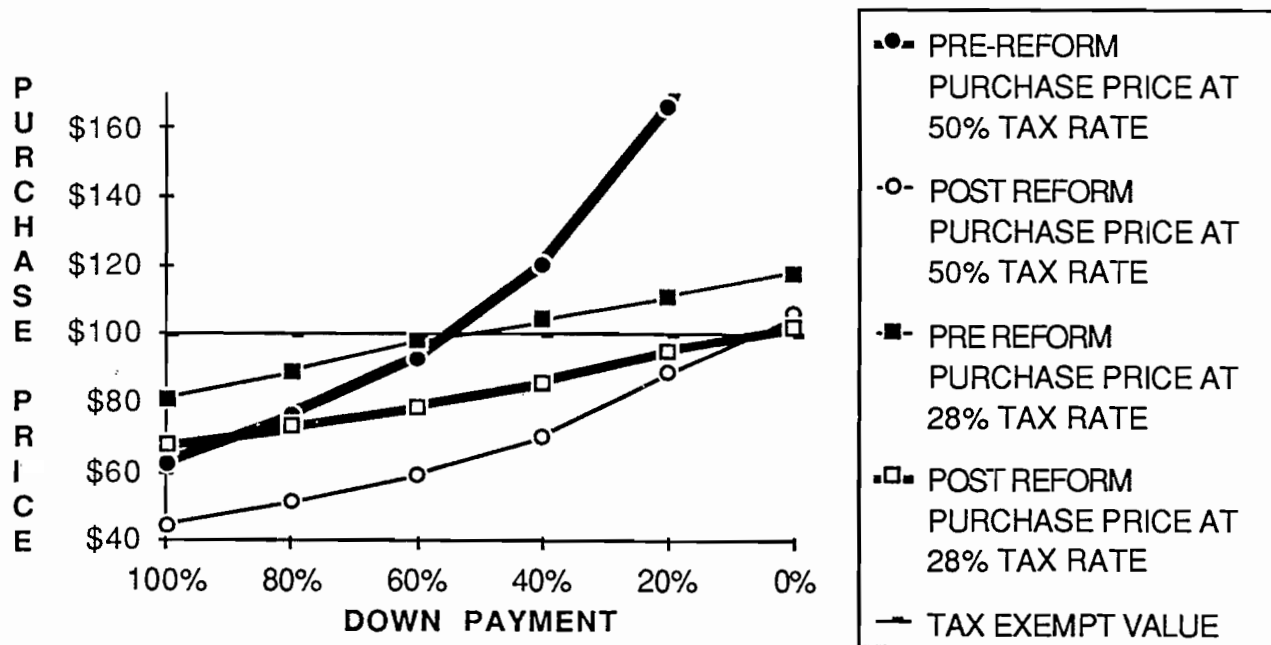


CHART 5
IMPACT OF REFORM VARIES WITH LEVERAGE
PRETAX PURCHASE PRICE = \$100



the property. After tax reform, the pre-tax rate of return was 12.2 percent and the post tax return was 10 percent, which represents a real tax of 18 percent. Similar computations can be made with other leverage amounts:

Table 6
Tax Impact on Rates of Return With
Different Amounts of Leverage

Percent Leverage	Pre-Reform		Post-Reform	
	Pre-tax IRR	Eff. Tax Rate	Pre-tax IRR	Eff. Tax Rate
0%	14.3%	30%	13.4%	25%
10%	13.7%	27%	13.4%	25%
20%	13.0%	23%	13.4%	25%
30%	12.1%	17%	13.3%	25%
40%	10.9%	8%	13.2%	24%
50%	9.3%	subsidy*	13.1%	23%
60%	7.0%	subsidy*	12.9%	22%
70%	3.5%	subsidy*	12.6%	21%
80%	(2.3%)	subsidy*	12.2%	18%
85%	(6.9%)	subsidy*	11.8%	15%
90%	(13.6%)	subsidy*	11.2%	10%
95%	(23.7%)	subsidy*	10.0%	0+%
No down payment	(38.9%)	subsidy*	7.4%	subsidy*

*When the tax system converts a negative pre-tax return to a positive post-tax return, there is a negative tax or subsidy. But stating the change as a (negative) percentage of pre-tax return is misleading. If the pre-tax rate is close to zero, the change will be large stated as a percentage, simply because the divisor is so small; if the pre-tax rate is strongly negative, the change will be far greater to yield 10 percent after-tax, but it will look smaller, when stated as a percentage, simply because the negative pre-tax divisor is more substantial. Thus, measuring the negative tax as a percentage of pre-tax income will make modest changes look large and large changes look small. How far the pre-tax rate is below positive 10 percent (the set after-tax rate) will measure the relative importance of various tax subsidies, although it is not comparable to positive tax rates.

1. Overview of Leverage. Leverage improves the purchase price both before and after tax reform. The advantage of tax leverage does not depend upon pre-tax return being greater than the interest rate (11 percent) on the loan. The relation of pre-tax returns to purchase price is a derived figure and with enough leverage, as Table 6 shows, pre-tax rates of return can even be negative. The phenomenon of the more leverage the better is a purely tax phenomenon that arises because there is a mismatch between debt and rapid depreciation.¹⁵

Exhibits 1 and 2 used an assumption of 20 percent down payment, which is a reasonable enough assumption when dealing with bank debt. But with seller-financing of real estate, for instance, the leverage amounts commonly exceed that required by 20 percent down payment. If the investor were able to buy without any down payment the result of tax reform would be even more drastic. For the zero down payment case, residential real estate would have purchase price of 260.9 percent of pre-tax value before tax reform at 50 percent rates and a purchase price of 102.2 percent of pre-tax value after tax reform at 28 percent rates. Under those assumptions, the purchase price for residential property after tax reform declined to 39 percent of its prior value and lost 61 percent of its value.

2. Leverage Beyond No Down Payment. No down payment is not the limit in the amount of tax leverage. It was assumed in the spreadsheet exhibits that interest and all expenses were paid as they were earned, but tax shelter promoters typically accrued many expenses, deducting them long before payment. Tax law respects borrowing in which interest is accrued rather than paid as

¹⁵See Johnson, Tax Shelter Gain: The Mismatch of Debt and Supply Side Depreciation, 61 *Tex. L. Rev.* 1013 (1983).

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it is earned (variously called "negative amortization" or "original interest discount")¹⁶ even if the indebtedness is nonrecourse so long as there remains some reasonable expectation of payment out of sales proceeds.¹⁷ Tax law allows deduction of accrued expenses many years before they are paid.¹⁸ Extrapolating beyond the zero down payment case, greater leverage continues to mean greater purchase price (both before and after reform).

Leverage improves the purchase price both before and after tax reform.

3. Toward Cost-Free Debt. When leverage reaches high levels, the net operating income from the property is allowed to drop to very low levels. When the operating income from the property reaches low levels, the investor is better off investing his tax savings from the property externally at some higher return rate. At the extreme, it is possible to have no derivable finite purchase price because the debt is cost free: the tax savings derived from the debt exceed the detriment of actually paying the debt and the property itself can be valueless.¹⁹ At some point extraordinary amounts of debt begin to look like sham debts and will not pass muster as depreciable debt for Federal tax purposes, but it is not clear what point that will happen. For this paper, the zero down payment line is a sharp line and useful distinction and it is difficult to find workable lines beyond zero down payment.

IV. Beyond 'All Other Things Being Equal'

The spreadsheet analysis showed the losses that would occur under "static" analysis, that is, keeping nontax assumptions constant. But losses of value shown under static analysis will not necessarily show up as declines in selling prices of real estate. Owners of real estate may succeed in passing on their losses to tenants (in the form of higher rents), to the banks (in the form of lower interest rates or debt "restructuring") or to future owners (in the form of lower return rates). Unrelated events might offset the losses.

A. Ameliorating Factors

1. Rent Rise. Groups lobbying against the 1986 Act argued that investors' losses would be cushioned or avoided because of increases in rent paid. They projected

increases in tenant's rent "to restore the loss of tax benefits and maintain the after tax equity"²⁰ and "to provide an equivalent after-tax rate of return on a typical development" even after tax reform.²¹ Projecting increased rents was intended to garner political opposition to the 1986 Reform Act, so the projections were not unbiased. As a matter of logic, rents might rise to preserve the value or return to real estate after tax reform. But the required rent rises look quite extraordinary.

Exhibit 5 in the Appendix gives an example to show what rent increases will be needed to maintain a \$150,000 purchase price and 10 percent return after tax reform. Exhibit 1 (pre-tax reform) assumed a net operating income of \$7,082. Exhibit 5 (line 4, year 1 column) shows that if landlords are able to increase net operating income by 77 percent, then they could maintain the value of the property. The required increase in net operating income might be achieved, for instance, by increasing gross rents by 50 percent while decreasing vacancy by about a quarter. But pushing up rents so far by raising rent while shrinking vacancy or expenses is very hard to do.

