

TAX-DEFERRED EXCHANGE VS. SALE/ PURCHASE OF REAL PROPERTY

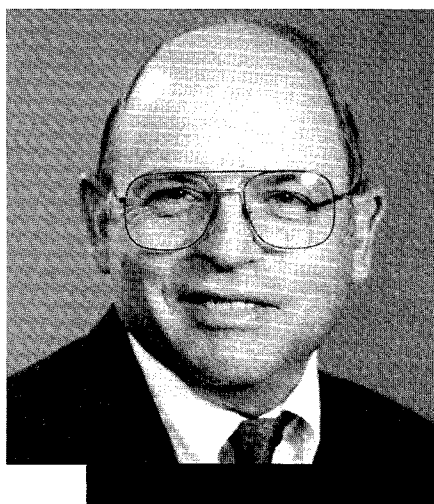
by Winfield P. Betty and Douglas Timmons

Exchanging "like kind" real property on a tax-free basis has become more popular in recent years, especially in certain parts of the country. But a tax-deferred exchange is not always as compelling as it might appear compared with a sale/purchase. This article provides a break-even analysis of when a tax-deferred exchange makes sense compared with a sale/purchase of depreciable or nondepreciable property. It looks at such factors as the capital-gains tax rates, holding period, and internal rate of return.

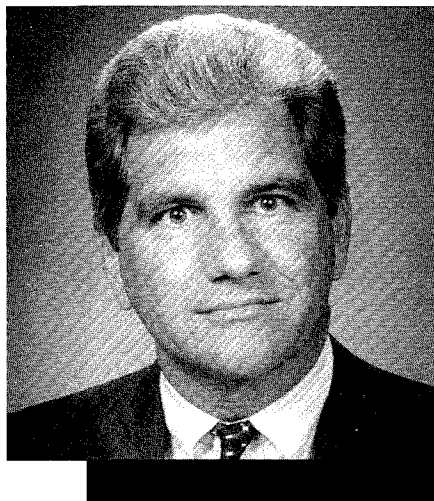
It is well understood that when real property is sold, taxes usually must be paid on any gains. However, it is not as well known that many properties having a fair-market value above their adjusted tax basis can be exchanged for other property of a "like kind," with taxation on all or part of the gain deferred for income-tax purposes. Such tax-deferred exchanges, under Section 1031 of the Internal Revenue Code, are recognized as a potentially important tool of financial planning. In fact, some real estate agents specialize in exchanges, and marketing sessions nationwide attract agents who actively trade properties. Most of the exchange activity is regional, with California, Colorado, and Florida currently being very active areas. Financial planners also need to consider exchanges as a way to help their clients defer taxes and build real estate portfolios.

Advantages and Disadvantages

The main advantage of a real estate exchange is tax deferral. In the most simple case, two parties exchange property and balance any differences in equity by contributing or receiving net "boot." This



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net boot can be cash, other personal property, or debt relief. Taxes are ordinarily due only on the amount equal to net boot received. To qualify as an exchange, the properties traded must be held for productive use or for investment purposes and must be considered "like kind" in nature.

In addition to tax deferral, other advantages of exchanges include:

1. Preservation of investment capital
2. An increased depreciable basis in property if additional debt is assumed
3. Access to tax-locked properties
4. Building a tax-deferred estate

Possible disadvantages of exchanges are:

1. Legal/tax complexity and higher transaction costs
2. Tax basis in new property is reduced, and future taxes may be higher because of the reduced basis
3. Losses on property are deferred
4. Future depreciation expense may be reduced compared with a sale/purchase

These advantages and disadvantages have been noted in the academic literature. Related articles have dealt with the mechanical aspects of exchanges and how best to structure the transaction to achieve advantages (*see references*). Also, attention has focused on whether the trades produce viable investment results for the parties involved.

Since advantages of exchanges are relative ones, no advantage or disadvantage exists unless a choice is available. The obvious alternative to an exchange is a sale/purchase. To identify advantages or disadvantages, the starting point must be a comparison of the cash flows occurring with an exchange of property versus those occurring with a sale/purchase. The relevant costs or benefits are the incremental differences.

