Parametric

Measuring the Value of Tax Management in Direct Indexing



Direct indexing is tailor-made for investors who need flexible, tax-efficient market exposure. By owning individual securities directly instead of via a commingled vehicle, investors have more control over what goes into their portfolio and can execute transactions in a way that's optimal for their individual tax situation. In this paper we focus on the potential tax management benefits of direct indexing, describing how tax management works and how to measure its value.

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What should investors know about taxes?

First let's review some terms in the US tax code that are essential to understanding good tax management practices:

- *Taxable event:* An investor gets a tax bill only if they sell a security for more than they paid for it. They must pay the bill in the tax year in which they made the sale. Unrealized gains aren't subject to tax.
- *Tax-rate differential:* The IRS taxes securities sold less than a year after purchase at a higher rate than those held for longer than a year.
- *Treatment of losses:* If an investor sells a security at a loss, they don't get a check from the IRS, but they can use the loss to offset capital gains elsewhere in their holdings. Any losses in excess of gains in a given year can be carried over to future years.

These rules are subject to change, but they've endured over time and act in concert. Because there are multiple facets to good tax management, the diminishment of one rule alone wouldn't render tax management useless.

What does tax management involve?

In short, good tax management means being prudent about realizing gains and strategic about realizing losses. Investors typically use five primary tax management techniques:

- Holding securities long enough to qualify for a lower tax rate
- Selecting loss-maximizing or gain-minimizing tax lots for trades
- Moving securities in or out of a portfolio in-kind instead of liquidating
- Avoiding purchases that would defer losses according to IRS wash-sale rules (not purchasing the same or equivalent security within 30 days before or after a sale date)
- Deferring gains until the assets receive a step up in cost basis when the investor passes away

The effect of these techniques is to allow investors to retain capital in their portfolio, which they can continue to invest in the market and benefit from compounding over the long run. Research has shown that equity investors can add up to 2% to their after-tax returns with a disciplined tax management process, while municipal bond investors can add 20 to 30 basis points. (For more, see Shomesh E. Chaudhuri, Terence C. Burnham, and Andrew W. Lo, "An Empirical Evaluation of Tax-Loss-Harvesting Alpha," *Financial Analysts Journal* 76, no. 3 (2020), 99–108; and Andrew Kalotay, "Tax-Efficient Trading of Municipal Bonds," *Financial Analysts Journal*, 72, no. 1 (2016), 48–57.)

These techniques are available to any investor but could be an afterthought for many—addressed maybe once a year, if at all. Their preferred investment style or vehicle may also constrain their ability to manage taxes. In the case of alpha-seeking mandates, tax management techniques such as gain deferral or loss harvesting may conflict with trades intended to initiate or maintain positions in favorable securities or exit unfavorable ones. In the case of index-based mutual funds or ETFs, these vehicles can at best minimize total gains, but they can't pass on excess losses for the investor to use elsewhere, accept securities in-kind, or transfer securities out in-kind. Any contributions or redemptions require liquidating, which may produce taxable gains. The solution to all this is a professionally managed direct indexing portfolio.

How does tax management work?

In a direct indexing portfolio, investors get a core market exposure with an explicit focus on taxes. This portfolio isn't just inherently tax efficient; it can produce excess losses that the investor can use to offset gains elsewhere in their overall portfolio. Investors can also transition securities in or out of the portfolio in-kind rather than selling the securities and potentially incurring a tax bill on any gains.

The reason for this lies in the key difference between direct indexing and an index-based ETF or mutual fund. In an ETF or mutual fund, the investor holds a single security whose returns are based on a basket of underlying securities. But in a direct indexing portfolio, they own the individual underlying securities directly—typically hundreds of them—hence the term *direct indexing*. The selection of these securities is based on a benchmark of the investor's choosing. The benchmark may be as straightforward as a US large-cap strategy, but it can even be a custom benchmark or a blend of two or more popular benchmarks.

Owning the securities directly and in great numbers gives the investor the maximum potential to execute the tax management techniques outlined above, which makes direct indexing a compelling choice for the taxable investor. The reason for this is the tension between the competing goals of being the market and beating the market after taxes.

To be the market, the investor needs to invest in securities that in aggregate are similar to their chosen benchmark. But to beat the market, the investor needs to be able to deviate from the benchmark. With hundreds or even thousands of securities to invest in, and even more tax lots than that, the investor has more flexibility to do things like defer gains or harvest losses while still getting market-like returns. Furthermore, direct indexing portfolios can accept securities in-kind and transfer them out without liquidating them. Most important, the tax characteristics and trading patterns of each security are unique to the investor. They're not bearing the tax consequences of another investor's trading and investment needs, such as those that mutual fund investors face when some fundholders make redemptions that cause others to realize additional capital gains.

