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Managing Downside Risk with Factor-Based Investment Strategies

By Monique Miller and Ray Joseph

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With equity valuations at historically high levels and market volatility relatively low, advisors are looking for ways to diversify client portfolios to protect against equity market declines. Historically investors diversified across asset classes and geographical regions. But as we learned from the financial crisis, in times of extreme market volatility, many traditional asset classes can become highly correlated. In addition, because of the current low-interest-rate environment and with central banks poised to raise rates in the future, there could be a further breakdown in correlation between stocks and bonds as interest rates rise.

Alternative strategies, such as hedge funds, are often used to diversify portfolios. Macro and commodity trading advisor (CTA) strategies, in particular, can be good diversifiers through prolonged market downturns. But often hedge funds and liquid alternative strategies have high fees, offer very little to no transparency, and in many cases have delivered disappointing returns. For these reasons, some advisors are scaling back their hedge fund allocations.

As a result, advisors increasingly are using new tools for portfolio diversification. One new technique that many advisors rely on is factor-based investing. This involves evaluating the underlying risk factors or investment styles that drive risk and return and then allocating to strategies that can effectively capture those factors. These factor-based strategies are based on well-established investment styles, such as value investing, momentum (trend following), or carry (exploiting rate differentials) across asset classes. These are the same types of strategies that active managers have used for decades, but they now are offered in a fee-efficient and transparent implementation.

Smart beta strategies are long-only factor strategies. These strategies are constructed by creating a transparent objective and alternatively weighted index, based on value, dividends, momentum, volatility, market inefficiencies, and other investment factors. Alternative beta or risk premia strategies are similar to hedge funds in that they employ leverage, include both long and short positions, and may target a certain risk level or include drawdown controls. Table 1 highlights various risk premia, how they are implemented, and the hedge fund strategies that exploit those risk premia.

Risk premia strategies are rules-based, transparent, and flexible, allowing investors to use the strategies as building blocks by choosing the factors or exposures required to achieve specific investment outcomes. This allows investors to construct portfolio overlays such as risk mitigation or defensive portfolios or portfolios to protect against a specific macroeconomic event (e.g., inflation). The strategies provide the opportunity for investors to gain access to differentiated returns across a variety of asset classes that typically were restricted to investors without considerable investment size, scale, resources, and expertise.

Risk premia investing provides options for investors that are:

Table 1

RISK PREMIA STRATEGY EXAMPLES

Risk Premium	Return Type	Implementation	Strategies That Employ Factor
Value	Convergence	Long undervalued assets	Equity hedge/long-short equity/ macro
Carry	Yield	Long higher-yielding assets, short lower-yielding assets	Macro, commodity, FX
Momentum	Persistence	Trend following, long recent outperformers, short recent underperformers	CTA, Macro
Event	Catalyst	Long assets undergoing an event	Event-driven
Volatility	Premium	Short implied volatility—providing insurance	Macro
Liquidity	Mean reversion	Providing liquidity to the market	Macro, arbitrage
Structural	Congestion	Long or short assets with supply and demand imbalances	Macro, arbitrage

- frustrated with the high cost, risk profile, and disappointing performance of active management over the past several years.
- concerned about the volatility of their equity returns. Strategies that utilize minimum or targeted volatility are designed to create more consistent returns over the long term than investing in traditional equity strategies.
- disappointed with higher overall active management fees that erode excess returns.
- attempting to gain access to fixed income opportunities outside the traditional space of Treasuries and U.S. corporate bonds, including emerging market debt, sovereign debt, and high yield.

The risk premia industry is growing rapidly. In addition to hedge fund managers offering lower fee, factor-based strategies, most major banks also are offering risk premia indexes. These indexes span asset classes and investment styles and are available for much lower fees than traditional hedge funds. The bank strategies are structured as rules-based indexes, are fully transparent, and offer daily liquidity. We estimate that bank-sponsored assets under management are in excess of $250 billion, up from approximately $175 billion a year ago.