In examining cash-flow differences, a sale/purchase involves a cost that could be avoided with a tax-deferred exchange. This cost is the added payment of taxes, today, that could have been deferred with an exchange. To justify a sale/purchase, positive incremental cash-flow

benefits must be possible over the life of the acquired asset compared with those occurring with a tax-deferred exchange. These positive cash flows can be viewed as incremental investment returns earned on the funds used to pay taxes. Given costs and benefits, it is possible to define rates of return earned on the funds invested. If returns are sufficiently high, a sale/purchase may be preferred over an exchange.

Overview

It generally is assumed that a high tax rate on capital gains adds to the attractiveness of an exchange compared with a sale/purchase. The logic is compelling, since a higher tax rate implies a greater amount of tax deferral. When comparing a sale/purchase to a tax-deferred exchange, however, two other important issues must be considered: the length of time the acquired property is to be held and the rate of growth of the capital-gains tax during the holding period. If the tax rate on capital gains rises rapidly enough, a sale/purchase can be preferred over an exchange.

The following guidelines are suggested by our analysis:

1. In the case of nondepreciable real property, the rate of return earned on funds used to pay taxes today will equal the growth rate in the capital-gains tax during the time the acquired asset is held.

Exchanges are particularly attractive using raw land or depreciable property having a low tax basis relative to market value. Exchanges can defer payment of taxes on all or part of the difference.

2. Under the present modified accelerated cost recovery system (MACRS) tax rules, the growth rate in the capital-gains tax rate is also a close estimate of the returns to be earned when depreciable real property is acquired.
3. Only a small window of opportunity exists for a sale/purchase to be advantageous. This will occur when the capital-gains tax rises

after the new property is acquired, and when the acquired property is held for a relatively short time period.

4. If the property is to be held for long-term investment, the future capital-gains tax rates necessary to convey an advantage to a sale/purchase become prohibitively and unrealistically high.
5. Finally, for both depreciable and nondepreciable real property, any advantages associated with a sale/purchase are insensitive to the current and future level of taxes on ordinary income.

The supporting logic and a framework for identification of critical future tax rates are presented in this article.

Costs and Benefits

For purposes of defining the costs and benefits of a sale/purchase versus a tax-deferred exchange, it is assumed that an investor wishes to acquire a new property either by selling a property currently owned and purchasing the new property, or by exchanging the current holding for the desired property while either receiving or paying net boot. The incremental cost of a sale/purchase, in this case, is the current payment of taxes that could be deferred with an exchange.

The benefits of the sale/purchase compared with an exchange derive from the higher basis in the property achieved

through a sale. With an exchange, the tax basis in the acquired property is reduced by the amount of any gain deferred. Because of this reduction, two relative benefits are possible to offset the added cost of a sale.

■ If the property acquired is all or partly depreciable, the relatively higher basis derived from a sale will allow higher depreciation charges.

■ Because of the higher basis, fu-

ture capital-gains taxes on the sale of the property could be lower.

From the perspective of a sale/purchase versus an exchange, the costs and benefits can be structured much like a replacement-capital budgeting decision. The incremental outlay is the added payment of taxes occurring with the sale. This outlay also is the additional amount of investment necessary to put the party in the same position as would exist in the case of an exchange. The incremental benefits of a sale/purchase are future tax savings due to either higher depreciation charges, which reduce interim taxes, or lower capital-gains taxes when the property is sold.

Identification of Key Variable

The following definitions are used to further describe the costs and benefits of a sale/purchase versus an exchange:

To = Tax rate today on long-term capital gains

Tn = Capital-gains tax rate in year "n"

Toi = Assumed tax rate on ordinary income

Po = Current market price of property owned

Bo = Tax basis of property owned

Pt = Current market value of new property

Pd = Current market value of depreciable part of new property (Pt)

n = Number of years before new property is sold

NB = Positive net boot received in an exchange

DG = Amount of gain deferred in case of an exchange (Po-Bo-NB)

Acquiring Nondepreciable Property

Exchanges are particularly attractive using raw land or depreciable property having a low tax basis relative to market value. Exchanges can defer payment of taxes on all or part of the difference. Disregarding transactions costs, in a tax-deferred exchange, the amount of the deferral is:

$$(Po-Bo)(To)$$

Not all exchanges are tax free.

