Equity Hedging Simplified

Constructing an effective alternative to long/short equity

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NorthCoast Asset Management is a Greenwich, CT based Registered Investment Adviser (RIA) founded in 1988.

Investing in hedged equity strategies is a bit like running with the bulls: investors love the adrenaline rush of market returns but are also required to stay nimble to avoid being trampled. I have spent the better part of my career in Pamplona, metaphorically speaking of course - first as an asset allocator, later as a researcher and today as a global macro portfolio manager. So I ask myself, **what makes for an effective hedged equity approach?** Leaning on my experience not only as an allocator but also as a practitioner, I try to bushwhack through the marketing noise and focus my attention on what I consider to be the most important elements for an investor to gauge when considering an allocation to a hedged equity strategy – ① track record, ② implementation and ③ fees. In this paper, I will compare and contrast five different approaches – two passive and three active strategies – and then present my findings relative to the three elements in a summary table at the end.

The five unique approaches under consideration include:

- **Traditional Asset Allocation** (60/40 stock/bond blend)
- **Portfolio Insurance** (an investment in the S&P 500 hedged with put options)
- **Long/Short Equities** (HFRI Equity Hedge Total Index)
- **Tactical Peer Group** (a competitive mix of tactical money managers)
- **NorthCoast Long/Cash Equity** (our strategy that combines beta management and stock selection)

Executive Summary

Investor demand for products that hedge or mitigate equity market risk has existed for a long time. Traditional offerings have ranged from a static asset allocation approach using a mix of stocks and bonds to an active long/short equity investment strategy. The asset allocation approach worked because it reduced an investment's sensitivity to equity market gyrations by blending it with uncorrelated asset classes or by tactically shifting allocations based on a set of macroeconomic views or arbitrary calendar events. Similarly, an active long/short equity management approach naturally hedged a portfolio's market risk with its short equity positions.

Recently, both approaches have fallen short of investors' expectations. While the static asset allocation approach has historically provided an effective hedge against equity risk whenever bond and stock markets moved in opposite directions, stock and bond markets have generally moved in tandem over the last decade (post-2008)[1]. Similarly, it has been increasingly difficult to identify a quality manager in an overpopulated landscape of active long/short equity funds. Allocators tend to evaluate each investment opportunity as a tradeoff between a superior track record, operational complexity, risk and fee structure, and their demand for a better trade-off between these attributes spawned a multitude of products. These products span the continuum from low fee, simple, transparent but with limited upside capture and downside protection to high fee, complex, opaque but with significant equity risk protection capabilities and upside potential.

> *"We believe in keeping things as simple as possible but not simpler (per Einstein)"*

Here at NorthCoast, we believe in keeping things as simple as possible but not simpler (per Einstein). In our view, a successful equity investment strategy essentially boils down to two fundamental styles: ***systematic beta management*** and ***factor-based stock selection***. Although this goes against the grain of a traditional investment approach (with most firms aiming to maximize their alpha via their chosen style while adding layers of complexity to squeeze that last ounce of returns), we believe in the power of combining two effective but unique ways of thinking about the equity market into one balanced investment process. We call our process, 'long/cash equity' which has been featured in our flagship investment strategy since 2007.

This strategy presents a compelling combination of performance, transparency and fees. It plays to our core strengths of active stock selection and tactical beta management, and provides an investor a more attractive tradeoff.

So how does it stack up against the competition? The table below summarizes our evaluation of the various hedged equity approaches against what we believe to be the relevant dimensions and is color-coded for simple reference (green = good, yellow = satisfactory, and red = bad). What follows in this paper are the details supporting our evaluation.

	60/40 Traditional Allocation	Portfolio Insurance	Long/Short Equities	Tactical Peer Group	NorthCoast Long/Cash Equity
Track Record	-	-	X	X	✓
Implementation	✓	✓	X	✓	✓
Fees	✓	-	X	-	-

[1] Source: Bloomberg; S&P 500 Index (stocks) and Barclays U.S. Bond Aggregate Index (bonds)

#1 | Traditional Asset Allocation | 60% Stock / 40% Bond Portfolio

A conventional industry-accepted strategy for mitigating equity risk is a static blend where equity allocation is sized at 60% of the portfolio while allocating the remaining 40% to a U.S. bond index offering. The rationale is that economic factors drive stocks and bonds differently and the two asset classes frequently move in opposite directions; hence equity risk and drawdowns would be mitigated by bond index appreciation and vice versa. The logic behind this blend is conceptually simple to understand and the strategy is extremely liquid and easy to implement. Furthermore, the strategy is static, it only requires periodic rebalancing, and there are plenty of low cost offerings.

