

All About Outcomes

New Generation of Multi-Asset Class Strategies Focuses on Cutting Risk

- In the wake of the Global Financial Crisis, a new generation of multi-asset class (MAC) products emerged that emphasized risk management and expanded their toolkits to include shorting and derivatives.
- Callan groups these “outcome-oriented” MACs into four broad categories: Risk Parity, Risk Premia, Absolute Return, and Long Biased.
- The reasons to include MAC strategies in a portfolio can vary widely. An asset owner may need to lower equity risk concentration, mitigate drawdown risk, or seek higher risk-adjusted returns.
- Callan has seen increased interest in MAC strategies over the last year and expects this trend to continue.

Introduction

Multi-asset class (MAC) strategies have existed for decades; the first product with an allocation to balanced stock and bond strategies was launched more than 80 years ago. In the 1980s, MAC strategies evolved, moving beyond static into tactical asset allocation. In the 1990s, MAC strategies expanded globally, seeking improved diversification and increased alpha.

These iterations of MACs largely failed to provide adequate downside protection during the 2000-02 bear equity market and 2008 Global Financial Crisis (GFC). The investment community responded by emphasizing risk management and expanding the MAC toolkit to include shorting and derivatives, as well as untethering them from a static market benchmark (e.g., a 60/40 portfolio), which could sink a strategy in a bear equity market. Concurrently, interest in risk premia and risk parity was reinvigorated by investors seeking return generation and risk diversification beyond traditional allocations.

This paper examines the latest generation of outcome-oriented MAC strategies—most of which were launched after the GFC. These MAC strategies vary widely in investment approach, complexity, and targeted outcomes. To assist in evaluating them, Callan has developed four broad categories of MACs:

- Callan Absolute Return MAC
- Callan Long Biased MAC
- Callan Risk Parity MAC
- Callan Risk Premia MAC

Categorizations are often difficult due to some overlap in product characteristics, but they greatly assist in determining how MACs can be employed in a portfolio, which will largely depend on an investor’s goals and philosophy, sensitivity to fees, and comfort with leverage, shorting, and derivatives.

Why the Interest?

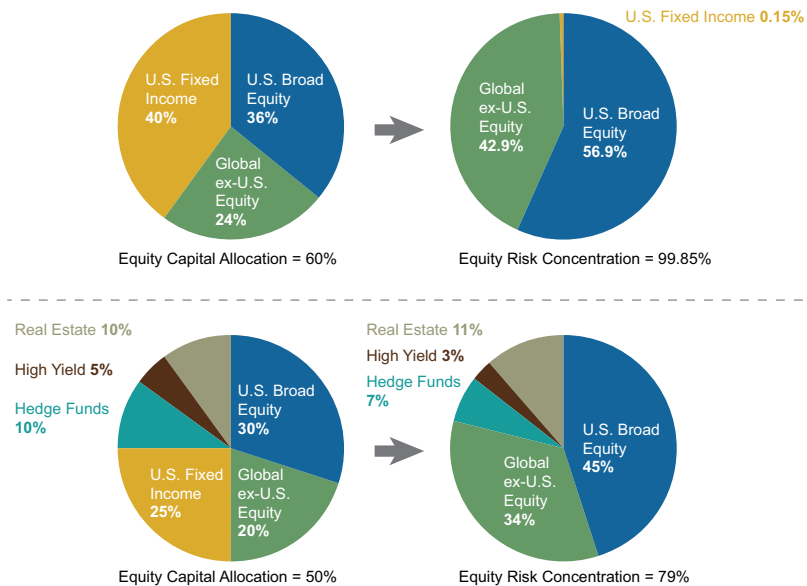
There are three main drivers of interest in MACs:

1. Diversification

Most long-term “well-diversified” portfolios are dominated by equity risk. Diversification into other asset classes such as private real estate, high yield, and hedge funds will help lower equity risk concentration, but perhaps not as much as one would think (**Exhibit 1**). While equities represent virtually the entire risk budget of a 60% equities/40% fixed income portfolio, adding those three asset classes by funding from equities and fixed income only reduces equity risk by 21 percentage points.

MAC strategies try to limit equity risk concentration, eliminate equity risk altogether, or dynamically manage equity risk with the goal of participating more in bull equity markets (i.e., upside capture) than in bear equity markets (i.e., downside capture). In some strategies, equity risk is low due to going long and short physical securities to express relative value trades or gain exposure to risk premia (e.g., value, carry,

Exhibit 1
Less Diversification,
but More Equity Risk



Note: Calculation of risk concentration is based on Callan’s 2018-2027 capital market assumptions.
Source: Callan

momentum). Risk Parity—among other MAC strategies—constrains equity risk as a certain percent of its risk budget. Other techniques may include dynamic risk management (e.g., lowering equity exposure when volatility rises), stop-loss strategies, and using derivatives to mitigate tail risk.

The outcome-oriented goal of most MAC strategies can be summarized as pursuing a long-term return hurdle between bonds and stocks while carefully managing and limiting risk along the way.

