ABSTRACT

Investors in real estate have several tools and opportunities available to them to increase their net worth. These tools and opportunities can be based on tax as well as nontax factors. Nontax factors can include the shrewd purchase of properties at low prices, the efficient management of the properties, advantageous use of leverage, and the successful sale of properties at high prices. Tax factors can include like-kind exchanges, deductions such as depreciation and interest expense, and stepped up tax basis for estates. This paper focuses on the use of like-kind nontaxable exchanges of real property under the U.S. Internal Revenue Code’s Section 1031 (IRC §1031). We compare the strategy of an ordinary taxable sale of assets, and reinvestment of the after-tax proceeds from that sale, to a tax-deferred strategy that utilizes a nontaxable like-kind exchange at the time of reinvestment. We demonstrate a significant improvement in net worth when the investor capitalizes on the rules permitting like-kind exchanges.

INTRODUCTION

Both corporate and individual investors are often seeking means to compound investment returns without incurring annual taxes. Certain, accounting choices, financing choices, and legal structures allow corporations to effectively and efficiently manage tax obligations. For individual investors, common tax-deferred investing utilizes retirement accounts such as IRAs, ROTH IRAs, 401Ks, and 403bs, or compounding returns over multiple tax periods to shift gains from higher, short-term income tax rates to lower, long-term capital gain tax rates. Another tax deferral option available to both corporate and individual investors is established in U.S. Internal Revenue Code’s Section 1031 (IRC §1031). IRC §1031 establishes a right to buy and sell real assets while avoiding taxation. Such transactions are often referred to as 1031 exchanges. Owners of real assets of many types are able to take advantage of this valuable tax deferral option. However, there are many constraints and rules that govern these exchanges. In this study we examine the 1031 exchange as it applies to real estate investing and how it offers real estate investors an opportunity to create significant wealth gains.

LIKE-KIND EXCHANGES: INTERNAL REVENUE CODE SECTION 1031

Hoffman, Smith, and Willis (2011) summarize the rules for like-kind exchanges found in the Internal Revenue Code’s Section 1031. This code section provides for nontaxable exchange treatment if three basic requirements are met. First, the transaction must be an exchange. That is, a taxpayer must relinquish ownership and control over one real asset in exchange for ownership and control over another real asset. Second, both the property transferred and the property received must be held for productive use in a trade or business, or for investment. Third, the property must be like-kind property. Property held for personal use does not qualify. If the requirements are met, the non-recognition of gain or loss is mandatory.

For a qualified exchange, real estate must be exchanged only for like-kind real estate. Like-kind real estate includes rental buildings, office buildings, manufacturing plants, single-family homes, duplexes, four-plexes, multifamily housing, farm and ranch land, hotels and motels, parking lots, and raw land. The property can be improved or unimproved. Therefore unimproved land can be exchanged for a rental building. Depreciable tangible personal property may only be exchanged for property of a like kind or class.
A nontaxable exchange is an exception to the general rules requiring the recognition of gains or losses on the sale of assets. The tax law views these exchanges as a change in the form, but not the substance, of the taxpayer’s economic position. The replacement property is a continuation of the old investment. In addition, the exchange does not provide the taxpayer with the wherewithal to pay tax on any realized gain. The nontaxable result postpones recognition of gains or losses until the taxpayer disposes of the property in a taxable transaction. Some exchanges recognize partial gain if the taxpayer receives some cash or other non-qualifying property as boot. The taxpayer then has wherewithal to pay tax.

If an exchange qualifies as nontaxable, the basis of property received is the property’s fair market value less the postponed gain or plus the postponed loss. The holding period of the surrendered property carries over and tacks onto the holding period of the exchanged property. A final advantage given to real estate investors utilizing 1031 exchanges comes at death. All real estate assets can be moved through one’s estate to heirs in a tax-free transfer. The heirs are also allowed to step-up the basis in the properties received.