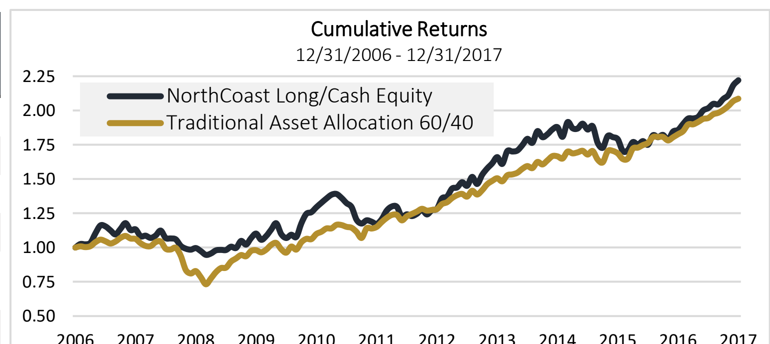
This traditional allocation produced an excellent track record in the recent past, outperforming many smart beta and active strategies on a risk-adjusted basis and it would be tempting to conclude it unnecessary to move beyond this strategy in one's allocation decision. Unfortunately, if one looks beyond the last 10 years[2] they will discover poor performance and realize that this is still a passive strategy. Indeed, rather than actively seeking to outperform the equity market and explicitly control downside risk, the blend only delivers returns equal to the market and relies on low or negative correlations of asset classes for downside protection. When measuring the equity beta of the strategy for the past 10 years, it becomes apparent that the bond allocation did not provide much diversification benefit as the equity beta of the blend is roughly proportional to its equity allocation. There are also numerous examples in history where strategy drawdowns get unbearable for an investor. In addition, a static exposure to traditionally lower returns of the bond index creates a drag on upside potential: this is not an efficient use of capital.

> *"From January 1962 through September 1981, the 60/40 portfolio lost an annualized 3.7% after inflation adjustments"* [1]

Going forward, we believe that the reward-to-risk ratio of a traditional 60/40 portfolio will be challenged in the following four ways: ① Interest rates have limited potential to go lower and boost returns as they have in the past three decades; ②Duration has increased in major bond indices as a result of long-term bond issuance which implies a higher downside in case of interest rate increases; ③ Equity market multiples are looking more stretched by historical standards, leaving less potential for appreciation by multiple expansion; and ④ Bond/equity correlation is likely to increase, which may decrease portfolio diversification and further increase portfolio risk.

The NorthCoast Long/Cash strategy aims to beat the market by marrying a systematic beta exposure model and factor-based stock selection process. We believe this is a nimbler approach that allows for higher upside potential while reducing downside risk. When considering track record, NorthCoast's Long/Cash Equity annualized return to maximum drawdown ratio is much higher than the traditional 60/40 blend even during the period of stellar risk-adjusted performance.

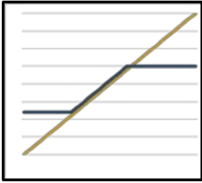
	NorthCoast Long/Cash Equity	Traditional Asset Allocation
Annualized Return	**7.5%**	6.9%
Standard Deviation	**10.4%**	8.9%
Sharpe Ratio	**0.61**	0.65
Maximum Drawdown	**-19.6%**	-32.5%
Return to Maximum Drawdown Ratio	**0.38**	0.21
Beta (vs. S&P 500)	**0.55**	0.60



Source: NorthCoast Asset Management, Bloomberg. 12/31/2006- 12/31/2017. Past Performance does not guarantee or indicate future results.