RISK PREMIA INVESTING

There are three main ways that advisors utilize risk premia: (1) as building blocks to construct outcome-oriented portfolios, (2) as a complement or replacement for higher-fee active manager allocations, or (3) as a benchmark, either to assess manager performance (i.e., is the manager adding alpha over a passive index?), or to better understand the factor exposures inherent in manager returns or the overall client portfolio.

OUTCOME-ORIENTED PORTFOLIOS

There are several considerations when designing outcome-oriented portfolios. Advisors must first determine the role of the risk premia strategies in the portfolio. If, for example, the goal is risk mitigation, the advisor must identify the specific risks that should be hedged. Some investors prefer to have protection against large sustained drawdowns in equity markets and are willing to accept slightly negative performance when equity markets are positive. Others prefer to not pay a premium for the hedge or insurance and prefer a portfolio of uncorrelated strategies that can perform in up or down markets.

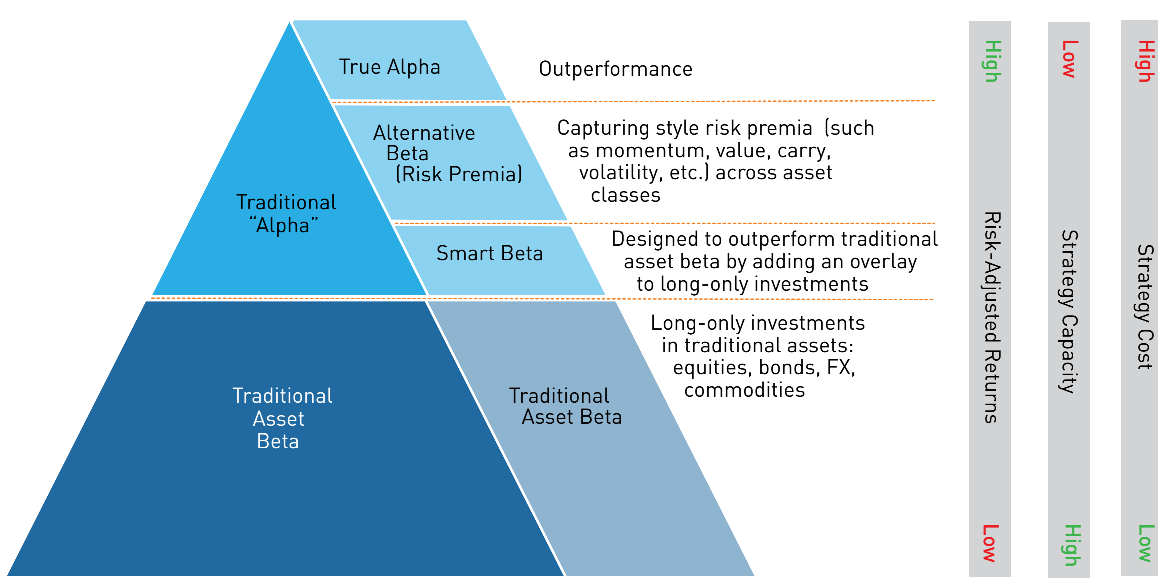
After the characteristics of the portfolio are determined, the advisor selects strategies based on their risk and return attributes that can deliver the desired outcome. For example, momentum-based strategies (trend following) tend to be uncorrelated with equity markets in periods of sustained market drawdowns, but certain carry or liquidity strategies generally are uncorrelated throughout the entire market cycle.

Because risk premia strategies are systematic and transparent, advisors often use them to express a view on markets or tilt portfolios to access certain exposures. Portfolios can be designed to access a diverse set of risk premia, which tend to be uncorrelated, allowing investors to achieve more stable risk and correlation benefits.