AN EXAMPLE OF A LIKE-KIND TRANSACTION

In the following illustration we consider two strategies for a real estate investor. The first strategy assumes that the investor cashes out of his real estate investment every five years. After paying capital gains taxes on the proceeds from the sale, the investor immediately reinvests the after-tax proceeds into another real estate property. This process is repeated over an investment horizon of 30 years for a total of six separate investments. This strategy we call the cashing out strategy (COS). The second strategy is exactly like the cashing out strategy, except the investor takes advantage of IRC §1031 to defer the taxes on his capital gains as he moves from one investment property to the next. The second strategy we call the exchange strategy (EXS).

To begin the analysis we assume that the cost of the initial investment is $500,000. The investment is financed with a 25% down payment and a 75% mortgage. We also assume the same funding ratio for each subsequent investment. The rate of the loan and the term of the loan are assumed to be 8.00 percent and 360 months, respectively. Finally, we assume that the real estate assets’ value grows at a constant annual rate of 5 percent and that capital gains taxes are 20 percent.

The results of the two investment strategies are found in Table 1 below. The first column of the table contains the year of the investment on the investment timeline. The second, third and fourth columns contain calculations related to the COS. Specifically, they are the estimated real estate asset value for each year (growth equals 5 percent per year), the equity value (asset value less the outstanding loan balance), and the tax liability (20 percent of the capital gains) associated with rolling over the investment capital from one property to the next. The last two columns found in Table 1 contain similar calculations for the EXS. Recall that there are no interim tax liabilities with this strategy.

In our example the first investment is sold at the end of the fifth year. Under the COS, the taxable gain is equal to $138,141 ($638,141 - $500,000) and the associated tax liability for the sale is $27,628 ($138,141*0.20). Therefore, there is $253,226 ($280,854 - $27,628) in capital remaining to invest in the next property. The calculations for each of the subsequent sales and reinvestment follow the same methodology. For the EXS strategy, the investments and reinvestments are assumed to occur at the same point in time, but the gains are shielded from taxation. For example, upon sale of the first property there is $280,854 to reinvest in the second property. Note that the additional capital available in this scenario allows for the purchase of a larger property than under the COS. This difference will compound with each subsequent reinvestment cycle.

---

1 To simplify our example we do not include real estate broker’s fees, insurance costs, management fees, property taxes, or funding costs since these costs would be the same in both cases. Other simplifying assumptions include constant interest rates, tax rates and growth rates. We also exclude the costs of the Qualified Intermediary that is required to execute the 1031 exchange, which, all else equal, overstates the EXS approach results somewhat. Finally, we assume that depreciation expense in the example is relatively small and offset by required investment in the real estate asset. This assumption is appropriate for investments in assets such as parking lots. It is also appropriate for investment in raw land where there is no depreciation and little capital investment required.

2 Under both strategies we assume that the proceeds from a sale are immediately reinvested to prevent different compounding periods from complicating the comparisons of the tax consequences associated with each strategy.
The difference in the results of the two strategies after 30 years of investing is dramatic. First, note that the compounded rate of return on the original equity investment is 15.56% for the COS strategy and 17.57% for the EXS strategy—a difference of 201 basis points or 2.01 percent. While this may not seem like much to the untrained eye the dollar difference in terminal wealth is $7,442,133 ($16,081,909 – $9,582,416 – $942,640). Total taxes paid over the course of the COS are $1,834,629. Assuming that the terminal wealth is taxed, there is still a distinct advantage to the EXS method. Under the COS approach, the taxes in the final year will be $942,640. This figure is calculated by multiplying 20 percent by the difference between the values of the asset at the end of year 30 or the amount realized from a sale ($21,772,598), and the basis in the final investment ($17,594,400). Therefore, the after-tax terminal wealth is $4,757,221. For the EXS, the taxes due after 30 years are $2,473,995 and the after-tax terminal wealth is $13,607,914 ($16,081,909 – $2,473,995). The after-tax advantage of the EXS approach is $4,968,137. Applying taxes to the terminal wealth results in post-tax rates of return of 15.16% and 16.92% for the COS and EXS strategies, respectively. We also note that the terminal wealth need not be taxed if the assets are passed on to heirs through an estate. In this case, the heirs are entitled to a stepped-up basis, which means that all previous gains are added to a new basis that will be used by the heirs once they take possession of the assets.