[2] "From January 1962 through September 1981, the 60/40 portfolio lost an annualized 3.7% after inflation adjustments" – NorthCoast *Liquid Alternatives* Whitepaper. Page 3. Published July 31, 2017 (http://www.northcoastam.com/pdf/research/whitepaper-liquid-alternatives.pdf)

#2 | Portfolio Insurance | S&P 500 with Put Options



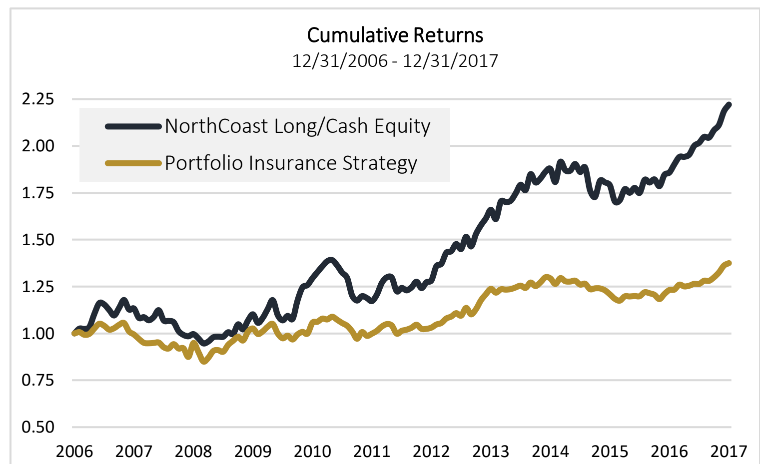
Another popular approach to reducing equity risk is by attempting to improve the return-to-risk profile of an equity index through some mechanical index redefinition or augmentation. This approach, while mechanistic, is actually passive, leaving us to wonder why a less active index construction would lead to better tradeoff between return and risk. One of the most popular techniques geared specifically towards drawdown reduction is "portfolio insurance", implemented by buying a put option at regular calendar intervals that explicitly limits the portfolio downside to a predefined amount.

The appeal of the "insurance" idea is obvious: it protects the investor against significant market declines by capping losses and introducing a degree of certainty into outcomes. In addition, the approach is very liquid, transparent and conceptually simple to understand. While utilizing puts *seems* clever, it is still a "beta" strategy: there is no economic insight or alpha creation. In other words, simply buying portfolio insurance is just like wearing a helmet when running with the bulls: you're not trying to run differently, just making it hurt less if the bull catches up. Furthermore, the actual implementation of the strategy is anything but simple: a put purchase strategy requires an investor to make decisions about ① its rebalance frequency and expiration date and ② strike price. Additionally, option premiums depend heavily on recent market volatility; hence insurance is most expensive when it is most needed and there is a clear tradeoff between level of insurance and premium paid.

> *"While utilizing puts seems clever, it is still a "beta" strategy: there is no economic insight or alpha creation... it comes with a drastic reduction in the upside potential due to put premiums"*

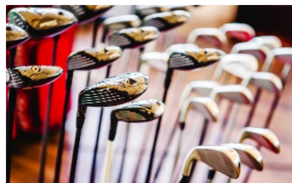
Our own simulations of an annually rebalanced S&P 500 with put option strategy clearly show that, while its worst drawdown is significantly lower than that of a simple equity market buy-and-hold strategy and is comparable to our own NorthCoast Long/Cash strategy, it comes with a drastic reduction in the upside potential due to put option premiums and, ironically, a return-to-risk profile that is worse than that of a simple equity index buy-and-hold strategy. Our "Portfolio Insurance" simulation methodology replicates the returns observed by an investor buying exposure in the S&P500 Index, and simultaneously buying an at-the-money one-year European Put option on the S&P500. This investor would pay the option premium upfront, invest the remainder of the capital in the S&P500, and receive dividends, price appreciation and the value of the option, if any, at expiration.

	NorthCoast Long/Cash Equity	"Portfolio Insurance"
Annualized Return	**7.5%**	4.4%
Standard Deviation	**10.4%**	7.9%
Sharpe Ratio	**0.61**	0.41
Maximum Drawdown	**-19.6%**	-23.2%
Return to Maximum Drawdown Ratio	**0.38**	0.19
Beta (vs. S&P 500)	**0.55**	0.39



Source: NorthCoast Asset Management, Bloomberg. 12/31/2006- 12/31/2017. Past Performance does not guarantee or indicate future results.