2. Drawdown Protection

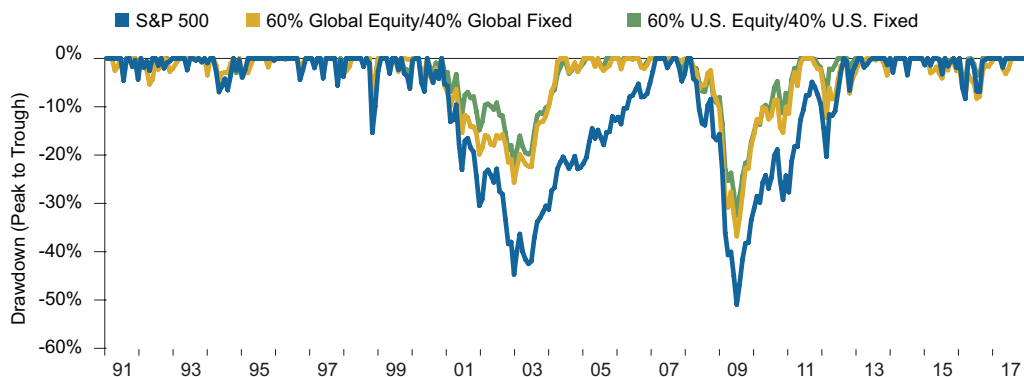
Related to equity risk concentration is the increased demand for downside protection in a portfolio. This stems from not only the two bear equity markets in the last 20 years but also the need to add some ballast. Many asset owners are running at maximum portfolio risk capacity as they strive to meet return hurdles that become further out of reach as capital market expectations erode. MAC strategies are seen as a way to offer some stabilization and diversification or to enhance return relative to low-yielding fixed income.

Mitigating large drawdowns can significantly bolster long-term performance since higher returns are required to offset down years. For example, a portfolio down 20% in year one must return 25% in year two to break even. An asset pool in negative cash flow mode (i.e., benefits or spending exceed contributions to the fund) would require an even higher return in year two.

During the GFC many “diversified portfolios” did not offer much downside protection when most risky assets lost value (**Exhibit 2**). Global tactical asset allocation (GTAA) products benchmarked to a 60/40 portfolio incurred large drawdowns during the GFC. Unshackling a MAC strategy from a market benchmark (e.g., a global 60% stocks/40% bonds portfolio) can be advantageous¹ as it liberates the manager to significantly reposition a portfolio quickly in anticipation of a transition to a different economic regime. Some MAC strategies depend on macroeconomic forecasting skills to reduce drawdown risk, while others with systematic investment approaches constrain equity risk or maintain a low correlation to equities.

The outcome-oriented goal of most MAC strategies can be summarized as pursuing a long-term return hurdle between bonds and stocks while carefully managing and limiting risk along the way. If successful, this will lead to attractive risk-adjusted returns (Sharpe ratios) over the long run.

Exhibit 2
Cumulative Drawdown From Peak to Trough



Global Equity = MSCI ACWI, Global Fixed = Bloomberg Barclays Global Aggregate, U.S. Equity = S&P 500, U.S. Fixed = Bloomberg Barclays Aggregate
Source: Callan

¹ An asset owner needs to be comfortable with monitoring MAC strategies in the absence of a market benchmark. A deep understanding of the investment process, drawdown controls, current positioning of the portfolio, and peer group opportunity set over the next few years will assist with ongoing evaluation.

3. Higher Risk-Adjusted Returns

In general, the investment industry expects 10-year forward-looking returns to be low, relative to history, across all asset classes. Most asset owners acknowledge that achieving an annualized return of 7%-8% over the next 10 years is going to be challenging given the current economic environment of low yields and elevated prices for U.S. stocks. Furthermore, public defined benefit (DB) plans, endowments and foundations, and Taft-Hartley plans are probably at full risk capacity, while many corporate DB plans are de-risking out of equities and alternative investments.

For many asset owners, higher return per unit of risk is more appealing than ever. With cleverly stated goals of “equity-like returns with less risk” and the emphasis on risk-adjusted returns, MAC strategies are garnering interest. Many MAC strategies are targeting long-term returns of T-bills + 4%-6% or more with half the risk of equities. To put that in context, Callan’s 2018-2027 return/risk expectation for large cap U.S. equities is T-bills + 4.5% with 17.4% risk (Sharpe ratio = 0.258 (4.5/17.4)). MAC strategies are striving to deliver on their stated goals in various ways. In the next section we explain how Callan defines and categorizes MAC strategies and then elaborate on the primary sources of return and methods that are being employed to pursue a T-bills + 4%-6% return with half the risk of equities.

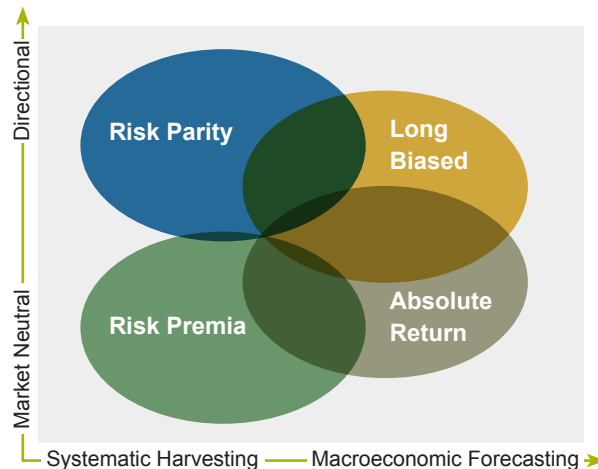
MAC Categories

Callan classifies MAC strategies into four categories based on the manager’s investment process/philosophy and historical-based metrics such as return, risk, correlation to stocks/bonds, and average stock/bond beta.² Two questions help determine where a MAC strategy belongs in our taxonomy:

1. *Where on the continuum from “market neutral” to “directional” does the strategy’s market exposure fall?*
2. *What is the basis for the strategy’s portfolio construction, on a spectrum from “systematic harvesting” to “macroeconomic forecasting?”*

The answers may be nuanced, and thus categorizing a MAC strategy into one of the four groups may not be a perfect fit. Hence, the MAC groups do overlap, making classification tricky³ (**Exhibit 3**).

Exhibit 3
The MAC Map



Source: Callan

² Callan’s definition of MAC strategies does not include target date portfolios, target risk portfolios, multi-asset income strategies, traditional balanced funds, ETF managed portfolios, managed futures/CTAs, options/volatility strategies, and (global) tactical asset allocation funds that closely track a blended benchmark of stocks and bonds.

