Benchmarking Defensive Equity

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Benchmarking for asset classes like fixed income and large-cap US equity has been fine-tuned over the course of several decades, and we believe crafting a suitable benchmark is typically straightforward. However, Parametric's Defensive Equity (DE) Strategy fits squarely within the category of options-selling or volatility risk premium (VRP) strategies, an investment universe where benchmarking considerations are more nuanced. In this paper we present the main asset-allocation buckets where investors have slotted DE and similar strategies. In this paper we present the main asset allocation buckets where investors have slotted DE and similar strategies, discuss alternatives to benchmarking based on portfolio allocation, and isolate return components to facilitate a complete performance picture.

Key takeaways

- Investors often place DE into two primary asset classes: large-cap equity or alternative assets. However, a third and growing bucket is a specific carve-out for options-based strategies.
- The three broad categories of benchmarks specific to DE are broad-market indexes, manager universes, and alternative indexes. There are advantages and potential drawbacks for each.
- DE is quite versatile, and the vast majority of investors have slotted it in either their equity or alternatives allocations. Using a blended approach to benchmarking may help isolate specific strategy components.
- We expect that Cboe will continue to increase the number of available benchmark indexes, allowing for greater precision in evaluating DE performance.

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Overview

DE aims to deliver equity-like returns over a full market cycle but at lower levels of risk as measured by drawdowns and the volatility of returns. As outlined in figure 1, there are three central components in the strategy's design: a 0.5-beta underlying base portfolio, an options overlay that seeks to add incremental return by harvesting the options-based volatility risk premium (VRP), and a rules-based systematic implementation that adds discipline to the process and seeks to deliver more predictable results.

The options overlay introduces a unique risk premium into the portfolio and represents the key source of value-add in DE. The strategy essentially represents an exchange of risk premiums, forgoing 50% of the realized equity risk premium (ERP) in exchange for the options-based VRP. The combined portfolio results in the theoretical return profile shown in figure 2.[1] Many readers will recognize that this concave return profile is similar to that offered by many alternative investments like hedge funds.

The combination of these two factors—exposure to the ERP and a return profile that aligns with alternative investments—has led investors to place DE within two primary buckets in their asset allocation: large-cap equity or alternative assets. A third and growing category is a specific carve-out for options-based strategies. It's from this lens of asset allocation that we tackle the topic of benchmarking DE.

FIGURE 1: PARAMETRIC DEFENSIVE EQUITY PORTFOLIO CONSTRUCTION

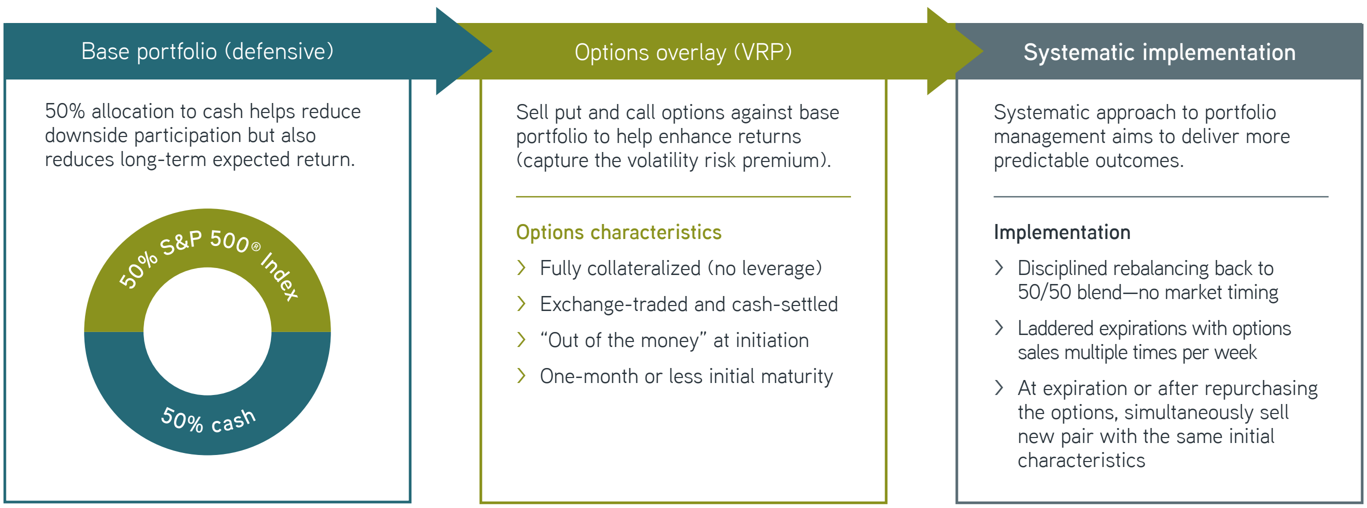
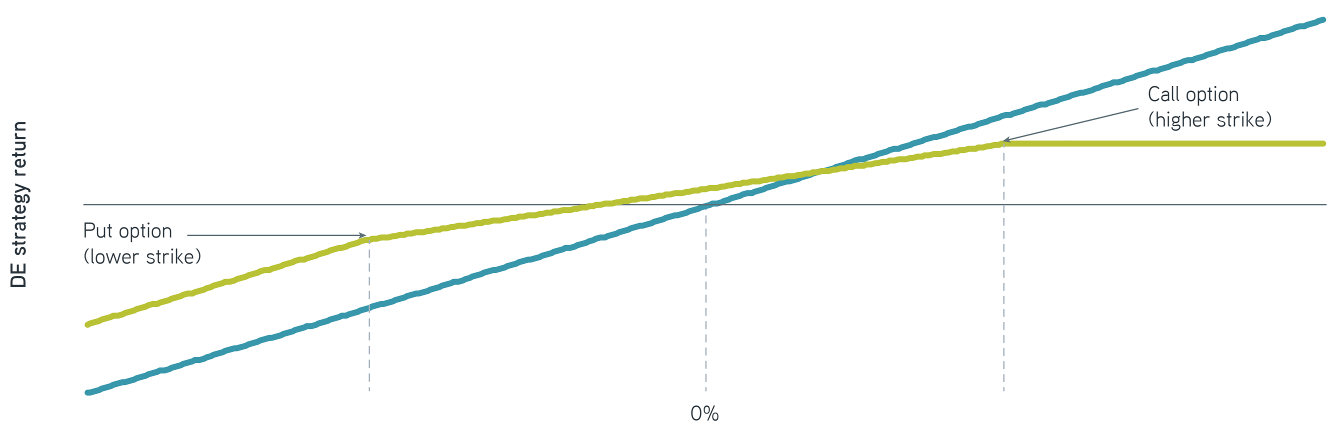