#3 | Long/Short Equities | HFRI Equity Hedge (Total) Index



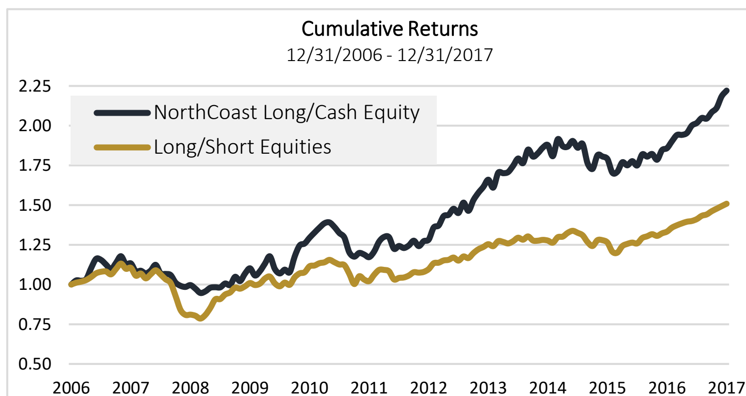
Having explored passive, beta-management strategies, let's move on to active strategies. The HRFI Equity Hedge (Total) Index represents the universe of active long/short equity hedge fund managers. A well implemented long/short equity strategy should provide plenty of alpha given its breadth of universe and an individual stock's potential for large returns. Hence, the index does include some of the best *surviving* strategies in the world. I say surviving because there is tendency to view the performance of existing funds in the index as a representative comprehensive sample. It is not. This so-called survivorship bias can result in the overestimation of historical performance and general attributes of a fund because results do not include any funds that are no longer functional and reporting returns. Another issue with long/short equity strategies, as referenced in a previous whitepaper "Raising the Bar with Long/Cash Equity", is that the most recent 10 years suggests that the HFRI Equity hedge index has a fairly constant beta exposure with minor variability through time. It stands to reason that, on average, this space is more focused on stock picking and beating the market rather than beta management and exposure timing. So the real question is how well does this group do in beating the market?

No doubt the long/short equity space contains funds with well executed strategies that can realize theoretical gains associated with the space. Furthermore, relatively high management fees and high carried interest will attract and retain some of the best talent in money management. The HFRI Equity Hedge (Total) Index performance from 1990s to 2000s bore out those expectations: the index delivered risk-adjusted returns that were well above market returns. However, in the most recent period, and especially after the crisis of 2008, returns have drastically deteriorated: overall performance decreased significantly, short positions produced negative alpha and correlation to the S&P 500 has increased. Our own analysis shows that recent HFRI returns have been essentially driven by static beta exposure with a negative alpha.

"…the category is overcrowded with sub-par managers that on average deliver nothing beyond beta exposure but do so with high fees, process opacity, gated liquidity and plenty of operational and manager risks."

Interpreting these results, one could conclude that the category is overcrowded with sub-par managers that on average deliver nothing beyond beta exposure but do so with high fees, process opacity, gated liquidity and plenty of operational and manager risks. The worst drawdown number is especially damning in light of the fact that drawdowns of an index tend to have more benign magnitudes than drawdowns of individual strategies. Compared to a typical long/short strategy represented in HFRI, NorthCoast's Long/Cash Equity approach has fewer structural complexities, a competitive fee schedule and, most importantly, a track record that provided a better balance of upside potential and drawdown protection.

	NorthCoast Long/Cash Equity	Long/Short Equities
Annualized Return	**7.5%**	3.8%
Standard Deviation	**10.4%**	8.4%
Sharpe Ratio	**0.61**	0.32
Maximum Drawdown	**-19.6%**	-30.6%
Return to Maximum Drawdown Ratio	**0.38**	0.12
Beta (vs. S&P 500)	**0.55**	0.50



Source: NorthCoast Asset Management, Bloomberg. 12/31/2006- 12/31/2017. Past Performance does not guarantee or indicate future results.

