



Parametric™

Leaders in Structured Portfolio Management

Tax-Managed Core™ : Portfolio Management Overview

Parametric designs and implements separately-managed, tax-efficient, passive portfolios. These portfolios are structured to provide investors with a pre-tax return comparable to their chosen benchmark while enhancing after-tax returns through active tax management. We manage portfolios that seek to track a variety of index benchmarks, as well as to benchmarks flexibly customized to investor needs. We are fully invested and do not time the capital markets. We do not conduct fundamental stock research. We are indifferent to the choice of individual securities, and portfolio decisions are based on risk and tax management rather than on the prospects of any individual security. Portfolios are managed on a team basis under the direction of the Chief Investment Officer and Director of Portfolio Management. The CIO also heads the design and implementation of our automated systems. ►►

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►► BUILDING PORTFOLIOS

When a new investor enters our program, she specifies a target benchmark and a bound on “tracking drift” or error - a statistical estimate of the distance of a portfolio from its benchmark. She can invest with either cash or an existing portfolio of securities, which for best results should be detailed at the tax lot level.

The portfolio is designed and constructed so that it tracks its benchmark as tightly as possible and at the lowest tax cost possible. For portfolios starting with pre-existing holdings, there is generally an initial trade-off decision between tracking drift and tax cost, and this decision is made by the investor in consultation with the advisor.

Over time, investment flows, market movements, and benchmark reconstitution each can cause a portfolio's exposures to drift from its benchmark. We monitor the tracking drift and rebalance the portfolio as needed to help ensure that this drift always remains within its specified tolerance.

►► RISK CONTROL (MANAGING TRACKING DRIFT)

In maintaining portfolios according to investors' tolerance for risk, our policy is the following:

- Control tracking error, but take into consideration the cost of doing so.
- Be wary of mathematical predictions and avoid misusing them.

In practice, we monitor the estimated tracking error of our portfolios continuously, using state-of-the-art multi-factor risk models.¹

In addition to monitoring and controlling tracking error, we manage risks by keeping portfolios similar to their benchmarks in terms of fundamental factors such as average capitalization, book/price, dividend yield, beta, economic, and industry sectors; we also limit any security-specific exposures.

Portfolios are designed so that they are broadly diversified and could remain in place for extremely long periods without requiring active decision-making. The actual number of securities is determined by the benchmark, the asset size, the tracking tolerance, as well as transaction and custody charges. They can have anywhere from 100 (e.g. for an S&P100® mandate) to up to 500 securities (RU3000®).

►► ONGOING PORTFOLIO MANAGEMENT

Every day we gather market information such as stock prices, corporate actions and benchmark constituents. We monitor cash contributions and withdrawals. We evaluate each portfolio's risk exposures daily.

If necessary and when appropriate, we re-balance the portfolio. In this re-balancing, we raise or invest any cash², and attempt to harvest losses. (Harvesting guidelines are discussed in more detail below). We evaluate the universe of possible new combinations, and seek to choose the one that produces the largest tax benefit – or smallest tax cost – while keeping the tracking drift within its bound. We work hard to keep trading costs low, and to ensure that any tax benefit out-weighs the trading cost by a substantial amount.³

¹We subscribe to third-party risk models provided by MSCI Barra.

²A small amount of cash is left in the portfolio to allow for price movements between the time of placing the order and the market close.

³Here is a simple model. Assume that the typical share price is \$50, and that the typical bid-ask spread is an eighth (\$0.125) per share. If we sell \$100 (2 shares) of one stock and buy \$100 (2 shares) of another stock, the one-way turnover is \$100. The trading cost is \$0.50 (4 shares times \$0.125) plus any transaction fee, custodial cost, and commission.

Here are typical events that cause us to evaluate a portfolio for re-balancing:

- *Cash.* If cash balances are significant (greater than 2% of the portfolio⁴), if cash is required to be withdrawn, or if cash is contributed.
- *Unrealized Losses.* If the total unrealized loss is a large-enough percentage of the portfolio, or if any individual security has a large-enough capital loss.
- *Tracking Error/Risk Exposures.* If the tracking error or another measure of risk that we monitor is beyond its target bound. Market movement or benchmark re-constitution may cause this to happen.

▶▶ ACTIVE TAX MANAGEMENT

The first step in active tax management is to employ tax lot accounting. By maintaining the cost basis and purchase date of every tax lot held in the portfolio, we are able to sell those lots that will be of the greatest benefit to the investor and defer those gains that would be most costly to realize. Gain deferral is a simple, yet powerful method of boosting after-tax returns, as the investment returns are allowed to compound over a number of years rather than being paid out in the form of taxes.

There may be times when an investor chooses to either contribute outside securities or gift securities from the tax-managed core portfolio. In either case, we can effect these changes both tax-efficiently and in a risk-controlled manner by choosing which tax lots to keep in the case of a securities contribution, or which to remove from the portfolio in the case of gifting.