Half empty buildings...mean that it will be difficult to raise rents....

In the short run, rents are dropping rather than rising. One of the major factors motivating tax reform was that real estate was over-built. Even under vacancy assumptions such as the 36 percent vacancy rate assumed in Exhibit 1, was common. The tax losses made up the value that rents did not provide. Because large projects take so long to complete, new projects, rational under pre-1986 law, are still coming on line. Half empty buildings already built or just being completed mean that it will be difficult to raise rents until the growth of the economy uses up the over-supply.²² If anything, the assumption that rents will continue to rise at four percent, even after tax reform, looks very optimistic. Nationwide, however, some cities have low vacancy rates and rents can go up.

In the long run, as the excess capacity is filled, rents may rise because construction has slowed down. But of course before rents can rise for that reason, the value of real estate must drop by enough to cut off further construction. Rents for the next few years may not have much impact on total value of a 70 year building. Still one should not count on very dramatic rises in rent even in the long run. Tenants' use of space in the long run is more elastic. They can, for instance, adjust to rent rises in the long run by economizing on the space they consume.

¹⁶IRC section 1274.

¹⁷For a case beyond the borders of bona fide nonrecourse indebtedness, see, e.g., *Odend'hal v. Commissioner*, 80 T.C. 588 (1983).

¹⁸See, e.g., *Lukens Steel Co. v. Commissioner*, 442 F.2d 1131, 1135 (3d Cr. 1971) (time of payment does not matter); *Reynolds Metal Co. v. Commissioner*, 68 T.C. 943, 960 (13 year lapse between accrual and payment). IRC section 461(i) requires economic performance before an accrued expense may be deducted, but not payment. See discussion, Johnson, *Silk Purses from a Sow's Ear: Cost Free Liabilities Under the Income Tax*, 3 *Amer. J. of Tax Policy* 231, 263-271 (1984).

¹⁹See Johnson, *supra* note 19.

²⁰National Apartment Association, cover letter dated December 1986.

²¹Carlner (of National Association of Home Builders), *The Impact of Tax Reform on Housing Demand and Residential Construction Activity* in Follain (ed.), *Tax Reform and Real Estate* 113, 120 (1986).

²²Texas cities, for instance, have central city office vacancies of between 22 percent (Dallas, Houston, San Antonio) and 28 percent (Austin) according to a Cushman & Wakefield survey.

General rent rises also may be met by keeping rather than tearing down older buildings. In the long run, losses may be passed back in the form of lower land values or lower payments for construction as well as passed forward to tenants. In any event, there is nothing that guarantees owners against losses. In the short run, the static analysis assuming rents are not affected by tax reform gives a reasonable baseline. Long term rises or drops in value from the new lower baseline seem too speculative to call as of yet.

2. Interest and Discount Rates Down. A drop in interest rates on mortgages and a drop in discount rates at which projects are evaluated would ameliorate much of the decline in the value of real estate.

Exhibit 6, in the Appendix, shows the purchase price of the sample condominium on the assumption that we see a decline in interest rates (from 11 percent to 7.6 percent) and a decline in after-tax discount rates (from 10 percent to 8.5 percent). Exhibit 6 uses all the assumptions from Exhibit 2, except for interest, discount rates, and resulting purchase price. Whereas Exhibit 2 showed a decline to \$84,520, Exhibit 6 shows a decline to \$129,370 (86 percent of prior value).

a. Interest Decline. Some commentators have argued that interest will have to decline in order to maintain aggregate investment at its pre-reform level.²³ There are, however, real restraints on declines in interest rates. The large Federal deficits are funded by giving incentives to foreign investors to hold Federal debt. United States interest rates will have to remain at worldwide highs to fund the deficit, even if that causes declines in aggregate private investment. Most economists are predicting increases rather than drops in interest rates.²⁴

Tax changes apparently have no effect on interest rates.

Tax changes apparently have no effect on interest rates. A recent empirical study by Martin Feldstein was unable to find any effect on interest rates in the past due to changes in tax rates or tax incentive structure.²⁵ Consistently, previous studies have been unable to find any tax component when interest changes to meet inflation.²⁶ Thus, the decline in interest shown in Exhibit 6 (11 percent to 7.6 percent) is probably well beyond the lower edge of the range of interest rate drops, at least tax-caused drops.

b. Discount Decline. Some of the loss in value of real estate might be passed on to future owners through a lower rates of return from real estate. Decline in purchase

price is a loss that current owners suffer; decline in rate of return, compared with current conditions, is a loss that future owners suffer. If future buyers, living with the new bad news for real estate, become willing to accept lower returns, they will be willing to pay a higher purchase price for real estate and will cushion current owner's losses.

There are restraints on decline. Real estate must compete with other investments. Interest on long-term tax-exempt bonds is currently at about seven percent,²⁷ for instance, and one would expect investors to shift to diversified bonds if real estate gives a less attractive return. Real estate is not risk free. Tax reform, moreover, improved the relative attractiveness of corporate bonds and other similar investments because after-tax returns in the form of ordinary interest went up just in the cut in tax rate from 50 percent to 28 percent. Thus, the decline in discount rates shown in Exhibit 6 (10 percent to 8.5 percent) is probably at the lower part (or beyond the edge) of the range of tax-induced declines.

B. Market Evaluation of Tax Benefits

Study of the change in the rational "net present value" of real estate will not necessarily predict changes in future selling prices. The market may have already digested the information or it may never have taken account of net present value. In either case the change in net present value will not predict changes in market values.

1. Anticipated Losses? It is possible that the market price of real estate has already digested the losses caused by tax reform so that no further losses can be expected. A number of studies of the stock market, testing what is called the "efficient market" thesis, have found that the market is smart: Stock prices react quickly and without bias to news; stock prices even anticipate earnings for several months prior to their announcement.²⁸ The real estate market might be different because real estate is not as fungible as shares, because much of the information on real estate is local and hard to find, because construction has so long a lag time that supply and demand cannot adjust quickly, or because selling real estate is not as easy as selling stock. But if the market for real estate is even a somewhat smart market, then prices for real estate might have anticipated tax reform before its actual passage. Further losses would not result.

Appraisers familiar with real estate in Austin, Texas, for example, have suggested that residential duplexes lost roughly 40 percent of their value in the last year and commercial buildings lost roughly 30 percent of their value over the last several years. This is hardly a rigorous study, and Austin has nontax effects depressing the market. But it does suggest that the losses that have already occurred are less than the spreadsheets would imply.

It is difficult, in any event, to believe that the market anticipated tax reform before passage because so many professional prognosticators were surprised by the passage of the 1986 Act. For instance, a well-researched

²³See, e.g., Hendershott & Ling, *Likely Impacts of the Administration's Tax Proposals* in Follain (ed.), *Tax Reform and Real Estate* 87 (1986).

²⁴See, e.g., *The Outlook: Interest Rates Likely to Head Higher*, *Wall St. J.*, p. 1, col. 5 (April 13, 1987).

²⁵Feldstein, *Budget Deficits, Tax Rules and Real Interest Rates*, NBER Working Paper No. 1970 (1987).

²⁶See studies collected, Johnson, *supra* note 16, at 1045 n. 107 & 108.

²⁷*Wall St. J.*, March 17, 1987, at 38, giving representative yields.

²⁸See, e.g., Beaver, *What Should Be the FASB's Objectives*, 136 *J. of Accountancy* 49 (Aug. 1973) for a quick overview.

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report called "The 1986 Real Estate Market Forecast" (Landauer Associates, New York), written in February 1986, contained the following passage:

Emasculation of the President's original [tax reform] proposals has been steadily occurring at the committee level. . . . Whatever happens, the event has been largely discounted, and is not expected to have any major effect on real estate investment during 1986.²⁹

Tax Reform as it turned out appears from the spreadsheets to have had a dramatic effect on real estate values. It is tempting to agree with the Tax Shelter Investment Review assessment of the Landauer report—"Missed it."

2. Market Never Capitalized? An alternative theory, on the other end of the spectrum from the theory that the market has fully digested the news, is the theory that the market price never took very much account of the value of tax savings before the Act. The value of the tax benefits was plausibly never capitalized as part of the purchase price. If the market never paid for the tax incentives, the reduction or stripping of tax subsidies would not have the impact that the spreadsheets imply.

Professional prognosticators were surprised by the passage of the 1986 Act.

