TAX MATTERS

Does Tax Efficiency Just Delay the Tax Burden?

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We often hear the sentiment that tax-efficient investing just delays the inevitable: Eventually, a day will come when the tax-efficient investor will have to true up on years of deferred taxes. And, with the proposed Biden Tax Plan sending many investors scrambling to plan for higher taxes, we feel that now is as good a time as any to put this long-standing myth to bed.

> *"A one-time liquidation tax is not nearly as punitive as reducing the investable capital year after year through taxes, thereby diminishing the power of compounding"*

Yes, for tax-efficient investments the liquidation tax is higher. However, a one-time liquidation tax is not nearly as punitive as reducing the investable capital year after year through taxes, thereby diminishing the power of compounding.

Consider the following thought experiment: Assume a hypothetical investment portfolio with an 8% pre-tax return and with all realized gains and income taxed at the same rate of 50%.[1] Now let's vary the percentage of the pre-tax return realized as taxable gains and income from 100% (i.e., all realized, or the least tax-efficient) to 0% (i.e., all deferred, or the most tax-efficient).

Exhibit 1 shows the *post-liquidation* after-tax value for this portfolio for a range of investment horizons.[2] "Post-liquidation" means that at the end of an investment horizon the investor pays all the deferred taxes. Let's start with the first row—a 10-year investment horizon. As the realization rate decreases from 100% (least tax efficient) to 0% (most tax-efficient), the post-liquidation value increases only slightly from $1.48 to $1.58. Not too impressive. However, as the investment horizon increases, the difference in post-liquidation value grows substantially.

Over a horizon of 40 to 50 years, the value generated by hypothetical tax-efficient investments can be more than twice as high as that generated by hypothetical tax-inefficient investments, and—again—that is after the higher liquidation taxes are *fully accounted for*. Due to compounding, paying liquidation tax once can be much less punitive than foregoing part of capital appreciation to taxes each year, especially at long investment horizons.

Exhibit 1. Post-Liquidation Value of $1 Invested for Different Levels of Tax Efficiency and Investment Horizons

	Percent of Pre-Tax Return Realized as Taxable Gains and Income				
Investment Horizon	100% (Least Tax-Efficient)	75%	50%	25%	0% (Most Tax-Efficient)
10 Years	$1.48	$1.50	$1.53	$1.55	$1.58
20 Years	$2.19	$2.32	$2.47	$2.64	$2.83
30 Years	$3.24	$3.66	$4.16	$4.78	$5.53
40 Years	$4.80	$5.83	$7.19	$8.99	$11.36
50 Years	$7.11	$9.37	$12.61	$17.26	$23.95

Source: AQR. $1.00 is invested in a hypothetical investment portfolio with a pre-tax return of 8%. All the realized gains and income are taxed at the same rate of 50%. Across the columns, the portion of the pre-tax return realized as taxable gains and income varies from 100% to 0%. Across the rows, the investment horizon varies from 10 to 50 years. The values in the table are calculated using the formula $(1+r^*)^n(1-T^*)+T^*$, where r^* is the annual after-tax return, n is the investment horizon in years, and T^* is the effective liquidation tax. T^* is computed as $t_{cg}\ u/r^*$, where t_{cg} is the capital gains tax rate and u is the annual unrealized gain.

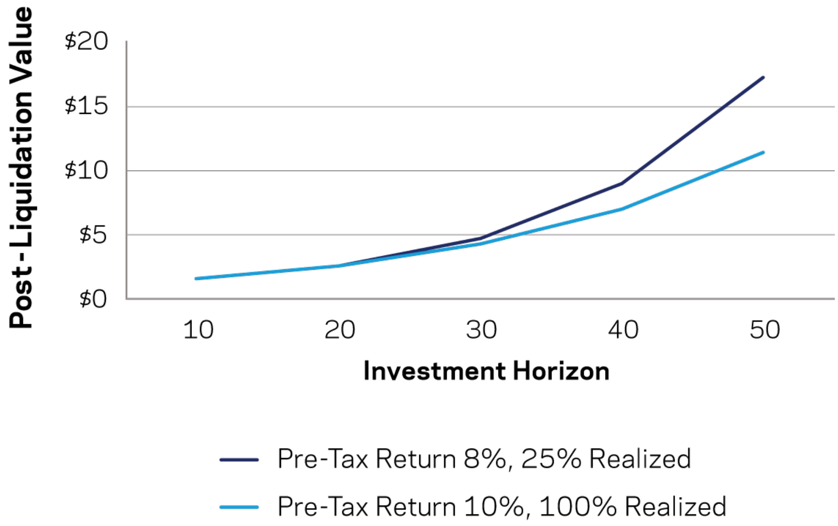
Investors can also use this approach to evaluate the trade-off between pre-tax returns and tax efficiency. For example, which strategy should a taxable investor prefer: a relatively tax-efficient hypothetical strategy with an 8% annual pre-tax return, 25% of which is realized, or a highly tax-inefficient hypothetical strategy with a 10% annual pre-tax return, 100% of which is realized?[3]

Exhibit 2 shows post-liquidation values for these two scenarios for different investment horizons. At shorter horizons, the two strategies achieve a virtually identical level of post-liquidation value. However, at longer horizons, the more tax-efficient strategy begins to outperform, despite having a substantially lower pre-tax return and paying a higher liquidation tax. The power of compounding prevails yet again.

