

The Two Different Benefits of Tax-Loss Harvesting: Direct and Deferred

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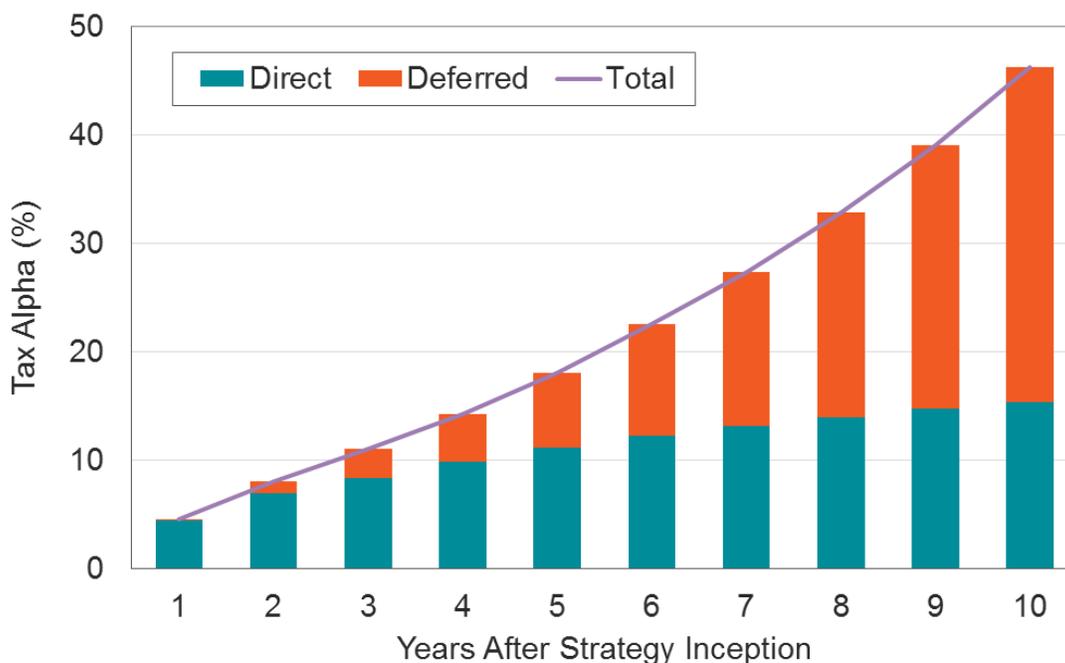
KEY TAKE-AWAYS

- Tax-loss harvesting provides benefits through both immediate reduction in tax liability (direct) and the time value of postponing tax liability (deferred).
- Over the life cycle of loss harvesting, direct provides the most value early, while deferral typically adds its value years after inception.
- The deferral value of postponing tax payments can end up adding a lot of value that is too often ignored.
- Direct and deferred benefits provide value differently across different markets with direct losses abundant in turbulent and declining bear markets, and the deferred benefit of reinvestment providing value in calm and upward-trending bull markets.

The widely used investment strategy known as “tax-loss harvesting” (TLH) aims to generate benefits to taxable investors with realized gains in their portfolios by roughly tracking standard benchmark indexes while realizing losses on individual stocks. These capital losses can provide benefits to a taxable investor by offsetting gains that would otherwise trigger tax liability. This benefit derives from two sources: 1) the direct, which accumulates the taxes avoided at the time a loss is realized, and 2) the deferred, which reflects the time value of money when direct benefits are reinvested.¹ Tax alpha, the difference in return between a portfolio and its benchmark after accounting for taxes, is the sum of the direct and deferred benefits. As we’ll show through historical backtests, these two different benefits provide value at different times through the life of a loss-harvesting portfolio and across different market regimes.

Looking first at the average life cycle of a TLH strategy, we’ll see how the direct benefit usually provides most of its value in a portfolio’s early years. Figure 1 shows average sizes of the direct and deferred components of tax alpha of S&P 500 tax-loss harvesting strategies at horizons ranging from one year to 10 years from strategy inception. The averages were obtained from historical simulations over the 43-year period from January 1973 to December 2015. At shorter horizons, the direct benefits (teal bars) dominated delayed benefits (orange bars), while the reverse was true at longer horizons. The average total benefit (purple line) grew inexorably with horizon.

As can be seen in Figure 1, before six years, the total benefit of TLH is dominated by the direct benefit on average, while after six years, the deferred benefit provides the majority of the value. One common question asked about TLH strategies focuses exclusively on the direct benefit, ignoring the deferred: “While TLH may sound good in theory, doesn’t it run out of steam after a few years?” If only the direct benefit is measured, this criticism has some validity, but the deferral value of postponing tax payments can end up adding a lot of value that is too often ignored.