The best evidence is that the market ignored or at least undervalued tax subsidies before tax reform: The culture of real estate, for instance, often insisted that there was a sharp distinction between outside investors and "shelter promoters" and legitimate "real real estate people." The culture made a distinction between tax deals and economic deals, disapproving of the former. Most appraisers and some investors evaluate real estate investments looking only at the pre-tax figures—looking only for "real economic deals." To pay for the tax benefits, an investor would have to pay more to the bank than he expects in net operating income from the property and banks plausibly never tolerated lending in which the net operating income coverage was not sufficient to pay the mortgage. If "legitimate" real estate investors and "sound" bankers did not properly evaluate tax benefits, tax benefits would have less effect on their bidding than implied by spreadsheets. Tax incentives, whatever their cost to the Treasury, were plausibly treated as icing on the cake or manna from heaven that nobody had to pay for.

Tax-exempt institutional investors remained active purchasers of real estate, moreover, in the years before tax reform. The spreadsheets imply that 50 percent bracket taxpayers working with high leverage should have easily outbid tax-exempt bidders with bids that were 1.6 times to 2.6 times higher than what the tax-exempt bidders could offer, depending upon the leverage they could achieve. Tax-exempt bidders could be successful purchasers only if high bracket taxpayers did not bid up the price.

Purchase prices, moreover, appear not to have reflected the low capitalization rates of rent that would have occurred had the market capitalized the tax benefits. In Exhibit 1 (Pre-Tax Reform), the starting net operating income of \$7,082 represents a rent capitalization rate of 4.7 percent of the \$150,000 purchase price. In fact, capitalization rates before tax reform were in the neighborhood of nine to 10 percent.³⁰

One plausible explanation as to why the market for real estate did not reflect the negative tax is that high bracket taxpayers had too many alternative ways to avoid tax inexpensively. Investments in depreciable real estate operated within a sea of competing tax-favored investments. The competing investments and tax avoidance schemes that were not really net investments swamped the top brackets. Investments made with untaxed money, for instance, achieve a "soft money" privilege that is as valuable as tax exemption for the return. Research and development, oil drilling, and qualified pension plans are all explicitly allowed expensing of investments under the Code and, thus, achieve the soft money privilege. ACRS equipment achieved benefits as least as valuable as expensing under pre-1986 law. Unrealized appreciation, contracts reported under the complete contract method and buyer notes reported under the installment method all provide soft money investment opportunities. Owner-occupied housing and tax-exempt bonds gave returns that were and are tax-exempt. By one conservative estimate, which did not count everything, 80 percent of the \$10.5 trillion in assets held by individuals were tax favored.³¹ Tax was avoidable, moreover, with home-made remedies that neither reduced the investor's consumption nor estate.³² If the supply of alternative tax benefits swamped the high brackets, then one should not expect high bracket taxpayers to pay very much for the tax benefits in real estate.

Other studies of the effect of taxes are consistent with the hypothesis that the market never appreciated the tax subsidies. Bosworth, studying the reaction of equipment purchases to the large tax incentives given to equipment and real property in 1981, concluded that the amount of investment was not sensitive to even quite dramatic variation in after tax costs of purchases.³² A Congressional Budget Office study of real estate shelters concluded that shelters were inefficient vehicles for delivery of subsidies

³⁰A 10 percent capitalization rate inserted into Exhibit 1 translates into internal rate of return of 23.5 percent—equivalent to 47 percent taxable interest per year for a 50 percent bracket taxpayer. The 10 percent capitalization rate could be explained by a 19 percent discount rate for the nontax benefits and complete ignoring of the tax benefits. Whatever theory is closer, the nine to 10 percent capitalization rates imply that the tax benefits were undervalued.

³¹Galper & Steuerle, Tax Incentives for Savings, in Internal Revenue Service, *3 Statistics of Income Bull.* 1,4 (Spring 1984).

³²See, e.g., Stiglitz, General Theory of Tax Avoidance, *38 Nat. Tax J.* 325 (1986) (explaining four strategies of avoiding tax without diminution of estate or consumption); Steuerle, *Taxes, Loans and Inflation: How the Nation's Wealth Becomes Misallocated* at 62-80 (1985) (explaining "pure tax arbitrage" where taxpayer is both a lender and borrower of the same asset).

³²Bosworth, Taxes and the Investment Recovery, *1 Brookings Papers on Economic Activity* 1 (1985).

²⁹Quoted in News Highlights, *7 Tax Shelter Inv. Rev.* 11 (June 1986).

because investors discounted tax subsidies dramatically, while the government's cost, measured at quite lower discount rates, was high.³³ Both studies would imply a dampened reaction to withdrawal of tax benefits.

V. Policy Implications

A. Looking Back at Negative Tax

We can start with the premise, only lightly defended here, that negative taxes—tax subsidies better than tax exemption—were and remain a mistake. Given the size of the Federal deficits, no member of Congress would or could have voted to give a budgeted subsidy, better than tax exemption, for luxury housing like the sample condominium. Luxury condominiums are not a “merit good” and subsidies to them do not improve aggregate wealth nor distribution. Such subsidies can seem plausible only if they were considered cost free, that is, if the costs of what is transferred were ignored. The subsidy does not improve in wisdom merely because it was off-budget and part of the tax system.

Budgeting is the primary mechanism for government rationality: only by budgeting does the government evaluate costs as well as good news and choose among alternative uses for scarce resources. If voters knowingly vote for budgeted subsidies, then in a democracy, the subsidies are legitimated by the process. But democratic procedures err when the costs are hidden. The first victims of off-budget decisionmaking are unfortunately the decisionmakers themselves. Proponents of ACRS, for example, argued that accelerated depreciation was not a cost at all, but part of the normal tax base.³⁴ The Secretary of the Treasury in 1981 argued that negative taxes, if any, were unintended.³⁵ As shown, however, tax law before the 1986 Tax Reform gave negative taxes, better than tax exemptions, and at least some of the negative tax can be traced to 1981 accelerated depreciations.³⁶ Tracing the negative tax to accelerated depreciation enacted in 1981 means that the 1981 schedule for real estate was a mistake. History will undoubtedly remember it as such.³⁷

³³Congressional Budget Office, *Real Estate Tax Shelter Subsidies and Direct Subsidy Alternatives* (1977).

³⁴The first tax expenditure analysis prepared by contemporaneous advocates of ACRS treated ACRS as not a tax expenditure because it was part of the definition of normal tax rather than a subsidy. Executive Off. of the President and Off. Management & Budget, Special Analysis: Budget of the United States Government, Fiscal Year 1983, G-7 (Feb. 1982).

³⁵Secretary of the Treasury Donald T. Regan, 1 Tax Reduction Proposals, Hearing Before the Senate Comm. on Finance, 97th Cong., 1st Sess. 9, 35 (1981).

³⁶Compare column (1) and column (2) of Table 2, *supra*.

³⁷Focusing on negative taxes is not intended to justify uneven, above zero tax rates for various industries or individuals nor to justify costs in the departure from normal tax (i.e., “tax expenditures”). But the line between low tax and negative tax is a meaningful institutional and economic line that should be defended even if the ideal of even taxation is lost. None of the rhetoric for a free, unfettered market can justify subsidies that are better than exemption. If one uses untaxed markets as the ideal measure of what policy should accomplish, then one is bound to oppose negative taxes as well as positive taxes. Crossing the line into negative tax is another level of error beyond the inequity and inefficiency of uneven tax.

If purchase prices for real estate failed to capture the cost of its tax savings, moreover, it would mean that tax incentives failed on another level, even assuming arguendo that they were intended and sound if delivered. Investors retained extraordinary profits from the subsidies rather than passing them over to the real estate activity intended to be benefited. This paper is a study of the hypothetical price of real estate, not an empirical study of real prices, but it is nonetheless plausible given limited information about real capitalization rates that the prices of real estate before tax reform failed to capture the value of the negative tax. If the investors failed to pay a price that reflect the tax subsidies, the tax system was a leaky delivery system. Costs of the tax subsidies sent never arrived at the site.

High bracket taxpayers had too many alternative ways to avoid tax.

High returns to investors, if confirmed, also would be relevant to the debate over retroactive cut-off of the benefits. The passive loss limitations of section 469 were applied to losses attributable to pre-1986 acquisitions. Section 469(1) of the Code phases the limitations in over 1987-1990 (although starting at only 35 percent of the otherwise suspended losses in 1987). Section 469 may have minimal impact given new depreciation and capital gain structure,³⁸ but it would hurt dramatically if it were for instance applied—without the phase-in—to the Exhibit 1 losses. On the other hand, if investor treated the tax subsidies available under pre-reform law as icing on the cake, then easy come, easy go, they have no strong equitable claim to preservation of their windfalls. High returns from tax shelters, moreover, carry plenty of room for the investors to be said to have assumed the risk of tax change.

There is a school of thought justifying retroactive tax reform even without investor undervaluation of the tax subsidies. The positive purpose of every tax reform is to decrease the wealth of some group of taxpayers (and the major objection of taxpayers to any tax reform is their wealth loss).³⁹ Wealth losses structured as retroactive changes may not be subject to any added objection after the objection to wealth losses is played out. Making taxpayers bear the risk of improvements in tax law, moreover, may be an efficient allocation of the risk.⁴⁰ Still investor undervaluation of the negative tax adds further support to the limitations on losses on property that was purchased before the Act.