"Wealth compounds after tax, which means that tax efficiency matters—and can really add up at long horizons, despite higher liquidation taxes"

To answer the question that we asked in the title: Wealth compounds *after tax*, which means that tax efficiency matters—and can really add up at long horizons, despite higher liquidation taxes.

Exhibit 2. Post-Liquidation Value of $1 Invested for Different Investment Horizons



Source: AQR. $1.00 is invested in two hypothetical investment strategies. The first strategy has a pre-tax return of 8% and realizes 25% of this return. The second strategy has 10% pre-tax return and realizes 100% of this return. All the realized gains and income are taxed at the same rate of 50%. The values in the figure are calculated using the formula $(1+r^*)^n(1-T^*)+T^*$, where r^* is the annual after-tax return, n is the investment horizon in years, and T^* is the effective liquidation tax. T^* is computed as $t_{cg}\ u/r^*$, where t_{cg} is the capital gains tax rate and u is the annual unrealized gain.

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[1] In other words, there is no benefit in deferring gains from short-term to long-term, and the liquidation tax rate is just as punitive as income tax rate. The assumption of uniform tax rate allows us to focus exclusively on deferral of tax burden and not to complicate the analysis by differences in tax rates applicable to different characters of gains and income. Typically, tax-efficient investing can also create a more favorable mix of tax characters, only making our argument stronger.

[2] Following the method described in Horan, Steven M. 2002. “After-Tax Valuation of Tax-Sheltered Assets.” *Financial Services Review* 11 (3): 253–275. For a model including step-up in cost basis at death (something also targeted by the proposed Biden Tax Plan), we refer readers to Sosner, Nathan, Joseph Liberman, and Steven Liu. 2021. “Integration of Income and Estate Planning.” *The Journal of Wealth Management* 24 (1): 78-104.

[3] Think, for example, about a passive ETF with 8% total pre-tax return and 2% dividend yield versus an actively-managed fund that realizes a 2% alpha in excess of the 8% passive return but to achieve this alpha realizes 100% of its return as taxable gains and income every year.

The information contained herein is only as current as of the date indicated, and may be superseded by subsequent market events or for other reasons. Charts and graphs provided herein are for illustrative purposes only. The information in this presentation has been developed internally and/or obtained from sources believed to be reliable; however, neither AQR nor the author guarantees the accuracy, adequacy or completeness of such information. Nothing contained herein constitutes investment, legal, tax or other advice nor is it to be relied on in making an investment or other decision. There can be no assurance that an investment strategy will be successful. Historic market trends are not reliable indicators of actual future market behavior or future performance of any particular investment which may differ materially, and should not be relied upon as such.

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HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH, BUT NOT ALL, ARE DESCRIBED HEREIN. NO REPRESENTATION IS BEING MADE THAT ANY FUND OR ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN HEREIN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY REALIZED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS THAT CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS, ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.

Risks of Tax Aware Strategies (Not Exhaustive)

1. **Underperformance of pre-tax returns:** tax aware strategies are investment strategies with the associated risk of pre-tax returns meaningfully underperforming expectations.

2. **Adverse variation in tax benefits:** deductible losses and expenses allocated by the strategy may be less than expected.

3. **Lower marginal tax rates:** the value of losses and expenses depends on an individual investor's marginal tax rate, which may be lower than expected for reasons including low Adjusted Gross Income (AGI) due to unexpected losses and the Alternative Minimum Tax (AMT).

4. **Inefficient use of allocated losses and expenses:** the tax benefit of the strategy may be lower than expected if an investor cannot use the full value of losses and expenses allocated by the strategy to offset gains and income of the same character from other sources. This may occur for a variety of reasons including variation in gains and income realized by other investments, at-risk rules, limitation on excess business losses and/or net interest expense, or insufficient outside cost basis in a partnership.

5. **Larger tax on redemption or lesser benefit of gifting:** gain deferral and net tax losses may result in large recognized gains on redemption, even in the event of pre-tax losses. Allocation of liabilities should be considered when calculating the tax benefit of gifting.

6. **Adverse changes in tax law or IRS challenge:** the potential tax benefit of the strategy may be lessened or eliminated prospectively by changes in tax law, or retrospectively by an IRS challenge under current law if conceded or upheld by a court. In the case of an IRS challenge, penalties may apply.