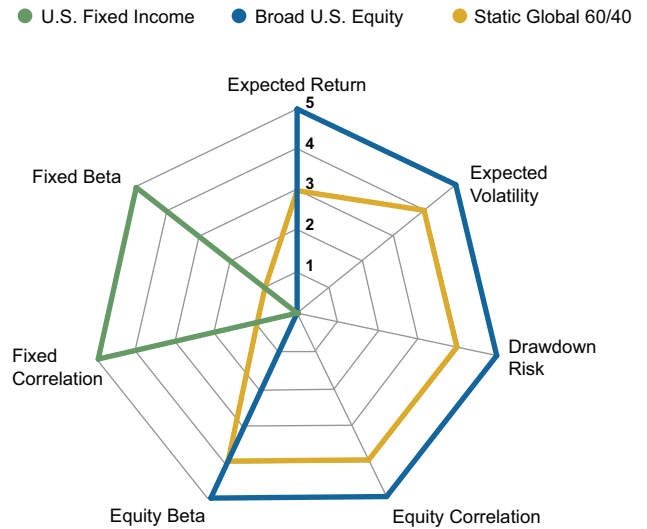
³ While Callan will assign each product to a single category, our search process accounts for the outcome-oriented nature of the product universe and rarely focuses on a single MAC category.

Exhibit 4
Spider Web Charts

How to Use the ‘Spider Web’ Charts

In the “spider web” graphs used throughout this paper, each spoke represents an important metric ranked from 0 to 5 (highest). The rankings for U.S. fixed income, U.S. broad equity, and a static global 60/40 portfolio serve as an important reference when evaluating MAC strategies. U.S. equities and U.S. fixed income are polar opposites: equities have maximum return, volatility, and drawdown risk while fixed income is at the minimum (rank of zero). A global 60/40 portfolio offers some diversification through lower volatility and drawdown risk, but it is still dominated by equity risk.

The lack of live track records, wide dispersion of strategy implementation, and dynamic nature of some MAC strategies make the rankings difficult and subjective. To account for this we may rank a characteristic (spoke) across a range.



Risk Parity

Definition: Seeks an equally risk-weighted, maximally diversified portfolio allocation, typically across traditional asset classes, to which leverage is applied to achieve the desired return or volatility

Categorization Criteria:

1. Market Neutral vs. Directional: Largely **directional**
2. Systematic Harvesting vs. Forecasting: Primarily focus on systematic **harvesting** of traditional market risk premia (equity, rates, inflation, commodities, currencies)

Risk Parity strategies may be the oldest and most easily defined category in our MAC universe, growing out of Harry Markowitz’s Modern Portfolio Theory work in the early 1950s that was expanded by James Tobin in the late 1950s to allow for the use of leverage. Their “risk balancing” approach addresses one of the chief criticisms of institutional portfolio design: the concentration of total portfolio risk in equities.

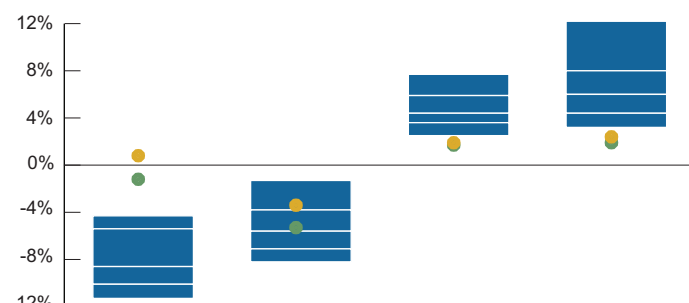
Once the risk-balanced unlevered allocation to asset classes is determined, the portfolio is levered to achieve a targeted risk exposure. Institutionally available products typically target volatility in the 8%-15% range, although customized targets are available for large mandates.

Risk Parity strategies are frequently criticized for their “duration beta” due to the levered bond allocation. In practice, approximately five turns of leverage is required to boost the expected volatility of fixed income to parity with equities, based on Callan’s 2018-2027 Capital Market Projections. Declining interest rates have been a substantive tailwind to Risk Parity products, and rising rates (i.e., higher-than-market expectations

indicated by a forward curve) may be a headwind to these strategies in the future. In a bear equity market, a levered bond portfolio may provide significant downside protection to offset poor stock returns. However, fixed income results are but one component of Risk Parity outcomes. **Exhibit 5** contrasts four interesting and unique historical quarters for Risk Parity strategies—Taper Tantrum, China Syndrome, Commodities Rally, and Brexit/Energy.

The Taper Tantrum stemmed from the Federal Reserve’s release of minutes on May 22, 2013, that caused rates to spike. The yield on the 10-year U.S. Treasury rose nearly 100 basis points in two months, from 1.66% on May 1 to 2.52% by June 30. Many Risk Parity products saw drawdowns exceeding 10%. In the third quarter of 2015, when bonds held up well while stocks and commodities struggled amid a plunge in the Chinese stock market, Risk Parity products struggled as well. On the positive side, muted returns from equities and fixed income can be boosted dramatically when other asset classes are rising. During the Commodities Rally in the first quarter of 2014, and amid Brexit and the oil rally in the second quarter of 2016, commodities and currencies drove solid Risk Parity results well in excess of modest equity and fixed income returns.