B. Extraordinary Leverage and Negative Taxes Now

With the slower depreciation and repeal of capital gains that came from the 1986 Act, negative taxes arise

³⁸See text accompanying *supra* notes 8-9.

³⁹Graetz, *Legal Transitions: The Case of Retroactivity in Income Tax Revision*, 126 U. of Penn. L. Rev. 47 (1977).

⁴⁰Kaplow, *An Economic Analysis of Legal Transitions*, 99 Harv. L. Rev. 509 (1986).

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(at least with sales in five years) only if leverage is very high. But negative taxes are possible with high enough leverage. Leverage is not a neutral factor. The more debt there is, the lower the effective tax rate on a real estate investment.

Interest is taxable in theory to recipients so that some tax loss might be made up on the other side. But investors arrange their affairs so that recipients of interest are low-bracket or tax-exempt, whereas payers of interest are high rate, so that the theoretical taxability of interest receipts does not do much good.⁴¹ Interest, moreover, carries no increment to account for its tax value or tax detriment.⁴²

Table 7, derived from Table 6, shows the pre-tax internal rate return and the effective tax rate under various assumptions about the amount of leverage. As is the usual assumption, the purchase price is assumed to adjust to yield a 10 percent after-tax return.

Table 7
Effective Tax Rate As Leverage Changes (Post 1986)

Leverage	Pre-tax IRR	Tax to 10% return
0%	13.4%	25%
10%	13.4%	25%
20%	13.4%	25%
30%	13.3%	25%
40%	13.2%	24%
50%	13.1%	23%
60%	12.9%	22%
70%	12.6%	21%
80%	12.2%	18%
85%	11.8%	15%
90%	11.2%	10%
95%	10.0%	0+%
No down payment	7.4%	subsidy

As shown by Table 7, the effective tax rate remains above or near 20 percent as long as there is a down payment of 20 percent or more. Only with lesser down payments do tax rates drop toward zero. With down payments of less than five percent, it is possible to get negative taxes.

An ideal or first-best treatment of the problem of negative taxes is to extend tax lives to equal useful lives and allow depreciation deductions only for expired costs the taxpayer has in fact lost. Our treatment of indebtedness is consistent only with very slow schedules of depreciation.⁴³ But at very least, tax law should cut off negative taxes by restricting the tax benefits of leverage where the down payment is less than five percent of cost.

One useful anti-abuse line would be to take seller-financing out of depreciable basis. Banks, at least under current conditions, tend to require 20 percent or more down payment and so the use of bank leverage is limited. But the seller, who is providing his own property and not

cash, will get his old property back if there is a default and can finance more of the property. Unlike a bank, the seller will not object if the purchase price for the property is too high. Seller-financing is, moreover, a separately identifiable tax whipsaw problem because promises to pay are treated as payments on the payer's side but on the payee's. Tax deductions arise on the buyer's side long before any tax is paid on the seller's side and out of that "tax float," there is money to be made.⁴⁴

The worse abuses, however, arise with leverage beyond no down payment where interest and other expenses are accrued but not paid. The accrual of expenses may make sense for notes payable in something like 30 days. Short-term payables may be as good as gold for commercial purposes and for convenience if nothing else, they can be treated as if they were legal tender for tax purposes as well. The accrual method also might make sense in a perfect income tax that allowed no opportunities for investment except ordinary interest subject to annual ordinary income tax.⁴⁵ But with investment opportunities in our imperfect tax system, accrued expenses lead to negative taxes and, at the extreme, even to cost-free liabilities.⁴⁶ Curing such abuses is a politically feasible way to help close Federal deficits.

C. Preparing for the Return of Capital Gains

Ending the tax advantage of converting ordinary income into capital gain is the single strongest explanation of the impact of the 1986 Act and the most caustic anti-negative-tax remedy in the Act.⁴⁷ The full statutory structure for capital gains was kept in 1986, however, even though the Act repealed the spread in rates on capital gain and ordinary income. The purpose, the Conference Committee explained, was "to facilitate reinstatement of a capital gains differential if there is a future tax rate increase."⁴⁸ Reenactment of the differential rate, prophesied by the Conference Committee, will reenact negative taxes unless the benefits in real estate of converting ordinary income into capital gain are taken away.

⁴⁴"Tax floats" are very different transactions from borrowing cash to pay for the property. In cash borrowing, the borrower steps into the shoes of the lender and he gets no more basis or deductions than the lender could get. With cash borrowing the seller of the property has to pay immediate tax on his cash received. But in a "tax float" promise to pay for the property, the "loan proceeds" are the property itself and the "lender" (seller of the property) may have little or no basis the "borrower" can step into. The seller who receives no cash but only a promise to pay in the future can avoid immediate tax within a large range of situations. In sum, the buyer treats the liability as if it were already a payment, whereas the seller waits until payment to recognize its existence. See Johnson, *Current & Quotable: A New Way to Look at the Tax Shelter Problem*, 25 *Tax Notes* 765 (May 14, 1984) for a discussion of the tax float problem. Cooper, *The Taming of the Shrewd: Identifying and Controlling Tax Avoidance*, 85 *Col. L. Rev.* 657, 717 (1985) makes a very similar point as the text does, calling it, "attacking internal leverage."

⁴⁵See, e.g., Sunley, *Observations on The Appropriate Tax Treatment of Future Costs*, 23 *Tax Notes* 719 (Feb. 20, 1984).

⁴⁶See discussion, Johnson, *supra* note 19.

⁴⁷See Table 2 and Chart 2 and accompanying text.

⁴⁸Conference Report on Tax Reform Act of 1986, *H. Rep. No. 99-841*, 99th Cong., 2d Sess. 106 (1986). See also IRC section 1(j)(2)(B) purporting to limiting tax on capital gain to 28 percent if for any year after 1987 the highest regular tax on ordinary income is over 28 percent.

⁴¹Johnson, *Tax Shelter Gain: The Mismatch of Debt and Supply Side Depreciation*, 61 *Tex. L. Rev.* 1013, 1039-1049 (1983).

⁴²See *supra* note 26 & 27 and accompanying text.

⁴³Johnson, *Is An Interest Deduction Inevitable?*, 6 *Va. Tax Rev.* 121, 135-136 (1986).

An ideal or first-best solution would again be to prevent any depreciation deductions in the first place unless the amount deducted had in fact expired and been lost to the taxpayer. But at least the tax law should cut off the negative taxes by preventing a lower capital gain rate when the amount deducted comes back on sale. Converting ordinary income to capital gain is most abusive when done with debt in capital gain tax shelters. Capital gain tax shelters have never required much nontax detriment: the taxpayer took ordinary deductions, justified by other people's money or by promises to pay, but paid the debts with capital gain. The promise, the deduction, the return and repayment in combination had no net effect on the taxpayer's beneficial interest except for tax. But if the tax deductions from the debt offset high rates, but the tax detriment when the debt disappeared was at low capital gain rates, the net effect of tax was to subsidize. Under the tax benefit rule, amounts used to repay debts that generated ordinary deductions must be treated as a recovery, inconsistent with the original deduction, that leads inevitably to ordinary income.⁴⁹ Even better, all depreciation on real property should be recaptured as ordinary income on sale, as it is on equipment and machinery.⁵⁰

Conversion to capital gain came from interest deductions as well as depreciation deductions. An investor carried appreciating property by paying and deducting interest. But the appreciation when the costs came back on sale was taxed as capital gain. A single matching transaction was split in half with the costs deducted from ordinary income, while the related receipts were treated as capital gain. The negative tax comes from separating the character of the costs from the related receipts.⁵¹ At least under current conditions, recapturing interest on debt secured by real property upon sale of the property would catch much of the negative tax, although it would not reach every conceivable abuse.

In both the interest and depreciation case, the advantage of converting ordinary income to capital gain came not from what might be called real capital gain—appreciation over time of capital that the taxpayer has provided—but rather from bad accounting in which costs were deducted from ordinary income rather than against the capital gain to which they relate. Return of differential rates for real capital gain can be achieved, without giving the negative tax. But it means that the differential rate should not be given to transactions that are considered to be “gains” only because of bad accounting matching between the costs and related receipts.

Appendix

Technical Explanation of the Underlying Assumptions

This Appendix explains the details and defends the assumptions behind the spreadsheets shown in Exhibits 1 through 6.