HEDGE FUND COMPLEMENT OR REPLACEMENT

In analyzing hedge fund manager returns, much of what was previously thought of as manager alpha or outperformance now can be attributed to beta, smart beta, and alternative beta (risk premia); see figure 1. For instance, excess returns above a traditional, long-only benchmark such as the S&P 500 can be attributed to certain smart beta

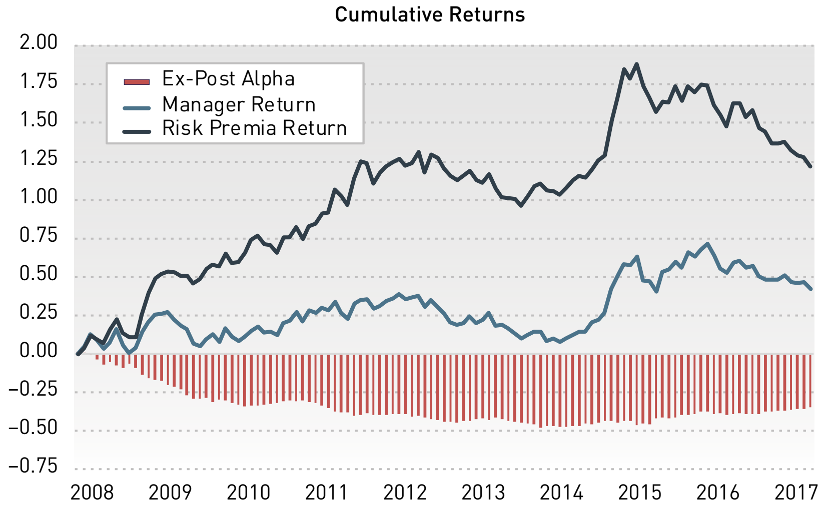
Figure 1 **DISSECTING MANAGER RETURNS USING SMART BETA AND RISK PREMIA**



risk factor exposures such as value, quality, or low volatility. Alternative beta or risk premia strategies incorporate leverage and long-short strategies and also can be used to capture a significant portion of what was previously thought of as hedge fund manager alpha. Smart beta and risk premia have higher capacity, are more transparent, and have lower fees than hedge fund strategies. For this reason, many advisors use smart beta as the core of their traditional portfolios and risk premia as the core of their alternative portfolios and add only those active managers that they believe can add persistent alpha over time as the satellite allocations.

Figure 2

REGRESSION OF A CTA TREND BASED ON CUMULATIVE RETURNS



BENCHMARKING MANAGER AND PORTFOLIO RETURN

Risk premia strategies also can be used to assess which managers provide alpha versus those that (expensively) provide exposure to passive benchmarks. By regressing manager returns to smart beta and risk premia indexes, it can be determined which factors a manager is exposed to. For example, figure 2 shows a regression of a CTA trend-following manager. Based on this analysis, almost all of the manager's performance can be explained by passive risk premia indexes, such as commodities momentum, equity index momentum, foreign exchange (FX) momentum, and rates momentum. In fact, this portfolio of passive risk premia factors performs better than the manager over the time period. In this case the manager's alpha is negative, thus not warranting hedge fund fees.

A similar analysis of an investor's portfolio can be performed to determine what factors the portfolio is most exposed to. Strategies can then be added to either gain exposure to factors not present in the portfolio or to hedge certain factor exposures.

DUE DILIGENCE

As with any investment strategy, due diligence is critical when investing in risk premia. As a result of rapid industry growth, many strategies across multiple providers are designed to capture the same risk premia. However, the risk and return profiles of the individual strategies can vary.

Advisors use the same techniques to perform due diligence on risk premia investment strategies as they would in analyzing quantitative managers. Because many of the strategies are based on simulated results, there is a risk that a strategy can be overly optimized to a particular time period or market event. Many strategies are designed to outperform in crisis periods, such as the 2008 financial crisis. However, the next market downturn is unlikely to be exactly the same as the previous one. Strategies should be robust through a variety of market environments. Strategies that are prone to tail risk, such as volatility selling strategies, should be sized appropriately in a portfolio.

Investors also should be cognizant that there is a potential that the effectiveness of a given factor or strategy can be arbitraged away or can become capacity constrained. It is important for advisors to periodically review performance of both managers and risk premia to make sure risk and return parameters are in line with expectations.

CONCLUSION

Advisors are looking for new ways to diversify client portfolios and to customize solutions to achieve specific investment outcomes. They also are considering both asset class and factor exposures when allocating to diversifying strategies. Factor-based strategies are a flexible tool for constructing overlays, hedges, and outcome-oriented portfolios. Because they offer lower fees, more transparency, and more flexibility than active management, they are increasingly being included in both institutional and retail portfolios.

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