FIGURE 2: PARAMETRIC DEFENSIVE EQUITY THEORETICAL RETURN PROFILE



Source: Parametric. The return profile is for illustrative purposes only to show the general market mechanics of the strategy. No representation is being made that the market will move negatively or positively. Actual results will vary. All investments are subject to loss.

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Benchmark construction

A benchmark is the standard against which we can evaluate the performance of a manager or strategy. A properly constructed benchmark helps isolate the true value-add from the manager's active decisions. A detailed understanding of the manager's underlying strategy and its associated risk factors is an important element of proper benchmark construction.

Often, especially for nontraditional strategies like DE, a single benchmark won't accurately capture all dimensions of risk and return for proper performance analysis. Multiple reference benchmarks may be employed in these cases, such that they provide the most complete performance measure available in aggregate. Separate benchmarks may be used depending on the time horizon of evaluation (long-term vs. short-term) or to evaluate a specific component of a strategy, such as the value-add from options selling.

There are three broad categories of benchmarks specific to DE to consider:

» Broad-market indexes, including blended and beta-adjusted versions

» Manager universes, including investable versions[2]

» Alternative indexes

In figure 3 we list the most common benchmarks within the three broad categories that DE investors use, along with potential advantages and drawbacks for each. Although no single index is considered a perfect benchmark for the strategy, in the next section we describe how performance analysis across multiple benchmarks can provide a more complete picture for evaluating investment success.

Benchmarking for equities or alternatives

While DE is quite versatile in its potential positioning within a portfolio, the vast majority of investors have slotted it within either their equity or alternatives allocations. In both cases we believe a blended approach to benchmarking may address specific strategy components and different time horizons.

FIGURE 3: PARAMETRIC DEFENSIVE EQUITY BENCHMARKS

Category	Benchmark	Advantages	Disadvantages
Broad market	S&P 500®	Simple and transparent; represents long-term performance objective	Very different risk-return profile from DE due to beta differences; poor metric for short-term evaluation
	50% S&P 500® + 50% Treasury bills	Isolates performance impact of options selling; great short-term measure of value-add	DE has higher left-tail risk than base portfolio; 0.5-beta benchmarks are less common
	50% S&P 500® + 50% Barclays US Aggregate Bond	Isolates options performance while reflecting more traditional means of derisking	Few investors use blended benchmarks; includes different mix of risk factors from DE
Manager universe	HFRI Equity Hedge (Total) Index	Popular hedge fund universe benchmark with similar long-term return, volatility, and drawdown to DE	Uninvestable; black box; monthly valuations; difficult to attribute over- or underperformance
	HFRX Equity Hedge Index	Investable; daily valuations; similar average beta to DE	Based on complex replication methodology; difficult to attribute over- or underperformance
Alternative	50% Cboe BXM + 50% Cboe PUT	Isolates performance impact of specific options decisions; similar average beta to DE	At-the-money options only; outdated methodology with single tranche
	MSCI USA Minimum Volatility Index	More robust methodology than other low-volatility indexes	Not relevant to most DE investors