A. Pre-Reform Law (Exhibit 1)

Exhibit 1 (p. 324) is a spreadsheet showing the projected cash and tax savings from an investment in typical

unit of residential real estate under tax law as it was before the Tax Reform Act of 1986. Exhibit 1 starts with a given purchase price (\$150,000) for a sample “luxury” condominium and derives what net operating income an investor would require from the property under pre-1986 tax law in order to get his required (10 percent) after-tax return. The exhibit shows that with a starting net operating income of \$7,082 (Exhibit 1, line 4, year 1 column) the \$150,000 purchase price would generate the required 10 percent after-tax return under prior law.

1. Technical Explanation of the Assumptions.

a. Arbitrary Starting Points. Exhibit 1 describes a sample investment in a “luxury” residential condominium unit that sells for \$150,000. The condominium is held for investment and rented to tenants, although if it were not for the tax detriment, an owner might use it himself.⁵² The unit has a monthly rent of \$1,500 a month—there was an old rule of thumb that rents should equal one percent of value per month. The monthly rent would yield \$18,000 a year if the property were always fully occupied (Exhibit 1, line 1).

b. Expenses. The spreadsheet incorporates assumptions typical of condominiums in the period right before Tax Reform. Expenses (line 3)—such as management fees, state and local taxes, ground rent, et al.—are assumed to be 25 percent of the gross rent or \$4,500 in the first year. It is assumed that the expenses do not vary much even with significant vacancies.

c. Land Rent. In the sample the investor does not acquire any fee interest in the underlying land. The 25 percent expenses include payment of rent for use of land under a long-term ground lease.

d. Growth (four percent). The rents from the condominium and the selling price of the condominium (lines 1 & 6) are assumed to grow in value at a rate of four percent per year. A four percent growth rate can probably be explained by inflation and population increases alone. It is consistent with national figures during 1986.⁵³

The assumed growth in sale price is basically a proxy for greater rents available to the next owner after the investor sells the condominium. But deriving the subsequent sale price from the purchase price implies that the subsequent buyer will be in the same boat, so for instance, that he will have the same tax status that the initial purchaser has.

The four percent assumed growth in resale price is net of declines. An older building with fewer years to go declines in value at some point, even with inflation and population growth. In early years the declines are small,⁵⁴ but obviously the building will not grow in value perpetually. Any growth assumption is realistic only for some limited number (here five years) early in the life of the building. Assuming more growth by the time of sale would magnify the impact of tax reform found here; assuming lower growth by the time of sale would dampen the found impact.⁵⁵

e. Debt. The investor purchased the sample condominium largely with debt. In the period just before tax

⁴⁹*Hillsboro National Bank v. Commissioner*, 460 U.S. 370 (1983).

⁵⁰IRC section 1245.

⁵¹See Halperin, *Capital Gains and Ordinary Deductions: Negative Tax for the Wealthy*, 12 *B.C. Ind. and Com L. Rev.* 387 (1971).

⁵²See text accompanying *infra* note 66.

⁵³Appreciation on apartment buildings averaged 4.7 percent nationwide in the year ending September 1986. National Apartment Association, *Multihousing Advocate* 8 (December 19, 1986).

⁵⁴Assuming a 70-year building and straight-line declines, means an annual loss of 1.5 percent of starting value in a year.

⁵⁵See Table 2A *infra*.

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reform a bank would insist on 20 percent down payment and 11 percent interest and would allow a term of only 25 years. The 11 percent rate is one percent to 1½ percent higher than the then prevailing rate for first home mortgages, the 25-year term is shorter and the down payment is higher. But the lending terms for rental-investment property have always been stricter than for mortgages on first homes. The assumption means we are dealing with bona fide bank debt (not wild promoter tax shelter debt). With more leverage or better loan terms, the found effect of the Act would be more dramatic.⁵⁶ In the sample, there is accordingly a 20 percent down payment of \$30,000 (line 9) and a mortgage of \$120,000 to pay for the \$150,000 unit. The annual payment on the \$120,000 debt necessary to give the bank 11 percent interest and pay off the debt at the end of 25 years is \$14,249 (line 5).

f. Discount Rate (10 percent). It is assumed that the investor demands a 10 percent after-tax return rate for his investment (lines 11 and 22). The buyer will thus pay a

price for the condominium low enough to get at least 10% return after-tax or the buyer will make some other investment instead. The assumed discount rate is reasonable given the four percent inflation rate in the period just before the enactment of the Tax Reform Act. The discount rate is appropriate for some risks, but requires realistic projections of future price and rents, not seller's puffery or wild optimism. (It would be possible to generate far higher projected return rates just by projecting a higher rate of growth of rents or sale prices). The discount rate is equivalent to 20 percent interest taxed as ordinary income in the 50 percent tax bracket.

g. Resale in Five Years. It is assumed that the condominium would be sold after five years (Sale column, lines 6-9). This was typical under pre-tax reform law because of tax considerations. A new buyer would get a higher depreciation write-off than a current owner so the current owner would be better off selling than keeping after some appreciation had occurred. The commission on resale is assumed to be six percent. The outstanding mortgage is subtracted from the sale price the investor gets.

⁵⁶See Charts 3, 4, and 5 and Tables 3, 4, 5, and 6 *infra*.

Exhibit 1
Sample Condominium—Prior Law

\$150,000 Purchase Price (\$1,500 Month Rent, 10 Percent After-Tax Rate of Return)

	year 0	year 1	year 2	year 3	year 4	year 5	Sale (year 5)		
1. Gross Rent (104% annual growth)		\$18,000	\$18,720	\$19,469	\$20,248	\$21,057			
2. Rent Roll (64% of line 1) (36% vacancy)		11,582	12,045	12,527	13,028	13,549			
3. Operating Expense (25% of line 1)		(4,500)	(4,680)	(4,867)	(5,062)	(5,264)			
4. Net Operating Income (lines 2, 3)		7,082	7,365	7,660	7,966	8,285			
5. Mortgage Constant (25y, 11%, 0.11874 of loan)		(14,249)	(14,249)	(14,249)	(14,249)	(14,249)			
6. Resale Price (104% annual growth)							\$182,494		
7. Less 6% Sales Commission							171,548		
8. Outstanding Mortgage							(113,468)		
9. Downpayment (20%); Net on Sale (\$30,000)							58,080		
10. Pre-Tax cash Flow (line 4, 5, 9)	(\$30,000)	(7,167)	(6,883)	(6,589)	(6,282)	(5,964)	58,080	= \$52,116	
11. Net Present Value of line 10 @ 10% = (\$19,085)									
Computation of Tax									
12. Net Operating Income (line 4)		7,082	7,365	7,660	7,966	8,285			
13. Depreciation (19 year, 175% declining balance)		(13,200)	(12,600)	(11,400)	(10,350)	(9,450)			
14. Interest 11% rate		(13,200)	(13,085)	(12,957)	(12,814)	(12,657)			
15. Net Sale Price (line 7)							\$171,548		
16. Adjusted Basis (purchase price less depreciation)							(93,000)		
17. Gain (line 15, 16)							78,548		
17A. Sum of Depreciation								57,000	
17B. Sum of Straight Line								(39,474)	
17C. Recaptured as Ordinary Income lines (17A less 17B)								17,526	
17D. Capital gain (line 17 minus line 17C)								61,022	
18. Taxable Income (lines 12 less 13, 14, 17C, 40% of 17D)		(19,318)	(18,319)	(16,697)	(15,198)	(13,822)	41,935		
19. Tax Savings (Tax Cost) (50% tax rate)			9,659	9,160	8,348	7,599	6,911	+ (20,968) = (14,057)	
20. Pre-Tax Cash Flow (line 10)	(30,000)	(7,167)	(6,883)	(6,589)	(6,282)	(5,964)	58,080	= 52,116	
21. Post-Tax Cash Flow (lines 19, 20)	(30,000)	2,942	2,276	1,759	1,317			38,059	
22. Net Present value of line 21 @ 10% = \$0									

h. Derived Net Operating Income. Exhibit 1 shows that the purchaser can make his required 10 percent discount rate under the assumptions if the starting net operating income is \$7,082 (line 4, year 1 column). The first year net operating income of \$7,082 represents a "capitalization rate" (the ratio of starting net operating income to \$150,000 purchase price) of 4.7 percent. It is assumed that the buyer could get no more than the \$7,082 net operating income by raising or lowering the rent rate or by cutting back on costs or expanding services—if he could get more, the seller would have charged more than \$150,000 for the condominium.

There are many alternative assumptions about rents, expenses, and vacancy rates that are compatible with the derived \$7,082 net operating income in Exhibit 1. Exhibit 1 just used an old rule of thumb that monthly rents should be one percent of purchase price and it shows that under that assumption the investor could get his required 10 percent return even with a high (36 percent) vacancy rate (line 2) (i.e., the unit is occupied only 64 percent of the time). But the derived \$7,082 figure could be reached by assuming a lower gross rental and higher occupancy rate or lower expenses. Thus assumptions about expense ratio or vacancy need not be defended. Only the starting net operating income of \$7,082 and capitalization rate of 4.7 percent follow necessarily from assumptions about discount rate, financing, and tax.

i. Contribution of Tax. No one would buy this property for \$150,000 if it were not for tax. The pre-tax cash flows alone (line 10), that is, the net operating income and proceeds of sale from the investment, is far too small to justify the purchase price. The net operating income, for instance, is under half the amount needed to pay the bank for the annual mortgage payments. The net present value⁵⁷ of the cash (other than tax savings) from the condominium, using the 10 percent discount rate, is a *negative* \$19,085 (line 11), meaning that the detriment of the cash put into the investment is greater than the benefit in cash expected from the investment.