When does tax management work best?

As stated above, tax management really boils down to maintaining an awareness about the tax consequences of each trading decision and using a disciplined process to balance the trade-offs. Here are some things each investor should know about what can influence its success:

- *Market conditions:* Just like any investment process, market conditions can affect the tax management goal. Tax management benefits tend to be greater in more volatile markets and more muted in steady up markets. However, investors can still enjoy consistent benefits from tax management across a wide range of market environments. Since investors own the individual securities in the benchmark, they don't need broad market volatility to benefit from tax management. They may benefit instead from volatility in specific sectors or securities.
- *Tax conditions:* Higher tax rates make it more valuable to defer realized gains or offset them with losses. This means investors in higher tax brackets or jurisdictions may find tax management more compelling than those in lower brackets or jurisdictions. Being able to apply losses against short-term realized gains with higher tax rates can add even further value.
- *Investor needs:* Each investor is unique. Situations that can make tax management particularly useful include a consequential taxable event, a portfolio that produces many short-term gains, a portfolio with significantly appreciated securities, or a charitable gifting plan in which securities will be donated in-kind.

We use the concept of tax alpha to demonstrate the value of active tax management activities. At a conceptual level, tax alpha seeks to isolate that value by looking at the after-tax difference between the portfolio and benchmark. We measure tax alpha differently for equities and fixed income.

Measuring tax alpha in equities

Three numbers are key to measuring the value of tax management for equities:

- The portfolio's after-tax return
- The benchmark's after-tax return
- A pretax excess return adjustment

This may seem relatively straightforward, but getting an after-tax benchmark return is easier said than done, and the pretax excess return adjustment is easy to overlook. For this reason, many investors don't get a complete picture of the value of tax management being done in their portfolio.

To calculate the after-tax return for a portfolio, we simply take the total value of the portfolio at the end of the period, subtract or—when realized losses exceed realized gains—add any taxes owed on realized gains and dividends in the period, and divide the result by the portfolio's market value at the beginning of the period. Calculating this for the benchmark is more complicated, since the benchmark itself has no notion of taxes, which depend on a particular tax rate and cost basis. The tax rate is unique to each investor, and the cost basis is unique to each lot. This means that we can't reference a generic after-tax benchmark return to evaluate the benefit of tax management. Instead we need to construct this benchmark for each portfolio.

To create an after-tax benchmark, we apply the investor's tax rate and cost basis to the securities in the benchmark and mimic the effect of cash or securities flowing into or out of the portfolio over time to maintain comparability. Each portfolio will have its own unique after-tax benchmark, which is critical for accurate measurement.

For example, consider a portfolio that was incepted in-kind with many low cost basis securities and currently has large and widespread unrealized gains.

If an investor makes a substantial withdrawal, requiring the sale of securities and realization of gains, it would be inaccurate to measure the after-tax returns of this portfolio against a benchmark with no such withdrawal or unrealized gains. Conversely, the after-tax returns of a portfolio with large and widespread unrealized losses, which the investor can use to offset realized gains, might look better than warranted if measured against a benchmark without those characteristics.

Once we've constructed an after-tax benchmark, it becomes possible to evaluate portfolio after-tax returns relative to the after-tax benchmark—but some nuances apply. To accurately reflect the value of tax management, we make sure to adjust for any differences in pretax returns between the portfolio and benchmark. This means that a true measure of tax management, which we call **tax alpha**, is the excess after-tax return minus the excess pretax return.

$$\text{Tax alpha} = \text{excess after-tax return} - \text{excess pretax return}$$

$$\text{Excess after-tax return} = \text{after-tax return}_{\text{portfolio}} - \text{after-tax return}_{\text{benchmark}}$$

$$\text{Excess pretax return} = \text{pretax return}_{\text{portfolio}} - \text{pretax return}_{\text{benchmark}}$$

If the excess pretax return is zero, the tax alpha is simply the after-tax return for the portfolio minus the after-tax return for the benchmark. But direct indexing portfolios tend to perform slightly differently from the benchmark on a pretax basis each period, even ones with constrained tracking error budgets. We define tracking error as the standard deviation of the difference between the portfolio returns and benchmark returns, or the dispersion of the excess portfolio returns compared with its benchmark. For a portfolio with a normal distribution of excess returns and an annualized tracking error of 1%, we can expect its return to be within 1% of its benchmark return approximately two out of every three years.