Exhibit 5
How Risk Parity MACs
Performed During Key
Market Periods



	Taper Tantrum 2Q13	China Syndrome 3Q15	Commodities Rally 1Q14	Brexit/ Energy 2Q16
10th Percentile	-4.3	-1.3	7.7	12.2
25th Percentile	-5.4	-3.8	5.9	8.0
Median	-8.6	-5.6	4.4	6.0
75th Percentile	-10.1	-7.1	3.6	4.4
90th Percentile	-11.3	-8.2	2.5	3.2
60% U.S. Equity/ 40% U.S. Fixed	0.8	-3.4	1.9	2.4
60% Global Equity/ 40% Global Fixed	-1.2	-5.3	1.7	1.9

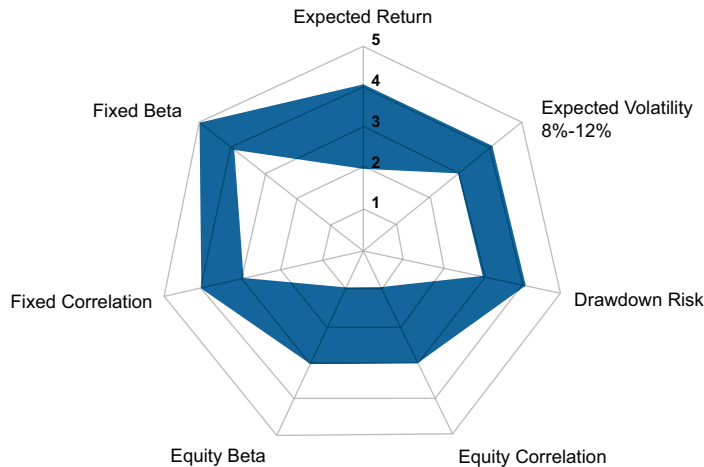
Source: Callan

While risk parity is academically definable, solutions providers almost universally diverge from purely systematic harvesting of balanced traditional risk premia. Generally, this occurs in two ways:

1. Introduction of an expanded opportunity set including alternative risk premia such as momentum, carry, volatility, or value.
2. Use of macroeconomic forecasting or fundamental valuation to tilt the risk-balanced allocation toward assets perceived to offer a better risk/return profile.

These modifications can cause Risk Parity strategies to adopt elements of Callan’s other MAC categories. For Risk Parity products, the measures of equity correlation and equity beta can vary materially depending on the approach to constraining equity risk as a share of the portfolio risk budget.

Exhibit 6
Risk Parity
Spider Web



- High correlation and beta to fixed income is a defining feature of Risk Parity strategies.
- Equity correlation and beta varies somewhat, although equity risk is typically constrained to 25%-50% of total portfolio risk.
- To be considered successful, Risk Parity strategies need to beat a global 60/40 portfolio over the long run.

Risk Premia

Definition: Focus on systematic exposure to compensated alternative risk premia, such as value, carry, momentum, quality, size, and volatility

Categorization Criteria:

1. Market Neutral vs. Directional: Largely **market neutral**. Some strategies also hedge away “latent” equity beta that may arise from exposure to some underlying factors.
2. Systematic Harvesting vs. Forecasting: Heavily **systematic**; however, some strategies employ factor timing.

Exhibit 7 shows a hypothetical set of alternative risk factors that might go into a Risk Premia solution, although providers may go beyond those listed here. No consensus exists in the industry on how risk factors are defined and which will be rewarded and persistent. Investments are typically made across a wide range of asset classes—equities, fixed income, currencies, and commodities.

Exhibit 7
Factors in Risk Premia
Solutions

	Value	Carry	Quality	Size	Volatility	Momentum <i>Cross Sectional</i>	Trend <i>Time Series</i>
Equities <i>Index</i>	✓			✓	✓		✓
Equities <i>Single Name</i>	✓	✓	✓	✓		✓	
Fixed Income	✓	✓			✓		✓
Commodities	✓	✓			✓		✓
Currencies	✓	✓			✓		✓

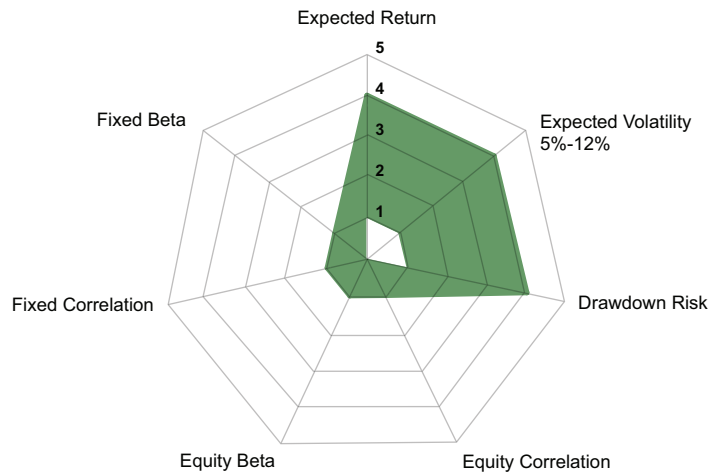
See Appendix (“The Factor Zoo”) for descriptions of specific risk premia.

The other key elements of Risk Premia strategies include the level of targeted volatility and allocation of exposure to various factors. Strategies typically target 7%-12% volatility; however, targets as low as 5% and as high as 14% exist. Factor weighting typically reflects the manager's investment philosophy and may range from equally risk-weighting individual factors or factor groups, to maximizing return per unit of risk through optimization and factor timing.

Leverage, to some extent, is inherent in all Risk Premia strategies. As most alternative risk premia factors are generally market neutral, implementation is done on a long-short basis. Additionally, some of the factors in isolation have a very low expected return and are levered to make them relevant in the total strategy context. For example, over the past decade one fixed income value factor definition exhibited an unlevered 12-month average volatility of just 1.8% with commensurately low return, albeit a high Sharpe ratio. That factor would need to be levered more than five times to be used in an equal risk-weighted strategy with a 10% volatility target to generate meaningful return.

Also central to Risk Premia strategies are the promised diversification benefits. In long-term observations of simulated performance and recent live track records, these strategies have exhibited very low return correlation with traditional equities and fixed income.⁴ Underlying factors also largely exhibit low or no correlation with *each other*, and as a result our expectation is for wide dispersion and low correlation among the Risk Premia peer group.