But the sample condominium generated significant tax savings under pre-reform law. With the tax savings taken into account, the purchase price of \$150,000 was rational.

j. Computation of Pre-Reform Tax. The tax savings came from reportable tax losses from the condominium. The tax losses are equal to net operating income (line 4 and line 12), less depreciation (line 13) and interest (line 14). Expenses other than interest and depreciation were accounted for in the computation of net operating income (see lines 3 and 4).

Depreciation tax deductions are computed using the full \$150,000 purchase price (not just the \$30,000 down payment). The investor owned no fee interest in the underlying nondepreciable land—part of his 25 percent expenses was rent for lease of the ground—so that all of the \$150,000 was depreciable.

The condominium was "19 year real property" under prior law.⁵⁸ The table of depreciation was prescribed by the Treasury, using a "175 percent declining balance" method⁵⁹ that meant that depreciation deductions in

early years are larger than just one-nineteenth of the purchase price. The schedule of depreciation for the first five years was as follows:

Table A
Residential Depreciation (Pre-Reform)⁶⁰

Year	Percent of Basis	Deduction with \$150,000 Basis (line 13)
1	8.8	\$13,200
2	8.4	12,600
3	7.6	11,400
4	6.9	10,350
5	6.3	9,450

The sum for five years was 38 percent of basis or \$57,000 for the sample condominium (line 17A).

Only the interest portion (line 14) of the mortgage payments (line 5) is deductible. Interest is 11 percent of the outstanding balance. With a 25-year term, the outstanding balance of the mortgage will decline to zero at the end of the 25 years.

The sale of the condominium at the end of five years would produce taxable gain of \$78,548 (line 17), measured by the excess of the net resale price (line 15) over the adjusted basis (line 16).⁶¹ The gain would be capital gain, except that "excess depreciation" would be recaptured—treated as ordinary income—upon sale.⁶² The "excess depreciation" recaptured on sale of residential property is the cumulative depreciation taken less the depreciation that would have been taken using the straight line method over its tax life.⁶³ The gain not recaptured is capital gain (line 17D). Only 40 percent of capital gain was included in ordinary income (line 18).⁶⁴

The amount realized in computing gain includes what is sometimes called "phantom gain." The unpaid mortgage (line 8) is part of the gain, whether the property was sold or foreclosed upon, so that the investor was taxed on amounts he never saw that went to repay the bank for the loan. But another way of looking at it was that the investor got to pay back the bank with money considered to be capital gain. Getting ordinary deductions with debt and then paying back the debt with amounts considered

⁵⁷Rev. Proc. 86-14, 1986-12 I.R.B. 11.

⁶¹The adjusted basis of \$93,000 is the purchase price (\$150,000 here) less accumulated depreciation (\$57,000) (line 17A).

⁶²IRC section 1250(a)(1)(B)(v), (b)(1), (c), prior to amendment by the 1986 Act. It is assumed that the sample condominium would qualify as residential real estate. Users are assumed to be primarily nontransients renting the property for more than 30 days. Treas. Reg. section 1.167(k)-3(c)(2) (1979) interpreting IRC section 167(k)(3)(C) incorporated by reference from IRC section 167(j)(2)(k) and section 1245(c)(5)(A). (If the use was primarily short term—less than 30-day leases—the property would be considered nonresidential, discussed in Part II.C and the Appendix accompanying Exhibits 3 and 4).

⁶³The sum of the five years of depreciation deductions (lines 13 & 17A) is \$57,000. The amount of depreciation that would be taken under straight-line would be 5/19ths of \$150,000 or \$39,474 (line 17B). The excess, recaptured depreciation, \$17,526 (line 17C), is ordinary income.

⁶⁴IRC section 1202(a) prior to amendment by the 1986 Act.

⁵⁷See *supra* note 2.

⁵⁸The life for real estate was 15 years in 1981, but was extended to 18 years in 1984 and to 19 years in 1985.

⁵⁹IRC section 168(b)(2)(A) prior to amendment by the 1986 Act.

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to be capital "gain" is the single strongest tax contributor to the value of the property under prior law.⁶⁵

k. Impact of Tax. The interest and depreciation deductions are together sufficiently larger than the operating income that the project throws off tax losses—starting with \$19,318 in the first year (line 18). The tax losses mean the buyer saves tax he would otherwise pay on his salary or normal business income. It is assumed that the investor would otherwise pay tax on the sheltered salary or other income at 50 percent tax rates. The tax savings at the 50 percent tax rate are large enough to give a post-tax cash flow (line 21) that justifies the investment, giving the investor the needed 10 percent return (line 22). Exhibit 1, line 22, concludes that the net present value of the tax savings and cash from the sample condominium using a 10 percent discount rate is zero ("NPV@10%=0"), meaning that the sample gives exactly a 10 percent after-tax return. In the 50 percent bracket, that return is equivalent to 20 percent taxable interest, which is the target return rate assumed to be adequate for the investor.

Because of the importance of tax savings, it is assumed that the highest bidder—the buyer—is in a 50 percent tax bracket (the highest bracket). The losses are less valuable in lower brackets, so the purchase price the buyer would be willing to pay will be lower. For example a corporation, which was only in the 46 percent bracket under prior law, could not get 10 percent from this investment.

Also because of the importance of tax savings, it is assumed the buyer would become a landlord, renting out the condominium to others. If the buyer uses the property himself, then the tax subsidy drops. An investor can not deduct losses from depreciation and operating expenses if he spends more than two weeks or more than 10 percent of the rented time using the condominium.⁶⁶ If no tax losses were allowed or if they have no value to the investor, the net present value of the condominium would be negative \$19,085.⁶⁷

B. Tax Reform Act of 1986 (Exhibit 2)

In September 1986, Congress passed the Tax Reform Act of 1986,⁶⁸ which changed the tax assumptions used in Exhibit 1 (prior law). Exhibit 2 (below) shows what purchase price would be rational given the different tax

⁶⁵See Chart 2 and Table 2. Assuming a constant 50 percent interest, for instance, loss of capital gain would alone reduce the value of the condominium from 166 percent of pre-tax value to 92 percent of pre-tax value.

⁶⁶IRC section 280(d)(1).

⁶⁷Exhibit 1, line 11.

⁶⁸Pub. Law No. 99-514.

Exhibit 2

Sample Condominium—After Tax Reform

\$84,520 Purchase Price (10% After-Tax Rate of Return)

	year 0	year 1	year 2	year 3	year 4	year 5	Sale (year 5)		
1. Gross Rent (104% annual growth)		\$18,000	\$18,720	\$19,469	\$20,248	\$21,057			
2. Rent Roll (64% of line 1) (36% vacancy)									
3. Operating Expense (25% of line 1)		11,582	12,045	12,527	13,028	13,549			
4. Net Operating Income (lines 2, 3)		(4,500)	(4,680)	(4,867)	(5,062)	(5,264)			
5. Mortgage Constant (25y, 11%, 0.11874 of loan)		(8,029)	(8,029)	(8,029)	(8,029)	(8,029)			
6. Resale Price (104% annual growth)							\$102,832		
7. Less 6% Sales Commission							96,662		
8. Less Outstanding Mortgage							63,936		
9. Downpayment (20%); Net on Sale (\$16,904)							32,726		
10. Pre-Tax Cash Flow (line 4, 5, 9)	(16,904)	(947)	(663)	(369)	(62)	256	32,726	+	\$32,982
11. Net Present Value of line 10 @ 10% = \$1,847									
Computation of Tax									
12. Net Operating Income (line 4)		7,082	7,365	7,660	7,966	8,285			
13. Depreciation (27.5 year, straight-line)		(3,073)	(3,073)	(3,073)	(3,073)	(3,073)			
14. Interest 11% rate		(7,438)	(7,373)	(7,301)	(7,221)	(7,132)			
15. Net Sale Price (line 7)							96,662		
16. Adjusted Basis (purchase price less depreciation)							(69,153)		
17. Gain (line 15, 16)							27,509		
18. Taxable Income (lines 12, 13, 14, 17)		(3,429)	(3,081)	(2,714)	(2,328)	(1,920)	27,509		
19. Tax Savings (Tax Cost) (28% tax rate)		960	863	760	652	538	(7,702)	+	(7,165)
20. Pre-Tax Cash Flow (line 10)	(16,904)	(947)	(663)	(369)	(62)	256	32,726	+	32,982
21. Post-Tax Cash Flow (lines 19, 20)	(16,904)	14	199	391	589				25,817
22. Net Present value of line 21 @ 10% = \$0									

treatment of the investor effected by the 1986 Act. Exhibit 2 uses pre-tax assumptions developed in Exhibit 1 about gross rent, vacancy, expenses, growth rates, and mortgage terms and discount rates. Note for instance the same \$7,082 net operating income in the first year (line 4, year 1 column). But Exhibit 2 changes the tax assumptions from Exhibit 1 to conform to the Tax Reform Act of 1986. The Exhibit 2 changes the purchase price (and the figures dependent on the purchase price) to find what purchase price will give the investor his required 10 percent after-tax rate of return. Exhibit 2 shows the new purchase price after tax reform, to give a 10 percent return after tax reform, is \$84,520.