Whether taxes are due depends on the receipt or payment of net boot. To the extent that net boot is received, gains must be recognized. As long as no net boot is received, or net boot is paid, the equity received in the new property is equal to or greater than that in the old, and all taxes are deferred. Also, the full amount of the gain (Po-Bo) is deferred. If net boot is received, taxes can be partially deferred so long as the amount of net boot is less than (Po-Bo). Beyond this, there is no tax value or incentive to an exchange because as much in taxes would be paid.

The relative cost of a sale today, compared with an exchange, is the added amount of taxes paid. This can be expressed as:

$$\frac{(Po-Bo-NB)(To)}{(DG)(To)}$$

If no net boot is received in an exchange, then a decision to sell requires an additional current payment of taxes equal to (Po-Bo)(To). As net boot increases, the relative cost of a sale compared with the exchange declines. If NB=(Po-Bo), no cost and no relative advantages exist for a sale.

Tax Benefits of a Sale

The tax benefits of a sale instead of an exchange derive from the higher tax basis in the acquired property that comes with a sale/purchase. In the case of a sale and purchase, the full value of the property acquired is included in the basis. In an exchange, the tax basis in the property received is reduced by the amount of any gain deferred (Po-Bo-NB). So long as the property acquired is nondepreciable, the benefit of a sale/purchase will be a future reduction in capital-gains taxes when the new property is sold. This tax reduction will be (Tn)(DG).

An advantage can exist for a sale/purchase, relative to an exchange, if the tax rate on capital gains (Tn) rises in the future. This is shown in the following equation.

Definitions:

IRR = The internal rate of return earned on the incremental outlay occurring with a

sale/purchase. (This rate will equate both the present value and future value of incremental costs and benefits to zero.)

BEnd = For nondepreciable property, the break-even tax rate in n years that will equate the future value of incremental costs and benefits to zero.

According to the above definitions:

$$\text{Future Value of Incremental Costs} = \text{Future Value of Incremental Benefits}$$

$$(To)(DG)(1+IRR)^{n} = (BEnd)(DG)$$

Dividing both sides by DG and solving for BEnd:

$$BEnd = To(1+IRR)^{n}$$

BEnd is the tax rate on capital gains, after n years, necessary to provide any IRR specified. Alternatively, the IRR can be viewed as the future growth rate in the capital-gains tax rate (To) that actually occurs. For illustration, if tax rates on capital gains rise above To at a 10% rate in the future, the realizable IRR is 10%. If BEnd is viewed as its future tax rate on capital gains, an alternative formulation of the above equation is:

$$IRR = \sqrt[n]{\frac{BEnd}{To}} - 1$$

Acquiring Depreciable Property

If depreciable property is being acquired in a sale/purchase or exchange, the incremental costs and benefits must be adjusted to reflect differences in future depreciation charges. The amount of gain deferred (DG) is the source of both costs and benefits. The relative cost of a sale remains:

$$\frac{(Po-Bo-NB)(To)}{(DG)(To)}$$

The above is also:

$$\frac{(DG)(To)}{(DG)(To)}$$

In the case of a sale/purchase rather than an exchange, the basis in the acquired property is higher by an amount equal to DG. The benefits can be derived as higher interim depreciation charges (lower taxes on ordinary income) or a lower capital-gains tax liability when the property is sold. Assuming that the difference in basis is written off using post-1986 MACRS rules, and assuming that the basis in the new property is

allocated according to the relative market values of depreciable and nondepreciable properties received, the difference in the depreciable basis between a sale/purchase and an exchange will be:

$$(Pd/Pt)(DG)$$

If "m" is the number of years over which the property is depreciated, the positive difference in annual depreciation charges for a sale/purchase rather than an exchange will be:

$$(Pd/Pt)(DG)/m$$

The amount of the additional annual tax savings during the depreciable life of the new asset also will be:

$$(Toi)(Pd/Pt)(DG)/m$$

The above amount will be received as an annuity during the depreciable life of the asset or until it is sold. At the same time, the difference in basis (DG) will be reduced by a total amount equal to:

$$(n)(Pd/Pt)(DG)/m$$

The cumulative difference in basis over the depreciable life of the asset or until it is sold is:

$$(DG-(n)(Pd/Pt)(DG)/m)$$

Finally, the difference in capital-gains tax if the asset is sold in year "n" will be:

$$(Tn)(DG-(n)(Pd/Pt)(DG)/m)$$

In summary, the incremental costs and benefits of a sale and purchase of depreciable property are:

Outlay = (Po-Bo-NB)(To) or (DG)(To)

Annuity Benefit = (Toi)(Pd/Pt)(DG)/m

Tax Savings if Sold in Year "n" =

$$(Tn)(DG-(n)(Pd/Pt)(DG)/m)$$

To define the critical future tax rates required to generate different IRRs, the following definitions are used:

X = (Pd/Pt)(1/m) = Annual percentage amount of the asset to be depreciated

FV = The future value of \$1 for any IRR and n

FVA = The future value of a \$1 annuity for any IRR and n

Tn' = The break-even Tn for depreciable and nondepreciable property

The IRR earned on the funds used to pay taxes, in the case of a sale rather than an exchange, is also the rate that equates the future value of the outlay with the future value of the benefits. Accordingly:

$$\begin{aligned} (FV)(DG)(To) &= \\ (FVA)(Toi)(Pd/Pt)(DG/m) + \\ (Tn)(DG - (n)(Pd/Pt)(DG)/m) \end{aligned}$$

Substitution of $BEnd = To(1 + IRR)^{**n} = (To)(FV)$, and solving the above for Tn , results in:

$$Tn' = [BEnd - (X)(Toi)(FVA)]/[1 - (n)(X)]$$

The above equation defines future tax rates on capital gains required to generate different IRRs. If the property acquired is nondepreciable, $X=0$, and:

$$Tn' = BEnd = To(1 + IRR)^{**n}$$

If any part of the property acquired is depreciable, X will have a positive value and the break-even tax rate (Tn') becomes a more complicated function of X , Toi , FVA , n , and $BEnd$.

The identification of $BEnd$ is the starting point in all cases. This is convenient since it is always defined by the IRR required. If a 10% IRR is specified, then the tax rate on capital gains must rise at this rate in the future if this return is to be realized. Depending on the values of X , Toi , FVA , and n , the Break-even Tn' for depreciable property can obviously be different from $BEnd$.

Example

Mr. X Change is considering the purchase of additional real property. He can sell the property he currently owns and purchase the new property outright or exchange the property currently owned. If properties are exchanged, Mr. X Change will be required to pay cash boot of \$30,000. His land has a current market value of \$80,000 and a tax basis of \$60,000. If he sells his property he would realize a long-term capital gain of \$20,000 subject to a tax of 28% (\$5,600). If an exchange is arranged, the gain and the tax can be deferred.

The property being acquired is currently valued at \$110,000. Mr. X Change expects to hold the new parcel for three years and wonders what the financial impact would be of a sale/purchase versus an exchange. He expects the tax rate on long-term capital gains to rise in the near future, and wonders how high these rates would have to be to justify a sale and payment of taxes today. X has decided that if he could achieve a 10% return on the funds used to pay taxes, he would prefer a sale/purchase over an

exchange. He wants to know what the tax rate on capital gains would have to be in three years to provide this return.

Nondepreciable Property

Assuming the property being acquired is nondepreciable, the required future tax rate would be:

$$\begin{aligned} BEnd &= To(1 + IRR)^{**n} \\ &= .28(1 + .10)^3 \\ &= .3727 \text{ or } 37.27\% \end{aligned}$$

The related IRR of the sale/purchase after three years is calculated below.

It is assumed that the acquired property will appreciate 5% annually, have operating revenues before depreciation, interest expenses, and taxes of \$5,000 a year, and the tax rate on capital gains in three years will be $BEnd$ as calculated above (37.27%).