Exhibit 8
Risk Premia
Spider Web



- Low correlation and beta to equities and fixed income. A rank of 1 for correlation and beta corresponds to a range of 0-0.25.
- Expected return is primarily a function of leverage and portfolio construction. Although most track records are limited, Callan has observed wide dispersion in manager performance over time. Implementation risk is very high in this MAC category. We rank expected return from 1 to 4 to reflect the amount of leverage and implementation risk.
- To be considered successful, a Risk Premia strategy with moderate to high volatility needs to beat a global 60/40 portfolio over the long run.

⁴ Live track records are very limited for Risk Premia strategies. Much of the long-term demonstrable low correlations to traditional asset classes are backtested results.

Absolute Return

Definition: Generally lower-risk solutions emphasizing downside protection and using a wide range of return drivers

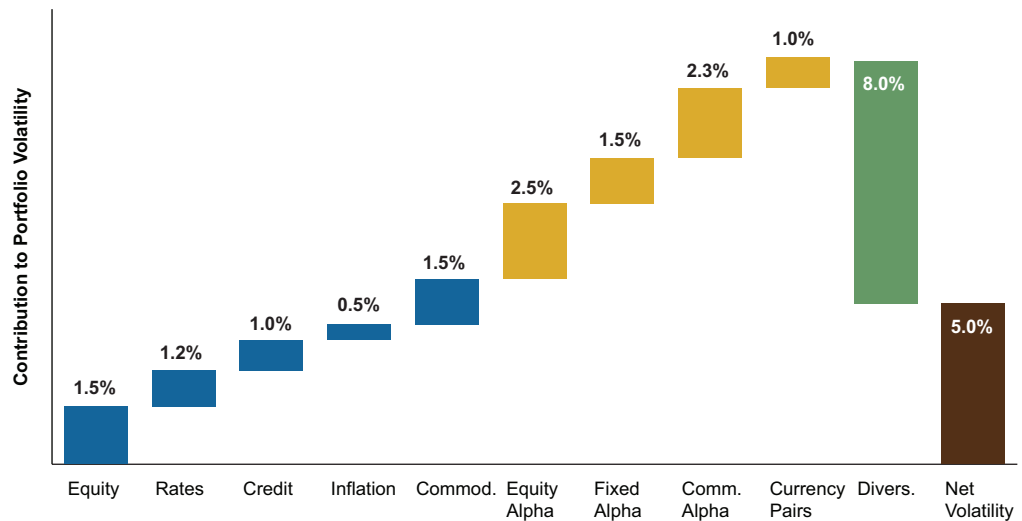
Categorization Criteria:

1. Market Neutral vs. Directional: Heavily biased toward **market neutral** and relative value investment ideas; generally engage in only a very modest amount of directional equity and fixed income exposure. Most of the return is expected to be driven by alpha sources, not traditional beta.
2. Systematic Harvesting vs. Forecasting: **Forecasting**; its accuracy will be a primary driver of success. Some pursuit of traditional or alternative risk premia may be present, but it will largely be driven by macroeconomic forecasting.

Diversification and risk management are central to Absolute Return MAC strategies. Strategies carefully measure each position's risk contribution on a standalone basis as well as in a total portfolio context. Some strategies will expect each investment idea to contribute positive expected returns while others will engage in explicit hedging and tolerate some "insurance cost."

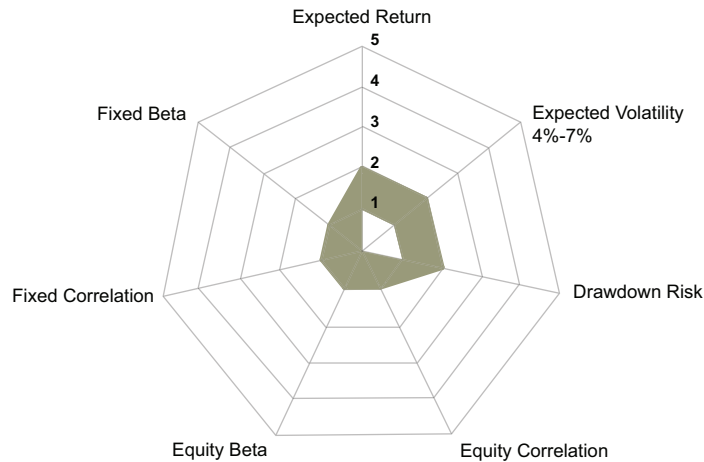
The "waterfall" chart (**Exhibit 9**) shows how a typical Absolute Return MAC strategy might allocate risk. The chart aggregates standalone risk exposures and then offsets them with a diversification benefit (from the low correlations the positions have to each other). Net volatility is the strategy's expected risk after factoring in that benefit.

Exhibit 9
**How Absolute Return
MACs Allocate Risk**



Source: Callan

Exhibit 10
Absolute Return
Spider Web



- Absolute Return resembles the spider web for Risk Premia but is scaled down significantly for lower risk/return expectations and lower drawdown risk.
- A rank of 1 for correlation and beta corresponds to an expected range of 0-0.25. Not all Absolute Return strategies maintain this low level of exposure and correlation to equities and fixed income. Some permit a higher growth bias (equities) or more defensive positioning (fixed income), depending on global thematic views.
- We do not expect most Absolute Return strategies to keep pace with a global 60/40 portfolio over the long run, although it may be possible for top-performing managers.