Exhibit 2 (the Tax Reform Act) changes the tax assumption used in Exhibit 1 (prior law) in the following important ways.

1. Depreciation. Depreciation schedules (line 13) for residential property purchased after 1986 now use the straight-line method and a 27.5 year life.⁶⁹ Thus, the depreciation deduction for residential property is 3.6 percent (one 27.5th) of basis per year for every year of the tax life. Prior law, allowing accelerated depreciation over 19 years, started by giving a depreciation of 8.8 percent of basis in the first year.

⁶⁹IRC section 168(c) as enacted by Pub. L. No. 99-514 section 201(a).

2. Rate Cut. For 1988, the Tax Reform Act cut the tax rate for the taxpayers with the most taxable income from 50 percent to 28 percent.⁷⁰ Exhibit 2 uses the 28 percent rate, although the tax schedule has a bulge in it that sends the tax rates for some incomes (less than the highest) up to 33 percent.⁷¹ The full rate cut to 28 percent, moreover, is not scheduled to come into effect until tax years beginning after 1987.⁷² (Assuming higher rates than 28 percent on ordinary and capital gains reduces the post 1986 Act value of the property).⁷³

3. Capital Gain. The Tax Reform Act, as of 1988, will end the lower tax rate on capital gain. Exhibit 2 imposes a

⁷⁰IRC section 1(a)-(e) as amended by the Tax Reform Act of 1986.

⁷¹There is a five percent surtax, intended to phase out the low bracket and personal exemptions, that will "bulge" the marginal rate to 33 percent. IRC section 1(g). For a married couple (two exemptions) the phaseout will mean a 33 percent marginal tax rate for taxable income of between \$71,900 and \$171,090. Above that level, the rates drop back down to 28 percent.

⁷²For 1987 the maximum rate is 38.5 percent, but it is not applied to capital gain. IRC section 1(h)&(j).

⁷³See Table 1 and Chart 1.

Exhibit 3

Sample Nonresidential Property—Prior Law

\$150,000 Purchase Price (\$1,500 Month Rent, 10% After-Tax Rate of Return)

	year 0	year 1	year 2	year 3	year 4	year 5	Sale (year 5)		
1. Gross Rent (104% annual growth)		\$18,000	\$18,720	\$19,469	\$20,248	\$21,057			
2. Rent Roll (69% of line 1) (31% vacancy)		12,344	12,838	13,352	13,886	14,441			
3. Operating Expense (25% of line 1)		(4,500)	(4,680)	(4,867)	(5,062)	(5,264)			
4. Net Operating Income (lines 2, 3)		7,844	8,158	8,484	8,824	9,177			
5. Mortgage Constant (25y, 11%, 0.11874 of loan)		(14,249)	(14,249)	(14,249)	(14,249)	(14,249)			
6. Resale Price (104% annual growth)							\$182,498		
7. Less 6% Sales Commission							171,548		
8. Less Outstanding Mortgage							113,458		
9. Downpayment (20%); Net on Sale (lines 7, 8)							58,080		
10. Pre-Tax Cash Flow (line 4, 5, 9)	(\$30,000)	(6,405)	(6,091)	(5,764)	(5,425)	(5,072)	58,080	+	53,008
11. Net Present Value of line 10 @ 10% = (\$15,979)									
Computation of Tax									
12. Net Operating Income (line 4)		7,844	8,158	8,484	8,824	9,177			
13. Depreciation (19 year, straight-line)		(7,895)	(7,895)	(7,895)	(7,895)	(7,895)			
14. Interest 11% rate		(13,200)	(13,085)	(12,957)	(12,814)	(12,657)			
15. Net Sale Price (line 7)							171,548		
16. Adjusted Basis (purchase price less depreciation)							(110,526)		
17. Gain (line 15, 16)							61,022		
18. Taxable Income (lines 12, 13, 14, 40% of 17)		(13,251)	(12,821)	(12,367)	(11,885)	(11,375)	23,309		
19. Tax Savings (Tax Cost) (50% tax rate)		6,625	6,411	6,184	5,943	5,688		+	(12,204) = (6,517)
20. Pre-Tax Cash Flow (line 10)	(30,000)	(6,405)	(6,091)	(5,764)	(5,425)	(5,072)	58,080	+	53,008
21. Post-Tax Cash Flow (lines 19, 20)	(30,000)	221	320	419	518				46,491
22. Net Present value of line 21 @ 10% = \$0									

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28 percent tax on both ordinary income and capital gain.⁷⁴

Exhibit 2 shows that the buyer would be willing to pay only \$84,520 after tax reform for the condominium that sold for \$150,000 under prior tax law. The purchase price of \$84,520 is only 56 percent of the pre-tax reform price of \$150,000. Tax reform took away 44 percent of the intrinsic purchase price of the condominium.

C. Nonresidential Property (Exhibits 3 and 4). Nonresidential real estate was badly hurt by tax reform, although the impact on nonresidential was slightly less than on residential. Exhibits 3 (p. 327) and 4 (below) (nonresidential real estate) use the same assumptions and procedure as used in Exhibits 1 and 2 (residential). But the tax treatment of nonresidential real estate is less favorable than residential real estate, both before and after tax reform. Given the tax treatment of nonresidential real estate, Exhibit 3 shows the necessary net operating income (Exhibit 3,

⁷⁴Exhibit 2 assumes that capital gain and ordinary income bear the same 28 percent tax rate after reform. But IRS section 1(j) limits the maximum tax on capital gain to 28 percent (plus a five percent tax imposed by IRC section 1(g) to phase out low brackets) even though in 1987 tax on ordinary income is taxed at 35 percent and 38.5 percent (plus the five percent phase tax). Both the five percent phaseout in section 1(g) and the higher 1987 tax rates are ignored by Exhibit 2.

line 4) before tax reform and Exhibit 4 shows the derived post-reform purchase price. As shown by Exhibits 3 and 4, the purchase price of nonresidential real property could be expected to decline from \$150,000 to \$93,280 (loss of 38 percent of value). This is less than the projected loss on residential property (44 percent loss in value).

1. Nonresidential Property Pre-Tax Reform (Exhibit 3). Before tax reform, investors typically took straight-line depreciation on nonresidential real estate over the 19 year life (Exhibit 3, line 13)—rather than the 175 percent declining balance used for residential (Exhibit 1, line 13)—in order to avoid adverse recapture. Before reform, all depreciation on nonresidential property was recaptured from gain on the property (and not just the excess depreciation recaptured from residential property), unless the taxpayer elected straight-line depreciation.⁷⁵ Full recapture meant that the taxpayer was rational in electing straight-line depreciation (IRC section 168(b)(3)) unless he was planning to hold on to the property until death or for extraordinary periods (23 years assuming a 10 percent discount rate and that the property held its value) or expected gain to shrink or disappear by sale. With election of straight-line depreciation, there was no recapture and all gain was capital gain (Exhibit 3, line 17). With the less generous depreciation (but no

⁷⁵IRC section 1245(a)(5)(C).