In the dynamic described above, the portfolio needs the flexibility to deviate from the benchmark in order to accommodate the tax management goal. This flexibility lets the manager do things like hold securities longer to defer gains, sell positions at a loss, take securities in-kind or move them out in-kind instead of liquidating them, and avoid repurchasing securities that were recently sold at a loss per IRS wash-sale rules. All these actions are an attempt to balance delivering pretax portfolio returns similar to the benchmark while maximizing the after-tax benefit to the client. In any given period, there will likely be small differences in the pretax performance of the portfolio and benchmark. This is important because a portfolio with a higher pretax return will outperform one with a lower pretax return on an after-tax basis for a given share of taxes. Subtracting the pretax excess return allows the investor to isolate the value of active tax management and avoid the distraction of any pretax tracking differences.

Figure 1 shows two scenarios in which each portfolio outperformed the benchmark by 0.20% on an after-tax basis. If the story ended there, we might conclude that tax management was equally additive to both. However, what we'd miss is that the portfolio in scenario A outperformed the benchmark by 0.20% on a pretax basis, and the portfolio in scenario B underperformed by 0.10%. After adjusting for this, we see that tax alpha was actually 0% in scenario A and 0.30% in scenario B. This is because the pretax return difference, not tax management, was driving the after-tax excess return for scenario A. In scenario B, tax management more than made up for the negative pretax excess return. Tax management was more valuable overall in scenario B than in scenario A, but we could never have seen this without examining the pretax excess returns.

Figure 1: Illustrative after tax versus pretax return scenarios

SCENARIO	AFTER-TAX RETURN			PRETAX RETURN			TAX ALPHA
-	Portfolio	Benchmark	Excess	Portfolio	Benchmark	Excess	-
A: No tax alpha	2.00%	1.80%	0.20%	2.04%	1.84%	0.20%	0.00%
B: Positive tax alpha	2.00%	1.80%	0.20%	1.74%	1.84%	-0.10%	0.30%

Source: Parametric. The scenarios presented above are for illustrative purposes only. They do not reflect the results of any investors. The scenario is fictional and was not produced by any investment model, simulation, or backtest. The highest federal tax rates are used for this scenario: short term 40.8%, long-term 23.8% (includes the 3.8% net investment income tax). It is not intended to reflect the performance of any strategy offered by Parametric.

Of course, the primary goal of a direct indexing portfolio is to track a benchmark over the long run, even with deviations along the way. The pretax adjustment doesn't imply a benefit from pretax underperformance; scenario B would have had positive tax alpha even with 0% pretax excess return. The adjustment simply allows us to measure tax management regardless of pretax deviations and to represent true tax alpha.

Measuring tax alpha in fixed income

Fixed income allows for theoretical and historical assessments of the value of tax management. On the theoretical side, we can create a forward-looking estimate using interest rate scenario analysis. We can also calculate historical tax alpha from trades executed specifically to harvest tax losses.

Online interest rate scenario tools will give an indicative performance assessment for municipal or corporate bond portfolios based on user-defined assumptions about interest rates. These tools may be able to provide prospective tax alpha, or a reduction in an investor's income taxes, based on the realization of capital losses expected to occur in an environment of rising interest rates. Though they should be mathematically robust, these tools may not fully capture the nuances of markets as sophisticated as municipal and corporate bonds. They work best for exploring the performance of laddered portfolios, but the analysis that they provide is likely to be oversimplified and perhaps conservative.

In the fixed income markets, managers should harvest tax losses with the intent of minimizing any changes in portfolio characteristics such as duration, yield and average credit quality. While tax loss harvesting is a viable strategy for both corporate and municipal bonds, municipals are uniquely optimized for generating tax alpha. Realizing losses is a taxable event that sets a new (lower) cost basis. This should not result in any future tax liability, assuming investors hold new bonds to maturity and purchase them at prices above their market discount threshold. Historical tax alpha calculations look to quantify the tax-reducing effects of realizing losses by measuring a current portfolio against the original non-tax-managed portfolio instead of a benchmark. It's relatively simple to calculate the total returns of the original portfolio and compare it with the after-tax total return of the current portfolio, adding in any tax savings available to the investor.