In our example two primary factors explain the EXS advantage: the tax deferral option and the leveraged compounded returns. While each strategy uses the same amount of leverage, the EXS method leverages larger and

---

3This value is determined as: the realized value less the adjusted basis (including postponed gains), multiplied by the capital gains tax rate. This calculation is our example is ($36,540,361 - $24,170,384)*0.20 = $2,473,995.
larger investments over time, which helps explain some of the advantage. However, the primary reason for the different outcomes is due to the deferred taxation. The tax deferral allows the investor to put more capital to work over a longer period of time before the tax bill comes due. The value of the deferral option is a function of the growth rate in the value of the real estate investments, the capital gains tax rate, and the time between each sale and subsequent investment. To better understand the impact of the deferral period and the number of exchanges within that period, we provide the results from sensitivity tests on the assumption related to the number of years between the exchanges. These results are provided in Table 2. All other base case assumptions remain constant.

Table 2 contains several sets of data derived from varying the exchange periods over the 30-year investment horizon. The data include: terminal values for the COS and EXS and the related advantage to the EXS, after-tax (indicated by AT in the table) terminal values of each strategy and the EXS advantage, pre-tax rates of return to each strategy and the EXS advantage, and the after-tax rate of return for each strategy with the associated EXS advantage. The results, taken as a whole, indicate that as the number of exchanges increases over the investment horizon, the higher the terminal value, post-tax terminal values, rates of return, the post-tax rates of return, and the associated advantage to the deferral option in each instance. For example, when comparing the terminal values from the COS between the 5-year exchange interval and the 10-year exchange interval the terminal wealth increases from approximately $5.5 million to approximately $9.6 million. Under the EXS, the terminal value increases from approximately $7.2 million to approximately $16.1 million. The associated advantage to the EXS also increases from approximately $2.5 million to approximately $6.5 million. Similar results obtain when examining the after-tax results of the terminal values as well as the results for the rates of return. Taken together, these results are consistent with the assertion that the tax deferral option is quite valuable to real estate investors.

![Table 2: Sensitivity analysis related to the number of exchanges over a 30-year investment horizon](image)

We perform a similar sensitivity analysis on the capital gains tax rate assumptions. The results of the tests are provided in Table 3. The output data is the same as in Table 2, but we now allow the capital gains tax rate to vary from 10% to 15%, 20%, 25%, 30%, and finally 35%. Our base case assumptions on all the other variables remain constant. From the data provided in the table one can see that the COS terminal value consistent falls as the tax rate increases, which is to be expected. However, because the EXS terminal value is unaffected, the advantage to the EXS increases with the increase to the capital gains tax assumption. A comparison of the after-tax terminal values provides similar results even though the EXS after-tax terminal values decline as the capital tax rate increases. That is, the advantage to EXS increases as the capital gains tax rate increases. Analysis of the rates of return and the after-tax rates of return confirm the finding. The EXS approach to investing offers a greater opportunity to increase wealth as the capital gains tax rate increases. It also indicates that the advantage exists even in lower tax rate environments.

---

While we acknowledge the potentially large impact the level of leverage may have on terminal value estimates, we hold the relative level of leverage constant in our analysis. Because the focus of the analysis is on the tax deferral option, and the variables that affect it, controlling for the various types of debt and their associated costs and availability are beyond the scope of this study.
We next consider the marginal impact of the growth assumption on the relative advantage of the EXS method. The results are found in Table 4, which is organized like previous tables. The results indicate there is a strong positive relationship between the growth rate in real estate asset values and the advantage to the EXS. For example, the EXS advantage between the COS and EXS increases from $429,365 to $25,151,837 for growth rates from 2% to 7%, respectively. A similar result obtains when comparing the after-tax terminal values. In that instance, the EXS grows from $275,406 to $19,851,859 over the same range of growth rates. Finally, the rates of return reflect the same patterns. Based on the analysis thus far it appears that the variable with the greatest impact on the advantage between the COS and EXS is the years between exchanges. To test this conclusion we next turn to regression analysis to estimate the marginal impact of each of the variable assumptions.