Long Biased

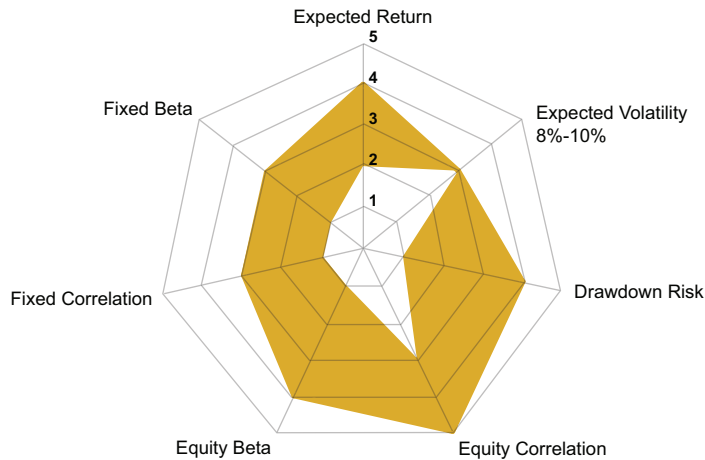
Definition: Take directional exposure to a wide range of traditional and alternative risk premia, often with a focus on dynamic risk management and downside protection

Categorization Criteria:

1. Market Neutral vs. Directional: Largely **directional**. Relative value and market neutral exposures are frequently present.
2. Systematic Harvesting vs. Forecasting: **Forecasting**; its accuracy will be the primary driver of success. Some traditional or alternative risk premia may be present but it will largely be driven by macroeconomic forecasting.

Much like Absolute Return MACs, diversification and dynamic risk management are central to Long Biased MAC strategies. The two categories mainly differ on the risk allocation between directional and non-directional exposures. Long Biased strategies tend to have more directional exposures, likely leading to higher risk and return expectations, drawdown risk, and higher correlation to equities. Long Biased strategies employ drawdown controls—dynamic risk management, diversification, tail risk hedging—to a varying extent. Most Long Biased strategies employ both long and short exposures, but some long-only strategies exist in our MAC group.

Exhibit 11
Long Biased
Spider Web



- Many manage risk to 8%-10% over the long run but risk may be higher when the manager observes mispricing opportunities in a high volatility environment. In the last five years—a low volatility environment—the average standard deviation of Long Biased strategies has been only 6.7%.
- The beta spokes depict wide ranges since the constituents in Callan’s Long Biased group are benchmark agnostic and dynamic.
- Expected to have high correlation with equities, which is not to imply a lack of downside protection if equity beta is dramatically reduced in anticipation of a downturn.
- How successfully the manager anticipates a transition to higher inflation, recession, or some other adverse scenario will largely determine the long-term success of the strategy.
- To be considered successful, a Long Biased strategy needs to beat a global 60/40 portfolio over the long run.

Implementation

The reasons to include MAC strategies in a portfolio can vary widely. An asset owner may wish to diversify away from equity risk concentration, reduce drawdown risk, or seek higher risk-adjusted returns. The outcome-oriented nature of MAC strategies assists with implementation. Stated goals include “equity-like returns with less risk,” “outperform a global 60/40 portfolio,” or higher risk-adjusted returns (Sharpe ratio targets typically range from 0.5 to 1.0 over three- to five-year rolling periods). Funding a MAC allocation pro-rata from the portfolio with the aim of beating a global 60/40 portfolio on a risk-adjusted basis is a common approach.

Selecting MAC strategies may largely depend on confidence in the manager’s ability to deliver alpha and the asset owner’s comfort with leverage. Each MAC category relies on different sources of return and levels of leverage to achieve its goals. While directional exposures to traditional beta (equity, rates, credit, inflation, liquidity) exist in a traditional 60/40 portfolio, they should be compensated risk exposures over the long run.⁵ MAC strategies relying more on manager skill (alpha) can be great diversifiers due to non-directional exposures, but persistent positive alpha tends to be elusive. Higher returns with leverage

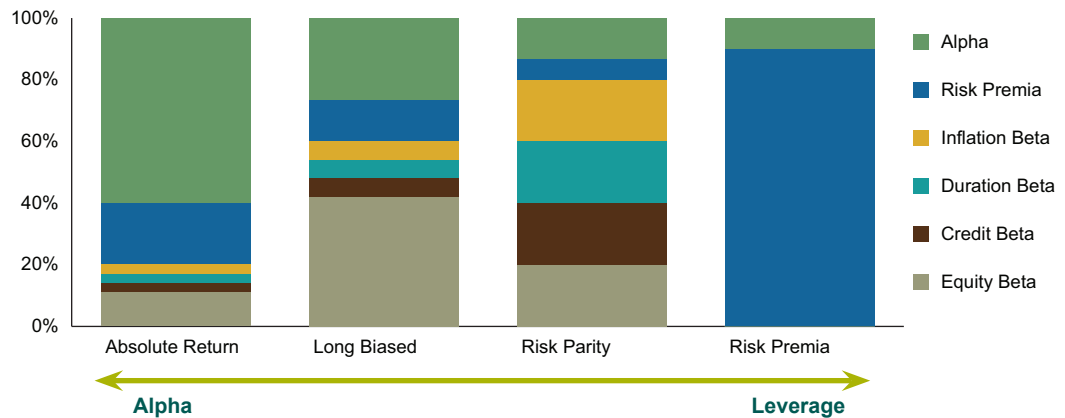
⁵ There is actually no guarantee of a compensated risk premia over any time period. A guarantee would mean no risk. More accurately, the probability of realizing a compensated risk premia approaches one as the investment horizon lengthens.

may be the solution for some investors, but leverage can cut both ways. A deep understanding of levered returns and the ability and willingness to incur a worst-case scenario are necessary before selecting Risk Parity or Risk Premia strategies.

Exhibit 12 illustrates how MAC strategies are attempting to generate returns from three primary sources:

1. Traditional beta: e.g., equities, credit, rates, inflation
2. Risk premia: e.g., value, momentum, carry, quality, volatility, size
3. Alpha: e.g., macroeconomic forecasting, relative-value trades, security selection

Exhibit 12
Sources of MAC
Returns



Source: Callan

The MAC categories are also positioned on a spectrum from alpha to leverage. The graphic is highly generalized—the attribution across the three sources of return will vary widely within each MAC category and across time (e.g., there are low-volatility Risk Premia strategies that do not require significant leverage).