	Years After Strategy Inception									
	1	2	3	4	5	6	7	8	9	10
Direct	4.46	6.95	8.43	9.92	11.23	12.26	13.15	14.02	14.75	15.39
Deferred	0.16	1.16	2.63	4.36	6.89	10.34	14.20	18.91	24.33	30.86
Total	4.62	8.11	11.06	14.28	18.12	22.60	27.34	32.93	39.07	46.25

Figure 1: Average direct benefits (teal bars) and deferred benefits (orange bars) of a standard tax-loss harvesting strategy for an estate/donation disposition in the S&P 500. Tax alpha (purple line) is the sum of the direct and deferred benefits. Averages are based on a tax-loss harvesting strategy launched monthly between January 1973 and December 2015.

Next, let’s turn to how the two benefits may act differently in different market conditions. In a rising market, reinvestment of the saved taxes generates a deferred benefit through compounding. Since losses are abundant in turbulent periods when markets tend to decline,² direct and deferred benefits of tax-loss harvesting tend to accrue at different times. The combination of the two, what we’ll call total tax alpha, provides the full value, the excess over index return earned by a TLH investor.

The historical trajectories that contribute to the averages shown in Figure 1 represent a wide range of outcomes. In Figure 2, we show two actual trajectories, neither of which resembles the average. In the left panel, we look at a portfolio launched in January 1980. The S&P 500 returned more than 30% that year, and it prospered over the ensuing decade. Direct benefits of tax-loss harvesting accumulated more and more slowly, while the growth of deferred benefits accelerated. In the right panel, we look at a portfolio launched in January 1999. Turbulence in the wake of the Internet bubble and the global financial crisis led to larger direct benefits of tax-loss harvesting. However, the poor performance of the market led to lower deferred benefits.

Taken together, the two historical trajectories illustrate the tendency of tax alpha to be higher in bear markets. The annualized tax alpha for the portfolio that was launched into the bull market of the 1980s was 1.72%. In contrast, the portfolio that ran over the turbulent period beginning in 1999 earned 2.92% in tax alpha.³

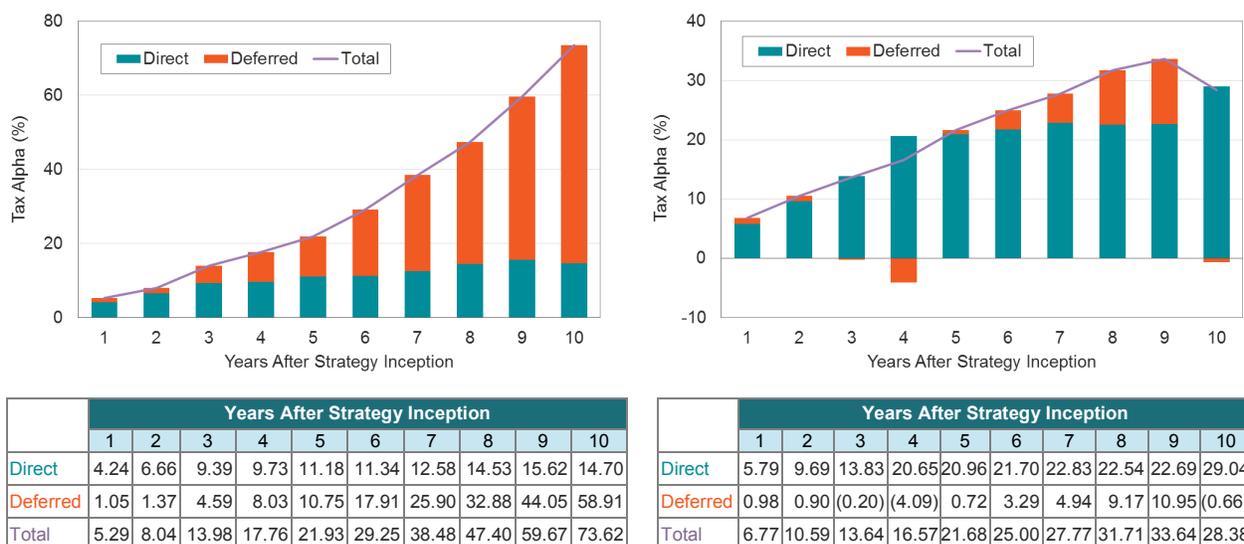
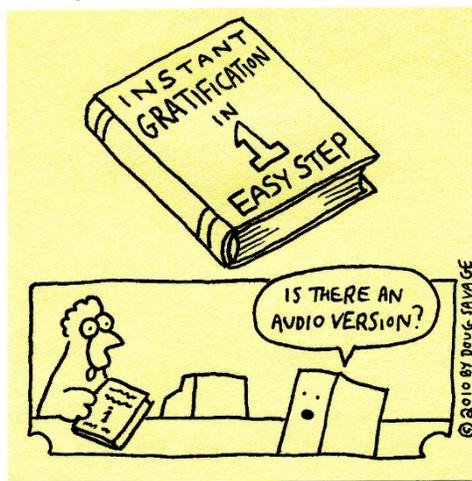