#4 | Tactical Peer Group | Morningstar Tactical Allocation Category Average

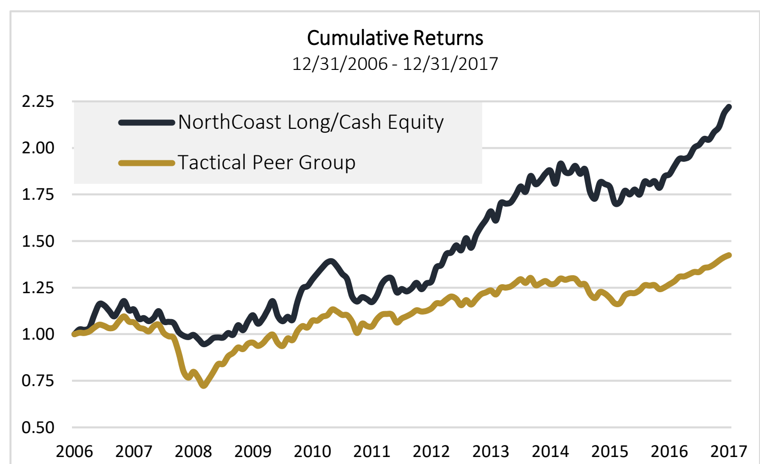
As a collective whole, HFRI strategies seem to be missing the beta management component. Thus, we have searched for and identified a category consisting of strategies that manage equity market exposure explicitly and aim to blend that beta management with active security selection. This is our tactical peer group. As defined by Morningstar, tactical allocation portfolios seek to provide capital appreciation and income by actively shifting allocations across investments. These portfolios have material shifts across equity regions and bond sectors on a frequent basis. Among other attributes, these portfolios must historically demonstrate material shifts in sector or regional allocations either through a gradual shift over three years or through a series of material shifts on a quarterly basis.

"...managers focusing on tactical exposure management tend to do so to generate alpha not to explicitly control drawdown... security selection of these strategies is subpar at best"

Though we believe this category most accurately represents our peers, managers focusing on tactical exposure management tend to do so to generate alpha, not to explicitly control drawdown. Indeed, comparing the worst drawdowns of this group average against other strategies considered in this report, the worst drawdown numbers are quite similar except for S&P 500 with Put Options and NorthCoast Long/Cash Equity, which positively stand out. Additionally, connecting a relatively high equity beta of the index with a relatively low annualized return, it's reasonable to assume that the security selection of these strategies has been subpar.

Examining and comparing our own performance relative to this peer group, we can see that the average annual return for the NorthCoast Long/Cash strategy is more than double that of the tactical peer group. Also, the maximum drawdown is significantly lower at 19.6% vs 34.1% despite the fact that we are comparing the maximum drawdown of a single strategy versus the smoothed drawdown of an index. Furthermore, as with any index, survivorship bias also comes into play here to potentially enhance ex-post index numbers.

	NorthCoast Long/Cash Equity	Tactical Peer Group
Annualized Return	**7.5%**	3.3%
Standard Deviation	**10.4%**	8.9%
Sharpe Ratio	**0.61**	0.24
Maximum Drawdown	**-19.6%**	-34.1%
Return to Maximum Drawdown Ratio	**0.38**	0.10
Beta (vs. S&P 500)	**0.55**	0.57



Source: NorthCoast Asset Management, Bloomberg. 12/31/2006- 12/31/2017. Past Performance does not guarantee or indicate future results.

Conclusion

In this report, we have looked at various ways of investing into the equity market with the explicit goal of generating the highest possible returns while mitigating drawdown risk. In our view, a prudent investment decision in this category will be a balance of several competing forces (track record, implementation, fees). We have synthesized those forces into a summary table and have mapped each discussed strategy along those categories. Looking at the first four strategies, we realize that every approach carries with it significant compromises:

> #1 | Traditional Asset Allocation has simplicity, transparency and cheapness but at the expense of potentially lower returns and prohibitive drawdowns
>
> #2 | Portfolio Insurance provides excellent drawdown protection but at the expense of prohibitive implementation costs and, consequently, lower overall returns
>
> #3 | Long/Short Equities provided, on average, solid alpha historically but recent deteriorating performance and abundant costs along with concomitant operational complexity leave it as an unpalatable option
>
> #4 | Tactical Peer Group is fairly priced but its drawdown is still prohibitive and returns are subpar

Asset allocators have a great need for a solution that balances those opposing forces and we believe that our NorthCoast Long/Cash Equity investment process offers such a solution. Historically, it has produced an excellent rate of return combined with several structural advantages:

- Systematic beta management
- Factor-based security selection
- Full transparency & excellent liquidity relative to other active offerings
- No extra complexity or operational risk associated with trading shorts
- Competitive pricing

The table below summarizes our detailed evaluation of the various hedged equity approaches against what we believe to be the relevant dimensions and is color-coded for simple reference (green = good, yellow = satisfactory, and red = bad).