Leverage carries a number of risks: amplification of investment losses, operational risk, and abandonment risk (i.e., terminating a MAC strategy at the wrong time—often following a drawdown period). The risks associated with leverage should be well understood by the asset owner. Gross (net) leverage ratios for Risk Premia and Risk Parity strategies are 8-15x (-0.4 to 0.4x) and 2-3x (2-3x), respectively.⁶ But evaluating MAC strategies that use derivatives, whether to enhance returns or hedge risks, must go beyond looking at gross and net leverage ratios. The ratios will be fluid, are not uniformly calculated, and tell us nothing about basis risk.⁷

Leverage also exacerbates liquidity risk, as portfolios could be forced to sell assets in unfavorable environments and incur higher-than-expected transaction costs. Asset owners should conduct due diligence and develop high confidence in the risk management capabilities of the investment manager before investing. A MAC manager should have a high-quality risk management system with an experienced team of dedicated analysts who continuously monitor risk.

⁶ Gross Leverage = Longs + Shorts / Capital Invested. Net Leverage = Longs – Shorts / Capital Invested.

⁷ Basis risk is the risk that offsetting investments in a hedging strategy will not experience price changes in entirely opposite directions from each other.

An asset owner seeking diversification might gravitate to strategies with a low correlation to stocks since equity risk dominates traditional portfolios. However, investors should consider other characteristics such as return expectations, volatility, and drawdown risk. A higher-volatility uncorrelated return stream will contribute more standalone risk to a portfolio than a lower-volatility uncorrelated return stream, but the former will also increase diversification away from equities. In addition, while Risk Parity and Long Biased MACs are expected to have positive equity correlation, equity beta is either constrained by a risk budget or dynamically managed to potentially reduce drawdown risk.

To examine correlations, beta, volatility, drawdown risk, and their interrelationships, we employ Monte Carlo simulation analysis based on the generalized assumptions in **Exhibit 13**. The data are based on our understanding of the key characteristics of each MAC category and they are framed within Callan's 2018-2027 Capital Market Projections, which forecast low returns compared to historical levels. We expect 7.1% for global equities and 3.0% for U.S. fixed income annually over the forecast period, while cash is expected to return 2.25%.

Exhibit 13
Generalized
Characteristics of
MAC Categories

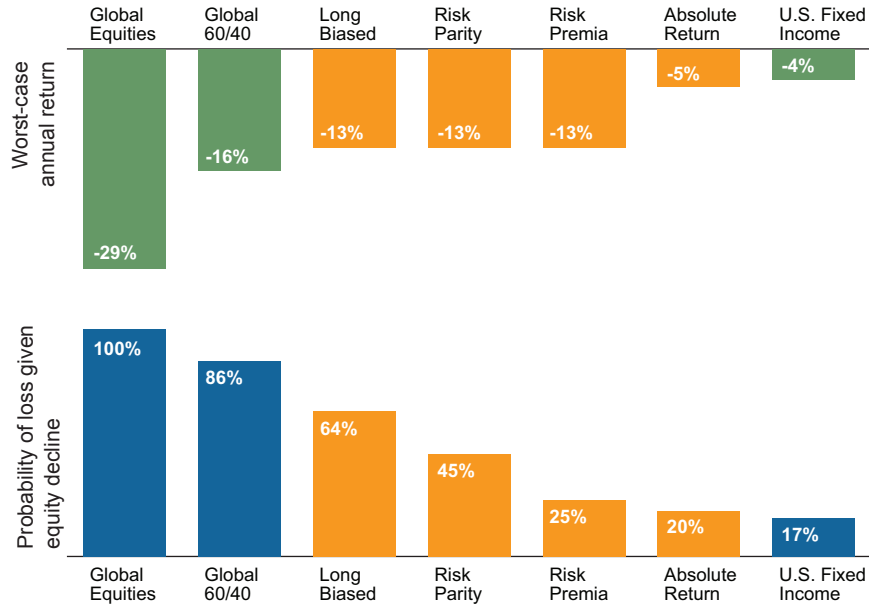
	Return	Standard Deviation	Sharpe Ratio	Correlation to Equity	Equity Beta	Correlation to Fixed Income	Fixed Income Beta
U.S. Fixed	3.00%	3.75%	0.20	-0.10	0.00	1.00	1.00
Absolute Return ¹	4.25%	5.00%	0.40	0.00	0.00	0.00	0.00
Global 60/40	5.80%	11.40%	0.31	0.98	0.60	0.00	0.00
Long Biased ²	6.25%	10.00%	0.40	0.85	0.45	0.00	0.00
Risk Parity ³	6.25%	10.00%	0.40	0.55	0.25	0.45	1.15
Risk Premia ⁴	6.25%	10.00%	0.40	0.00	0.00	0.00	0.00
Global Equities	7.10%	18.85%	0.26	1.00	1.00	-0.10	0.00

Important Caveats:

- 1 Absolute Return strategies tend to have some directional exposure but we assumed 100% non-directional exposure.
- 2 Long Biased is modelled with high correlation to equities and a static equity beta of 0.45. Above-average Long Biased managers may deftly reposition the portfolio to mitigate drawdown risk, an outcome not captured in the simulation analysis.
- 3 Equity beta for Risk Parity is assumed to be 0.25 although some strategies strategically or tactically have a higher long-term growth bias.
- 4 Risk Premia may have some latent equity correlation and beta depending on the factors pursued (e.g., time-series momentum) and whether a beta-hedging program is overlaid on the strategy.