Should the investor decide to change mandates (e.g. switch the benchmark from S&P 500® to Russell 3000®), we can accommodate this tax-efficiently. Rather than completely liquidate the portfolio to reinvest to the new mandate, as one would have to do with an ETF or mutual fund, we seek to utilize many of the securities that are common between indexes. This typically delivers substantial tax savings to the investor by avoiding the unnecessary realization of gains.

While we typically avoid gain realization, we have, upon request, strategically realized long-term gains for our clients. With a significant spread between long and short-term capital gains rates, our research has shown a potential benefit to refreshing the cost basis of a portfolio to increase possible short-term loss realization opportunities in the future. If future short-term gains are expected from other investments, this tax-management strategy can be very effective at offsetting those short-term gains and reducing the investor's tax burden.

Our loss-harvesting process attempts to realize capital losses in order to obtain an after-tax benefit for the investor. We are focused on this subject throughout the year. Our harvesting sells a basket of securities and replaces it with another basket so that the resulting portfolio reflects its risk targets. During loss harvesting we keep risk exposures in line and carefully balance the tax benefit against any increase in tracking error.

We harvest losses in large positions in stages so as to avoid being out of any of these names.

We attempt to realize only those losses that are not negated by wash sales rules. Accordingly, we do not harvest losses on a security lot if a separate lot was purchased within the past 31 days. However, specific circumstances will permit the sale even when a wash sale is unavoidable.

⁴The exact percentage is subject to change.

In rebalancing we also take into account dividend taxation as an extra cost and attempt to respect a 61-day holding period. The low-turnover, passive nature of our strategy results in mostly qualified dividends. Should a security be sold prior to becoming qualified, the benefit of loss harvesting typically significantly outweighs the tax impact of the dividends.

▶▶ PORTFOLIO TRADING

Parametric's trading philosophy focuses on costs and risk control. Our preferred trading strategy is an "agency trade," executed via a broker or electronic crossing network. Directed trades pay only \$0.01 per share commission and we do not accept soft dollars. Much of our trading is done "market-on-close". When executing an order, which typically contains many securities, we strive to keep the order both dollar and sector neutral. We seek to minimize market impact, a primary contributor to trading costs and intra-day volatility. A pre-trade analysis identifies any low-liquidity securities that may need more careful execution. Trades are routed electronically via FIX lines and are sent using a daily modified random rotation to ensure that we are not trading in a manner that would systematically favor some clients or be unfair to others. Our executions are reviewed daily and affirmed T+1. Transaction cost analytics are provided by a third-party research firm. Parametric's Best Execution Committee meets quarterly to monitor our trading performance and evaluate the performance of the brokers to ensure that we seek "best execution."

▶▶ AUTOMATION, TECHNOLOGY, AND SYSTEMS

Our investment process is implemented with a high degree of automation, thereby reducing manual errors. However, a portfolio manager does ratify final trade lists.

We maintain our own accounting system and start each day by reconciling all portfolios to custodial positions. Every share and every dollar is verified to help ensure that we trade on accurate information.

We have integrated our accounting systems, client databases, market databases and portfolio management engine into a powerful computer system. This system is developed and maintained internally. We use it to re-balance, trade, reconcile and report efficiently.

We have chosen to build our computational engine instead of leasing one, despite the higher cost. While there are some good third-party engines available, we have found that these tools (which are necessarily general-purpose) are not fine-tuned well enough to our tax optimization needs; they do not provide us with our required degree of control over our problem specification, speed, nor are they able to integrate easily with our systems.

The mathematical problem that we formulate is an integer, quadratic-programming optimization tailored to our needs. It includes, for example, the following capabilities:

- Flexible control over the buying and selling of individual tax lots;
- An ability to integrate heuristic solutions based on our extensive experience;
- Control over the number and size of trades, and of tax loss realization.

We also use sophisticated mathematical subroutine libraries with the most current mathematical optimization capabilities. These are licensed from a large third-party specialist, who provides these lower-level mathematical routines to many industries in addition to finance, that require complex optimization.

►► IN SUMMARY

For more than a decade, Parametric has been building the capability to create tax-managed, passive portfolios accurately and efficiently. The investments we've made in our people and systems over the years allow us to provide consistent, index-like, pretax performance along with after-tax outperformance, and also offer each of our clients the customized experience they've come to expect in a separate account.

►► ABOUT PARAMETRIC

Parametric is an industry-leading provider of structured portfolio management, headquartered in Seattle, Washington. Parametric and its affiliate, Parametric Risk Advisors, offer a variety of structured portfolio solutions, including customized core equity portfolios (U.S., Non-U.S., global Tax-Managed Core™), options strategies (DeltaShift™), emerging markets (Structured Emerging Markets™), and overlay portfolio management (OverlayOne™).

Note: This information is for illustrative purposes only and should not be considered investment advice or recommendation to buy or sell any particular security. Parametric does not provide tax advice. It is not possible to directly invest in an Index. Past performance does not predict future results.