The results from the regression analysis are found in Table 5. Our independent variable is the terminal wealth difference between the COS and the EXS. We develop a sample of observations from estimating this difference with a model that accommodates varying assumptions on our three main variables: years between an exchange, the growth rate in real estate assets, and the capital gains tax rates. In order to develop a sufficiently large sample, we create a range of values for each variable. For example, the years between exchanges takes the value of 5, 6, 7, 8, 9 or 10. The growth rate in the value of real estate assets varies between 2.00 percent and 7.00 percent, incrementing by 1.00 percent. Finally, the capital gains tax rate assumption ranges between 10.00 percent and 35.00 percent, incrementing in steps of 5.00 percent. This methodology results in a total sample size of 216 observations.

The regression results are consistent with the observations made from the sensitivity analysis. The results indicate that the growth rates in asset values and the capital gains tax rate are both strongly positively related to the terminal value of the EXS investing strategy, while the length of time between exchanges is negatively related to...
terminal wealth. All of these variables are statistically and economically important to terminal wealth outcomes. From this analysis, the most influential variable on terminal wealth is the growth rate assumption. The coefficient of this variable is 270,847,701, indicating that the terminal value increases (decreases) by $2,708,477 for each 1 percent increase (decrease) in the growth rate. The second most influential variable in our study is the years between exchange variable. The coefficient on the length of time between exchanges indicates that, on average, for each additional year between exchanges, the terminal value decreases by $1,219,932. Reducing the average time between exchanges by one year is expected to increase terminal wealth by $1,219,932. Note that these results are based on a minimum 5-year holding period assumption. Finally, for every 1 percent increase (decrease) in the tax rate the terminal value increases (decreases) by $187,103. Thus, for an increase (decrease) in the capital gains tax rate of 5 percent (which is a common incremental change in the tax code for this particular tax), the expected increase (decrease) in terminal value would be $935,515.

Table 5: Regression Analysis on Variable Assumptions

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Independent Variable: Advantage to EXS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-2,171,433</td>
</tr>
<tr>
<td>p-value</td>
<td>.1258</td>
</tr>
<tr>
<td>Years between exchange</td>
<td>-1,219,932</td>
</tr>
<tr>
<td>p-value</td>
<td>.0000</td>
</tr>
<tr>
<td>Growth rate in the value of the real estate assets</td>
<td>270,847,701</td>
</tr>
<tr>
<td>p-value</td>
<td>.0000</td>
</tr>
<tr>
<td>Capital gains tax rate</td>
<td>18,710,345</td>
</tr>
<tr>
<td>p-value</td>
<td>.0000</td>
</tr>
<tr>
<td>R²</td>
<td>0.70</td>
</tr>
</tbody>
</table>

**SUMMARY AND CONCLUSIONS**

In this paper we analyze the value of utilizing IRC §1031 tax deferral options by real estate investors to create wealth. In particular, we examine the relationship between the frequency of exchanging one real estate asset for another, the growth rate in the value of real estate assets, and the capital gains rates associated with long-term investing. We find that the most important variable to the creation of terminal wealth at the end of a pre-determined investment horizon is the grow rate of real estate asset values. The capital gains tax rate and the time between are also important to the terminal value, but their effects are secondary to those of the growth rate in the value of real estate assets. While we did not explicitly include varying levels of leverage in our tests, we recognize that the amount of leverage may also have a profound impact on the value of terminal wealth. We conclude that tax deferral option and compounding leveraged returns offers real estate investors an opportunity to generate significant wealth, especially during periods of moderate to high increases in real estate values and high capital gains tax rates.

**REFERENCES**


U.S. Internal Revenue Code: Section 1031 (IRC §1031)