		60/40 Blend	Portfolio Insurance	Long/Short Equities	Tactical Peer Group	NorthCoast Long/Cash Equity
Track Record	Net Annualized Return	6.9%	4.4%	3.8%	3.3%	7.5%
	Equity Beta	0.60	0.39	0.50	0.57	0.55
	Worst Drawdown	-32.5%	-23.2%	-30.6%	-34.1%	-19.6%
Implementation	Operational Simplicity	✓	-	X	-	-
	Transparency	✓	✓	X	✓	✓
	Liquidity	✓	✓	-	✓	✓
Fees	Management Cost	✓	-	X	-	-
	Implementation Cost	✓	X	X	-	✓
	Carried Interest	✓	✓	X	✓	✓

Source: NorthCoast Asset Management, Bloomberg. 12/31/2006- 12/31/2017. Past Performance does not guarantee or indicate future results.

Important Disclosure Information

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Hypothetical performance results have many inherent limitations. No representation is being made that any account will or is likely to achieve profits or losses similar to those shown. In fact, there are frequently sharp differences between hypothetical performance results and actual results subsequently achieved 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 which can also 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. Hypothetical illustrations are not exact representations of any particular investment, as you cannot invest directly in an index or fund-group average.

Important Disclosure Information

The 'NorthCoast Long/Cash Equity' returns referenced in this document are the actual composite performance results of the NorthCoast CAN SLIM® Investment Program. The CAN SLIM® investment program is a tactical, long-term growth strategy focused on capital appreciation with a secondary objective of downside protection. The strategy invests in leading growth stocks during favorable equity environments and scales to cash to preserve gains when bear market risk is high. The strategy adheres to a flexible investment mandate that allows for allocation shifts that range between 0%-100% exposure to equities. Positions are managed (purchased and liquidated) through a combination of CAN SLIM® guidelines and a proprietary stock scoring system designed to build a comprehensive growth portfolio. Returns are presented net-of-fees. Net-of-fee returns are reduced by trading costs and 0.65% annualized management fee taken monthly.

Benchmarks

60% Stocks / 40% Bonds: A combination of 60% S&P 500 Index and 40% Barclays U.S. Aggregate Bond Index. Allocation rebalanced monthly.

S&P 500 Index: An index of 500 stocks chosen for market size, liquidity and industry grouping, among other factors. The S&P 500 is designed to be a leading indicator of U.S. equities and is meant to reflect the risk/return characteristics of the large cap universe. (http://us.spindices.com/indices/equity/sp-500).

Barclays U.S. Aggregate Bond Index: The Barclays Aggregate Bond Index is a broad based index designed to represent global investment grade bonds traded in the United States.

HFRI Equity Hedge (Total) Index: The HFRI Monthly Indices ("HFRI") are a series of benchmarks designed to reflect hedge fund industry performance by constructing equally weighted composites of constituent funds. Equity Hedge Investment Managers maintain positions both long and short in primarily equity and equity derivative securities.

S&P 500 + Put Option: This Annual-Options methodology replicates the returns observed by an investor buying exposure in the S&P500 Index, and simultaneously buying an at-the-money one-year European Put option on the S&P500. This investor would pay the option premium upfront, invest the remainder of the capital in the S&P500, and receive dividends, price appreciation and the value of the option, if any, at expiration.

Morningstar Tactical Allocation Category Average: Tactical Allocation portfolios seek to provide capital appreciation and income by actively shifting allocations between asset classes. These portfolios have material shifts across equity regions, and bond sectors on a frequent basis. To qualify for the Tactical Allocation category, the fund must first meet the requirements to be considered in an allocation category. Next, the fund must historically demonstrate material shifts within the primary asset classes either through a gradual shift over three years or through a series of material shifts on a quarterly basis. The cumulative asset class exposure changes must exceed 10% over the measurement period.