Figure 2: Direct benefits (teal bars) and deferred benefits (orange bars) of standard tax-loss harvesting strategies for an estate/donation disposition in the S&P 500 launched in January 1980 (left panel) and January 1999 (right panel). Tax alpha (purple line) is the sum of the direct and deferred benefits. Note the difference in vertical scale in the two panels.

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Market conditions over the lifetime of a tax-loss harvesting strategy affect its tax alpha. The direct benefits of tax-loss harvesting tend to be greater when markets are more turbulent and in decline. While most investors suffer during these periods, a taxable investor who harvests losses tends to be in an advantageous position. In upward trending markets, compounding effects compensate for the slower growth of direct tax-loss harvesting benefits. Analogous to how portfolio diversification lowers overall risk by combining assets with different behavior over time, the two components of TLH, direct and deferred, provide the taxable investor with different advantages through different market conditions. The interplay between direct and deferred benefits of tax-loss harvesting constitutes an argument for disciplined loss harvesting, reinvestment, and a long-term perspective.

Appendix

The data presented in this article are based on a sequence of ten-year S&P 500 tax-loss harvesting strategies with monthly inception dates beginning with January 1973 and ending with December 2005. The initial investments are all cash, and dividends are reinvested. Portfolios are constructed using Barra's tax-aware optimizer. For the sake of reproducibility, we include the optimizer settings that we used to construct our portfolios, and they are listed in Table 1.

Setting Name	Value
Short-Term Capital Gains Rate	43.4%
Long-Term Capital Gains Rate	23.8%
Tax_Mult, Short_Mult, Long_Mult	1
Risk Aversion	1
Risk Aversion Ratio	0.1
Transaction Costs	6 bps
Asset Upper Bound	None
Asset Lower Bound	0%
Max Assets	None
Max Turnover	None
Baseline Strategy	Standard

Table 1: Settings for tax-loss harvesting strategies.

Endnotes

¹ The direct benefit is the accumulation of taxes avoided by offsetting capital gains with harvested losses, and the deferred benefit is the difference between the tax alpha and the direct benefit.

² The relationship between poor performance of markets and turbulence is known as the leverage effect, and it is discussed in: Black, Fischer. "Studies of Stock Price Volatility Changes." Proceedings of the 1976 Meetings of the American Statistical Association, Business and Economics Statistics Section, 177-181, 1976.

³ Even though the annualized tax alpha is higher in the turbulent period beginning in 1999 than in the bull market of the 1980s, the cumulative tax alpha is higher in the bull market. That is due to compounding effects. For the bull market run starting in January 1980, the annualized after-tax portfolio return was 18.4% and the annualized index return was 16.7%, with a difference of 1.7% per year. On a cumulative basis, the returns were 440.5% and 366.8%, with a difference of 73.6%. For the turbulent market run starting in January 1999, the annualized after-tax portfolio return was 1.1% and the annualized index return was -1.8%, with a difference of 2.9% per year. On a cumulative basis, the numbers were -16.5% and 11.8%, with a difference of 28.4%.

Disclosure

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The performance reflected in the tables and charts in this report are hypothetical, shown for illustrative purposes only, and not based on actual investments. Furthermore, they do not reflect the deduction of any management fees, which would lower performance returns. The performance does include 0.06% one-way transaction costs (4bps one-way spread + 2bps in trading costs). The use of hypothetical performance has significant limitations, some of which are described below.

Back-testing involves simulation of a quantitative investment model by applying all rules, thresholds, and strategies to a hypothetical portfolio during a specific market period and measuring the changes in value of the hypothetical portfolio based on the actual market prices of portfolio securities. Investors should be aware of the following: 1) Back-tested performance does not represent actual trading in an account and should not be interpreted as such, 2) back-tested performance does not reflect the impact that material economic and market factors might have had on the manager's decision-making process if the manager were actually managing client's assets, and 3) there is no indication that the back-tested performance would have been achieved by a manager had the program been activated during the periods presented above. For back-tested performance comparisons, the benchmark returns are simulated using historical constituents' weights and total returns.

The S&P 500 Total Return Index is an unmanaged group of equities representing the large-cap sector of the US domestic market. Index returns reflect reinvestment of dividends but do not reflect fees, brokerage commissions, or other expenses of investing.

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