Exhibit 4

Sample Nonresidential Property—After Tax Reform \$93,280 Purchase Price (10% After-Tax Rate of Return)

	year 0	year 1	year 2	year 3	year 4	year 5	Sale (year 5)		
1. Gross Rent (104% annual growth)		\$18,000	\$18,720	\$19,469	\$20,248	\$21,057			
2. Rent Roll (69% of line 1) (31% vacancy)		12,344	12,838	13,352	13,886	14,441			
3. Operating Expense (25% of line 1)		(4,500)	(4,680)	(4,867)	(5,062)	(5,264)			
4. Net Operating Income (lines 2, 3)		7,844	8,158	8,484	8,824	9,177			
5. Mortgage Constant (25y, 11%, 0.11874 of loan)		(8,861)	(8,861)	(8,861)	(8,861)	(8,861)			
6. Resale Price							\$113,489		
7. Less 6% Sales Commission							106,680		
8. Less Outstanding Mortgage							(70,562)		
9. Downpayment (20%); Net on Sale (lines 7, 8)	(18,656)						36,118		
10. Pre-Tax Cash Flow (line 4, 5, 9)	(18,656)	(1,016)	(703)	(376)	(37)	316	+	36,118 = \$36,434	
11. Net Present Value of line 10 @ 10% = \$2,154									
Computation of Tax									
12. Net Operating Income (line 4)		7,844	8,158	8,485	8,824	9,177			
13. Depreciation (31.5 year, straight-line)		(2,961)	(2,961)	(2,961)	(2,961)	(2,961)			
14. Interest 11% rate		(8,209)	(8,137)	(8,057)	(7,969)	(7,871)			
15. Net Sale Price (line 7)							106,680		
16. Adjusted Basis (purchase price less depreciation)							78,474		
17. Gain (line 15, 16)							28,206		
18. Taxable Income (lines 12, 13, 14, 17)		(3,326)	(2,940)	(2,534)	(2,106)	(1,655)			
19. Tax Savings (Tax Cost) (28% tax rate)		(931)	(823)	(710)	(590)	(463)	+	(7,898) = \$7,434	
20. Pre-Tax Cash Flow (line 10)	(18,656)	(1,016)	(703)	(376)	(37)	316	+	36,118 = 36,434	
21. Post-Tax Cash Flow (lines 19, 20)	(18,656)	(85)	121	333	553			29,000	
22. Net Present value of line 21 @ 10% = \$0									

recapture) the condominium needs \$7,844 starting net operating income (Exhibit 3, line 4, year 1 column), rather than the \$7,082 required for residential real estate to generate the target 10 percent return. (Exhibit 1, line 4, year 1 column.)

2. Nonresidential Property Post-Tax Reform (Exhibit 4). After tax reform, nonresidential property has a 31.5 year life (Exhibit 4, line 13), whereas residential property has a shorter 27.5 year life.⁷⁶ With the starting net operating income of \$7,844 as required in Exhibit 3 and the new post reform tax treatment, the purchase price that makes the investment have zero net present value at 10 percent discount rate is \$93,280.

D. Rents Needed to Maintain Prior Value (Exhibit 5)

Losses shown keeping all of the assumptions the same, except for tax, might be avoided if assumptions about rents change. For instance, if landlords are able to raise rents to restore the loss of tax benefits, then they need not suffer any losses. Exhibit 5 (below) gives an example to show the rent increases needed to maintain a \$150,000 purchase price and 10 percent post-tax return after tax reform. Exhibit 5 works off Exhibit 2 (post-reform tax law for residential property), but changes the net operating income so that the rational price to achieve 10 percent

return is \$150,000. Exhibit 2 assumed a net operating income of \$7,082. Exhibit 5 (line 4, year 1 column) shows that if landlords are able to increase starting net operating income by 77 percent to \$12,569, then they could maintain the value of the property. In Exhibit 5, the net operating income is raised by raising gross rents by 50 percent (from \$1,500 to \$2,250 per month) and dropping vacancy rates by almost a quarter (36 percent to 28 percent), but there are any number of alternative assumptions that could yield the same 77 percent overall increase.

E. Drop in Interest and Discount Rate After Tax Reform (Exhibit 6).

Losses shown, keeping assumptions the same, also would be ameliorated with a drop in interest rates on mortgages and a drop in discount rates at which projects are evaluated. Exhibit 6 (p. 330) shows the purchase price of the sample condominium on the assumption that we see a decline in interest rates (from 11 percent to 7.6 percent) and a decline in after-tax discount rates (from 10 percent to 8.5 percent). Exhibit 6 uses all the assumptions from Exhibit 2, except for interest, discount rates and resulting purchase price. Whereas Exhibit 2 showed a decline to \$84,520, Exhibit 6 shows a decline to \$129,370 (86 percent of prior value).

⁷⁶IRC section 168(b) after amendment by the Tax Reform Act of 1986.

(Continued on next page)

Exhibit 5
Rents to Maintain Prior Value
\$150,000 Purchase Price (10% After-Tax Rate of Return)

	year 0	year 1	year 2	year 3	year 4	year 5	Sale (year 5)		
1. Gross Rent (104% annual growth)		\$27,000	\$28,080	\$29,203	\$30,371	\$31,586			
2. Rent Roll (69% of line 1) (28% vacancy)		16,758	17,429	18,126	18,516	19,605			
3. Operating Expense (25% of line 1)		(4,190)	(4,357)	(4,531)	(4,713)	(4,901)			
4. Net Operating Income (lines 2, 3)		12,569	13,072	13,594	14,138	14,704			
5. Mortgage Constant (25y, 11%, 0.11874 of loan)		(14,249)	(14,249)	(14,249)	(14,249)	(14,249)			
6. Resale Price							\$182,498		
7. Less 6% Sales Commission							171,548		
8. Less Outstanding Mortgage							(113,498)		
9. Downpayment (20%); Net on Sale (lines 7, 8)	(30,000)						58,080		
10. Pre-Tax Cash Flow (line 4, 5, 9)	(30,000)	(16,806)	(1,177)	(654)	(111)	455	58,080	+	\$58,535
11. Net Present Value of line 10 @ 10% = \$3,278									
Computation of Tax									
12. Net Operating Income (line 4)		12,569	13,072	13,594	14,138	14,704			
13. Depreciation (27.5 year, straight-line)		(5,455)	(5,455)	(5,455)	(5,455)	(5,455)			
14. Interest 11% rate		(13,200)	(13,085)	(12,957)	(12,814)	(12,657)			
15. Net Sale Price (line 7)							171,548		
16. Adjusted Basis (purchase price less depreciation)							122,727		
17. Gain (line 14, 15)							48,821		
18. Taxable Income (lines 12, 13, 14, 17)		(6,086)	(5,468)	(4,817)	(4,131)	(3,408)			
19. Tax Savings (Tax Cost) (28% tax rate)		(1,704)	(1,531)	(1,349)	(1,157)	(954)	(13,670)	+	12,716
20. Pre-Tax Cash Flow (line 10)	(30,000)	(16,806)	(1,177)	(654)	(111)	455	58,080	+	58,535
21. Post-Tax Cash Flow (lines 19, 20)	(30,000)	24	354	694	1,046				45,819
22. Net Present value of line 21 @ 10% = \$0									

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Exhibit 6

Drop in Interest and Discount Rate After Tax Reform

\$129,370 Purchase Price (7.6% Interest Rate 8.5% After-Tax Rate of Return)

	year 0	year 1	year 2	year 3	year 4	year 5	Sale (year 5)	
1. Gross Rent (104% annual growth)		\$18,000	\$18,720	\$19,469	\$20,248	\$21,057		
2. Rent Roll (69% of line 1) (36% vacancy)		11,582	12,045	12,527	13,028	13,549		
3. Operating Expense (25% of line 1)		(4,500)	(4,680)	(4,867)	(5,062)	(5,264)		
4. Net Operating Income		7,082	7,365	7,660	7,966	8,285		
5. Mortgage Constant (25y, 11%, 0.090499 of loan)		(9,366)	(9,366)	(9,366)	(9,366)	(9,366)		
6. Resale Price							\$157,398	
7. Less 6% Sales Commission							147,954	
8. Less Outstanding Mortgage							(94,762)	
9. Downpayment (20%); Net on Sale (lines 7, 8)		(\$25,874)					53,192	
10. PreTax Cash Flow (line 4, 5, 9)	(25,874)	1,167	1,450	1,744	2,051	1,081	53,192	= \$52,110
11. Net Present Value of line 10 @ 8.5% = \$2,631								
Computation of Tax								
12. Net Operating Income (line 4)		7,082	7,365	7,660	7,966	8,285		
13. Depreciation (27.5 year, straight line)		(4,704)	(4,707)	(4,704)	(4,704)	(4,707)		
14. Interest 7.6% rate		(7,866)	(7,752)	(7,629)	(7,497)	(7,355)		
15. Net Sale Price (line 7)							147,954	
16. Adjusted Basis (purchase price less depreciation)							(105,848)	
17. Gain (line 15, 16)							42,106	
18. Taxable Income (lines 12, 13, 14, 17)		(5,488)	(5,091)	(4,673)	(4,235)	(3,774)		
19. Tax Savings (Tax Cost) (28% tax rate)		(1,537)	(1,425)	(1,309)	(1,186)	(1,057)	+	(11,790) = \$10,733
20. Pre-Tax Cash Flow (line 10)	(25,874)	(2,284)	(2,001)	(1,706)	(1,400)	(1,081)	+	53,192 = 52,110
21. Post-Tax Cash Flow (lines 19, 20)	(25,874)	(748)	(576)	(398)	(214)			= 41,378
22. Net Present value of line 21 @ 8.5% = \$0								