Conclusion

Direct indexing is designed for investors who want flexible, tax-efficient index exposure. Investors can use direct indexing to form market exposure that is not only tax efficient in itself but can also enhance the tax efficiency of the overall portfolio. Measuring the impact of tax management is a complex but essential task that puts after-tax portfolio performance in perspective and isolates the value of active tax management. Equipped with this information, investors will have a true picture of how their portfolio performed after taxes.

Appendix : After-tax benchmarks illustrated

Without a thoughtfully constructed benchmark, an after-tax return comparison may be meaningless, making it impossible to accurately measure the success of active tax management. We illustrate this point in figure 2 below by calculating the after-tax return for two benchmarks that differ only in their initial unrealized gain or loss.

In our illustration, benchmark 1 starts the period with an unrealized loss, and benchmark 2 starts with an unrealized gain. During the period, the underlying index for both benchmarks experiences a pretax total return of 1.85%, of which 0.17% is attributable to dividends, and turnover of 0.38%. For tax-rate purposes, we assume all the dividends are qualified and all the gains are long term.

Dividends received are the same for each benchmark in the simulation, but benchmark 1 realizes a loss and benchmark 2 realizes a gain. We calculate this by multiplying the turnover figure for the period by the end-of-period unrealized gain or loss position, assuming the turnover is applied equally across all lots. This produces a tax drag of only -0.01% for benchmark 1 compared with -0.08% for benchmark 2.

Figure 2: Examples of after-tax benchmark performance calculations

	BENCHMARK 1	BENCHMARK 2	
Beginning market value	$500,000	$500,000	Given
Beginning cost basis	$700,000	$300,000	Given
Ending market value before dividends	$508,400	$508,400	Beginning market value × 1.68% pretax price return
Unrealized gain before dividends	-$191,600	$208,400	Ending market value before dividends – beginning cost basis
Realized gain/loss	-$728	$792	Unrealized gain before dividends × 0.38% turnover
Dividends	$850	$850	Beginning market value × 0.17% pretax dividend return
Dividend tax	$202	$202	Dividends × 23.8% tax rate
Capital gains tax	-$173	$188	Realized gain × 23.8% tax rate
Total tax	$29	$391	-
Pretax return	1.85%	1.85%	Given
After-tax return	1.84%	1.77%	Pretax total return – total taxes ÷ beginning market value
Tax drag	-0.01%	-0.08%	After-tax return – pretax return

Source: Parametric. The examples provided are fictional and are provided for illustrative purposes. The scenarios presented above are for illustrative purposes only. They do not reflect the results of any investors. The performance is fictional and was not produced by any investment model, simulation, or backtest. It is not intended to reflect the performance of any strategy offered by Parametric. The after-tax benchmark's capital gain realization rate is based on the average turnover rate of the pretax benchmark and ending gain or loss of the after-tax benchmark for each period. The dividend income is estimated using the pretax benchmark index's dividend return during the period. After-tax benchmark returns reflect the deduction of taxes but do not include any other fees or expenses. After-tax benchmark returns are estimates, do not reflect actual trading, and should not be relied on for investment decisions.

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Tax alpha measures the impact of tax management on client accounts compared with the tax consequences of simply replicating the benchmark without regard to taxes. Tax alpha's main components are the before- and after-tax performance of client accounts and the benchmark. For client accounts, after-tax performance is based on actual realized gains and losses. For the benchmark, after-tax performance is based on the gains and losses the benchmark would have incurred due to index turnover and client-directed activity, such as withdrawals.

There is no assurance that a separately managed account (SMA) will achieve its investment objective. SMAs are subject to market risk, which is the possibility that the market values of the securities in an account will decline and that the value of the securities may therefore be less than what you paid for them. Market values can change daily due to economic and other events (natural disasters, health crises, terrorism, conflicts, social unrest, etc.) that affect markets, countries, companies, or governments. It is difficult to predict the timing, duration, and potential adverse effects (portfolio liquidity, etc.) of events. Accordingly, you can lose money investing in an SMA.

Investment strategies that seek to enhance after-tax performance may be unable to fully realize strategic gains or harvest losses due to various factors. Market conditions may limit the ability to generate tax losses. Tax-loss harvesting involves the risks that the new investment could perform worse than the original investment and that transaction costs could offset the tax benefit. Also, a tax-managed strategy may cause a client portfolio to hold a security in order to achieve more favorable tax treatment or to sell a security in order to create tax losses. Prospective investors should consult with a tax or legal advisor before making any investment decision.

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