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For short-term performance evaluation, we believe the base portfolio—50% S&P 500® and 50% Treasury bills—would be an appropriate benchmark for DE, regardless of asset class positioning. Relative performance against this benchmark isolates the key source of value-add in the strategy—systematic options selling—and does so transparently on an after-fee basis. Other marginal implementation factors, such as trading costs, rebalancing decisions, and collateral management, are also measurable against this benchmark. Because of similar average equity beta and the ease of measuring options performance, the base portfolio may also serve as an appropriate long-term benchmark as well.

Investors often select long-term benchmarks based on the strategy's positioning within the portfolio and its expected results over a full market cycle. This means equity allocations are often benchmarked against the S&P 500®. Relative performance reflects the impact of both reduced market exposure *and* the impact of options selling. Hedge fund or alternative allocations, on the other hand, frequently evaluate performance against one or more hedge fund indexes that match the general risk-return characteristics of DE. These benchmarks are most often based on hedge fund indexes with similar average long-term equity betas, such as the monthly-valued HFRI Equity Hedge (Total) Index or the daily-valued HFRX Equity Hedge Index.

A third category, which we believe is important to consider for both short-term and long-term time horizons, is evaluation against publicly available options-selling indexes that best approximate the strategy's risk-return profile. One example is an equal weight of the Cboe S&P 500® BuyWrite Index (BXM), a covered call index, and the Cboe S&P 500® Put Option Index (PUT). This benchmark reflects similar long-term average beta to DE while incorporating exposure to the VRP through both call and put selling.

Crucially, performance comparisons can serve to highlight important options-specific implementation decisions within DE, including:

» *Diversification through tranching:* one expiration per month for BXM/PUT; 12 per month for DE

» *Option tenor:* one-month only for BXM/PUT; blend of one-, two-, and four-week for DE

» *Strike selection:* at-the-money (ATM) for BXM/PUT; dynamic out-of-the-money (OTM) strikes for DE

» *Risk management:* hold to expiration for BXM/PUT; rules-based buybacks for DE

Over the past several years, Cboe has steadily increased the number of available benchmark indexes to reflect different underliers (US vs. international), strike prices (ATM vs. OTM), tenors (weekly vs. monthly), tranching, and even tactical triggers based on volatility levels. We expect a continuation of this trend going forward, allowing for greater precision in evaluating DE performance. Figure 4 summarizes our thoughts on what would be an appropriate approach for evaluating DE benchmarking based on time horizon and portfolio positioning.

Conclusion

As interest in options-related strategies has increased, so have discussions around benchmarking these strategies, as well as their fit within an institutional portfolio. In this paper we discussed the main buckets in which investors have placed the Parametric Defensive Equity (DE) strategy and highlighted the important considerations for benchmarking the strategy over long-term and short-term horizons. While no single benchmark is perfect, employing multiple benchmarks may be the best approach to evaluate strategy performance over different time horizons and across specific risk factors.

FIGURE 4: PREFERRED PARAMETRIC DEFENSIVE EQUITY BENCHMARKS PER ASSET CLASS

Benchmark type	US equity	Alternatives
Short-term benchmark	50% S&P 500® + 50% Treasury bills	50% S&P 500® + 50% Treasury bills or HFRX Equity Hedge Index
Long-term benchmark	S&P 500®	HFRI Equity Hedge (Total) Index
Options-based benchmark	50% Cboe BXM + 50% Cboe PUT	50% Cboe BXM + 50% Cboe PUT

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Notes

1. In practice, diversification within DE's options portfolio (using multiple tenors and tranches) means the actual return profile never matches the hockey-stick-style payoff with its associated inflection points. That said, the general concept holds true: seek outperformance in flat and down markets while trailing in strong up markets.

2. *Investable* benchmarks refer to indexes like the S&P 500®, which allow investors to passively replicate the benchmark and understand its weights, constituents, and rebalancing rules. Benchmarks described as "uninvestable" are those that investors can't own passively, such as an index of 100 hedge funds in the long-short hedge fund universe. A recent industry development is the creation of "investable" versions of hedge fund benchmarks, in which providers attempt to replicate the performance of these benchmarks using baskets of publicly available securities.

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Benchmark information is provided is for illustrative purposes only. For purposes of compliance with GIPS, the stated primary benchmark for the Defensive Equity Strategy is the S&P 500® and the stated secondary benchmark is the 50% S&P 500® and 50% Bloomberg Barclays US Treasury Bills 1–3 Months.

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