The exchange requires the following payments:

\$ 80,000 value of property exchanged

30,000 additional cash

\$110,000 total

With a sale/purchase, the outlay includes:

\$ 74,400 after-tax proceeds from sale of current property

5,600 tax payment

35,600 additional cash

\$115,600 total

The incremental outlay is:

\$ 5,600 = net outlay

Since the property acquired is nondepreciable and the same operating revenues are received under both options, no incremental revenues are provided during the three-year holding period. However, when the property is sold, a tax difference in favor of the sale/purchase provides incremental revenue.

The projected tax from the sale of the property, if acquired through an exchange, is:

\$127,339 value of property in 3 years assuming 5% annual growth

-90,000 tax basis

\$ 37,339 taxable gain

\$ 13,916 = tax liability (\$37,339 × .3727 tax rate)

The tax if acquired in a sale/purchase would be:

\$127,339

-110,000 tax basis

\$ 17,339 taxable gain

\$ 6,462 tax liability..(\$17,339 × .3727 tax rate)

The difference in the two tax payments is \$7,454. This is the incremental benefit attached to the sale/purchase. Accordingly, an incremental investment of \$5,600 provides an incremental return of \$7,454 in 3 years assuming the capital-gains tax rises to 37.27%. This tax rate provides an IRR of 10% as indicated below:

$$\begin{aligned} \$ 5,600 &= \$7,454/(1 + IRR)^3 \\ &= \$7,454/(1 + .10)^3 \\ &= \$5,600 \end{aligned}$$

Depreciable Property

If the property being acquired is improved, and therefore depreciable, calculating the required future tax rate (Tn') is slightly more involved. Let's assume that the new property has a depreciation-to-value ratio of 75% and qualifies as a residential property (27.5 years, straight line). The third-year tax rate providing the required 10% rate of return is:

$$\begin{aligned} Tn' &= [BEnd - (X)(Toi)(FVA)]/[1 - (n)(X)] \\ &= [.3727 - (.02727)(.28) \\ &\quad (3.31)]/[1 - (.3)(.02727)] \\ &= .34742/.91819 \\ &= .37837 \text{ or } 37.837\% \end{aligned}$$

Because of the \$20,000 difference in basis in the property acquired through a sale/purchase versus an exchange, higher annual depreciation charges will provide higher annual incremental tax savings. These savings also reduce the capital-gains tax differential in year three.

Since 75% of the acquired property's value is assumed to be depreciable, the depreciation basis with a sale/purchase is \$82,500 (\$110,000 × .75). With an exchange the depreciable basis is \$67,500 (\$90,000 × .75). If the property is written off over 27.5 years, the annual recapture charges are \$3,000 and \$2,454.55 respectively. The difference per year is \$545.45. If taxes on ordinary income are assumed to be 28%, then the annual tax savings is \$152.73 (\$545.45 × .28). This is the incremental annuity in favor of a sale/purchase.

The depreciation charges also reduce the tax basis of the property and therefore raise the taxable gain when the parcel is sold. The tax savings in year three is less than would be the case if the property were nondepreciable. With a sale/purchase, after three years, the taxable gain on the depreciable property would be:

\$127,339
 -101,000 tax basis after depreciation
 \$ 26,339 taxable gain
 \$ 9,966 tax liability (\$26,339 × .37837)

With an exchange, the tax in year three would be:

\$127,339
 -82,636 tax basis after depreciation
 \$ 44,703 taxable gain
 \$ 16,914 tax liability (\$44,703 × .37837)

The difference in taxes in year three is \$6,948. This difference along with the annuity incremental cash flows are the benefits of a sale/purchase. The profile is as follows:

t=0 (\$5,600)
 1 \$152.73
 2 \$152.73
 3 \$152.73 + \$6,948

The IRR for the above cash flows is:

$$\begin{aligned} \$5,600 &= \$152.73/(1+.10) + \$152.73/(1+.10)^2 + \$7,101/(1+.10)^3 \\ \$5,600 &= \$5,600 \end{aligned}$$

Accordingly, the capital-gains tax rate Tn' necessary to provide the required IRR of 10% is 37.837%.

Should Mr. X Change use the sale/purchase option to acquire the new property? In this example, the capital-gains tax rates must increase in 3 years to either 37.27% or 37.84%, depending upon the nature of the property acquired. These tax rates provide the investor's required 10% rate of return on a sale/purchase. Is it realistic to expect future capital-gains tax rates to rise this much? Though difficult, this is the question the investor must answer. If it is decided that rates will likely be this high or higher in three years, a sale/purchase is the best purchase strategy; however, if rates are not anticipated to rise to these levels an exchange would be the preferred acquisition option.

Listed below are the future capital-gains tax rates necessary to provide the investor's required 10% rate of return on the sale/purchase for different holding periods and for income-tax rates 28% and 50%.

YEAR	BEnd	Tax 28% Tn'	Tax 50% Tn'
1	30.80%	30.88%	30.26%
2	33.88%	34.14%	32.81%
3	37.27%	37.84%	35.67%
4	40.99%	42.04%	38.91%
5	45.09%	46.82%	42.57%
6	49.60%	52.26%	46.73%
7	54.56%	58.48%	51.45%
8	60.02%	65.60%	56.82%
9	66.02%	73.76%	62.96%
10	72.62%	83.12%	69.98%
20	188.37%	318.19%	242.59%

Pd
 $Pt = .75$

$m = 27.5$

The values listed above for Pd/Pt and m are implicit in different values for x ($X = (Pd/Pt)(1/m)$). These two define X as the percentage amount of the new property depreciated each year. These values were selected to provide relatively large annual depreciation write-offs, and therefore, raise the influence of the ordinary income tax rate (Toi). Under the conditions assumed, Tn' varies somewhat from BEnd but not signifi-

cantly in early years. Also, the break-even tax rates do not vary dramatically as Toi is raised from 28% to 50%. In the range of values selected BEnd is a reasonably close approximation of Tn' , especially in the early years.

$To = 28\%$
 $IRR = 5\%, 10\%, 15\%$
 $Pd/Pt = 0, .50, .75$
 $m = 27.5$ and 39
 $Toi = 28\%, 31\%, 39.6\%$ and 50%

Several patterns emerged; refer to Appendix 1 for a printout of BEnd and Tn' for all possible combinations of n and Toi assuming a 10% IRR and Pd/Pt of .75, and $m = 27.5$. The major one is the continued lack of significant difference between BEnd and Tn' for most levels of n . The primary source of returns on sale/purchase versus exchange is the future tax rate applied to capital gains. This is true whether the property is depreciable or nondepreciable.

A further implication is the relative unimportance of the ordinary income-tax rates and the percent of the property that can be depreciated. The reason for this is the depreciation pattern created under post-1986 MACRS rules. The annual cash flows from depreciation are relatively low and spread over many years. As a result, until n reaches high levels, BEnd is a close approximation for both depreciable and nondepreciable property. Furthermore, at high levels of n , the necessary tax rates on capital gains become prohibitively high to justify a sale/purchase. If property is to be held for long-term investment purposes, a sale/purchase will eventually prove to be

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Sensitivity Analysis

Break-even future tax rates for sale/purchase and exchange of depreciable prop-

erty were examined for $n = 1, 2, 3, 4, 5, 6, 7, 8, 9, 10$, and 20 years. All possible combinations of the following were considered:

inferior to an exchange as the necessary capital-gains tax rates all rise above 100%. A sale/purchase has its greatest potential value if the holding period is relatively short. Furthermore, for shorter holding periods, an investor will earn a return close to the growth rate in the tax rate imposed on capital gains. This remains true, whether the property is depreciable and whether the tax rate on ordinary income is high or low.

Conclusion

The intent of this study is to provide a decision-making framework to the real estate investor who wishes to acquire a property, and can do so via a sale/purchase or an exchange. The equations developed highlight the estimation of future capital-gains rates as the single most important aspect in the decision to acquire property by exchange or sale/purchase. The equations provide the investor who opts to sell his or her property, and purchase another parcel, with one estimate of what future capital-gains rates must be in order to provide a stipulated rate of return. Using this information, the investor decides how realistic the specified tax rates are compared with his or her expectations. If the rates generated by the equations seem plausible, the investor should consider acquiring the new property via a sale/purchase; however, if the calculated rates appear too high, an exchange is indicated. ■

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APPENDIX

IRR	Pd/Pt	m	X	Toi	n	BEnd	Tn'
10%	0.75	27.5	0.02727273	0.28	1	30.80%	30.88%
10%	0.75	27.5	0.02727273	0.28	2	33.88%	34.14%
10%	0.75	27.5	0.02727273	0.28	3	37.27%	37.84%
10%	0.75	27.5	0.02727273	0.28	4	40.99%	42.04%
10%	0.75	27.5	0.02727273	0.28	5	45.09%	46.82%
10%	0.75	27.5	0.02727273	0.28	6	49.60%	52.26%
10%	0.75	27.5	0.02727273	0.28	7	54.56%	58.48%
10%	0.75	27.5	0.02727273	0.28	8	60.02%	65.60%
10%	0.75	27.5	0.02727273	0.28	9	66.02%	73.76%
10%	0.75	27.5	0.02727273	0.28	10	72.62%	83.12%
10%	0.75	27.5	0.02727273	0.28	20	188.37%	318.19%
10%	0.75	27.5	0.02727273	0.31	1	30.80%	30.79%
10%	0.75	27.5	0.02727273	0.31	2	33.88%	33.96%
10%	0.75	27.5	0.02727273	0.31	3	37.27%	37.54%
10%	0.75	27.5	0.02727273	0.31	4	40.99%	41.61%
10%	0.75	27.5	0.02727273	0.31	5	45.09%	46.24%
10%	0.75	27.5	0.02727273	0.31	6	49.60%	51.51%
10%	0.75	27.5	0.02727273	0.31	7	54.56%	57.53%
10%	0.75	27.5	0.02727273	0.31	8	60.02%	64.60%
10%	0.75	27.5	0.02727273	0.31	9	66.02%	72.28%
10%	0.75	27.5	0.02727273	0.31	10	72.62%	81.33%
10%	0.75	27.5	0.02727273	0.31	20	188.37%	307.88%
10%	0.75	27.5	0.02727273	0.36	1	30.80%	30.65%
10%	0.75	27.5	0.02727273	0.36	2	33.88%	33.65%
10%	0.75	27.5	0.02727273	0.36	3	37.27%	37.05%
10%	0.75	27.5	0.02727273	0.36	4	40.99%	40.90%
10%	0.75	27.5	0.02727273	0.36	5	45.09%	45.27%
10%	0.75	27.5	0.02727273	0.36	6	49.60%	50.25%
10%	0.75	27.5	0.02727273	0.36	7	54.56%	55.93%
10%	0.75	27.5	0.02727273	0.36	8	60.02%	62.41%
10%	0.75	27.5	0.02727273	0.36	9	66.02%	69.83%
10%	0.75	27.5	0.02727273	0.36	10	72.62%	78.34%
10%	0.75	27.5	0.02727273	0.36	20	188.37%	290.70%
10%	0.75	27.5	0.02727273	0.396	1	30.80%	30.55%
10%	0.75	27.5	0.02727273	0.396	2	33.88%	33.44%
10%	0.75	27.5	0.02727273	0.396	3	37.27%	36.70%
10%	0.75	27.5	0.02727273	0.396	4	40.99%	40.39%
10%	0.75	27.5	0.02727273	0.396	5	45.09%	44.58%
10%	0.75	27.5	0.02727273	0.396	6	49.60%	49.35%
10%	0.75	27.5	0.02727273	0.396	7	54.56%	54.77%
10%	0.75	27.5	0.02727273	0.396	8	60.02%	60.97%
10%	0.75	27.5	0.02727273	0.396	9	66.02%	68.06%
10%	0.75	27.5	0.02727273	0.396	10	72.62%	76.19%
10%	0.75	27.5	0.02727273	0.396	20	188.37%	278.33%

Estate Exchange," *The Journal of Real Estate Taxation*, Fall 1992, pp. 42-82.

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