Source: Callan

Exhibit 14
Drawdown Protection
of MAC Categories



Source: Callan

The upper bar chart in **Exhibit 14** illustrates the magnitude of a worst-case annual return (97.5th percentile event) for traditional asset classes (green) and each MAC category (orange) based on the assumptions in Exhibit 13. For example, a worst-case scenario for global equities is a -29%⁸ annual return. Absolute Return and the 100% bond portfolio reduce drawdown risk significantly with a worst-case annual return of -5% and -4%, respectively. While Long Biased, Risk Parity, and Risk Premia have the same magnitude of drawdown (the return/risk profiles are the same), the likelihood of it corresponding with a drawdown in equities is different due to the assumed correlation with equities.

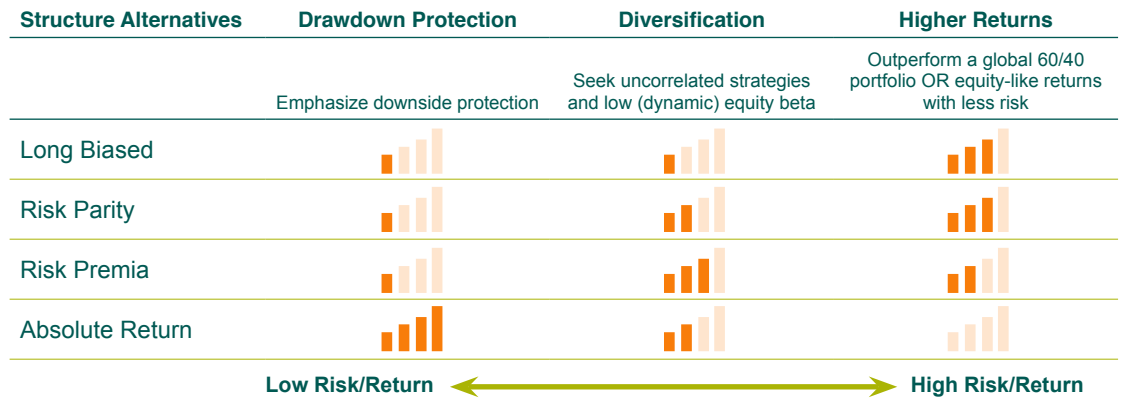
The bottom bar chart shows the probability of the MAC category incurring a negative return coincident with an annual global equity decline. A global 60/40 portfolio has a high likelihood of incurring a negative return when equities are down since equity risk dominates a traditional static 60/40 portfolio. Long Biased has a high probability at 64% under the assumption the investment strategy is static. Risk Parity lowers the probability further to 45% presuming equity risk is equally weighted with other asset classes in the portfolio. Risk Premia and Absolute Return have a low probability due to a zero modeled correlation with equities. Although the return/risk profile of U.S. fixed income is low, its expected negative correlation with equities leads to a more reliable risk offset to equities.

For MAC strategies, the cost of downside protection can be explicit (e.g., purchasing put options) or implicit. The latter is far more prevalent among MAC strategies, and the low equity beta strategies may underperform equities and a global 60/40 portfolio during bull equity markets. Indeed, this has been the case for many MAC strategies over the last five years.

⁸ Global equities (MSCI ACWI) were down 42% in calendar year 2008. At an expected volatility of 18.85%, this return occurs deep in the tail as a 99.4th percentile event. However, actual volatility was much higher than 18.85% during the 2008 GFC.

Most asset owners incorporate MAC strategies by strategically allocating 5%-10% to a new sleeve in the portfolio. This new sleeve may be called “Absolute Return” or “Diversifying Strategies” and may also include other alternative strategies such as hedge funds, trend following, and options-based strategies, which are outside the scope of this paper. The suitability of each MAC category primarily depends on investment goals. The table below illustrates the likelihood of each MAC category fulfilling one of three primary investment goals—drawdown protection, diversification, or higher returns.

Exhibit 15
MAC Structure
Alternatives



Source: Callan

A focus on drawdown protection may naturally lead to Absolute Return strategies due to the expected low risk/return profile and low expected correlation to equities. If higher returns are sought, Absolute Return strategies may not be a good fit unless there is high conviction in the manager’s ability to add alpha through relative-value trades and shifting between directional and non-directional exposures.

All four MAC strategies are expected to offer good diversification to a traditional portfolio. Long Biased may be seen as less of a potential diversifier due to an average equity beta of 0.4-0.6. However, Long Biased strategies should still be carefully considered since equity beta (risk) is dynamically managed. An above-average Long Biased manager should be able to mitigate the magnitude of a drawdown and, ideally, outperform a global 60/40 portfolio over the long run. In other words, one would look to a Long Biased manager to do much better than a static 60/40 portfolio during a bear equity market.

Risk Parity strategies should be viewed as providing good diversification to a traditional portfolio since they are deriving equal risk contributions from equity, rates, inflation, commodities, currencies, and sometimes credit. This approach requires leveraging bonds, which should provide good diversification in a bear equity market (flight to quality environment).

High volatility (>10%) Risk Premia strategies are typically viewed as the best diversifier, as most style factors have historically exhibited negative or low positive correlation to equities. Low volatility Risk Premia strategies are still expected to offer good diversification but may be a better fit for an emphasis on downside protection in lieu of higher returns.

MAC diversification can be powerful across categories and even within each category as performance relies heavily on manager skill and investment strategies vary extensively. MAC diversification is strongly encouraged to the extent that higher fees and the additional monitoring can be absorbed. A multi-manager solution can also address the common situation where multiple investment goals are sought: For example, a strategic allocation that emphasizes downside protection across all economic scenarios (column 1 of Exhibit 15) and is expected to beat a global 60/40 portfolio over the long run (column 3 of Exhibit 15).

The funding source may also influence the selection of each MAC strategy as the goal of higher returns is relative. Thus, funding Absolute Return from fixed income is expected to increase return and risk. Asset owners looking to de-risk their portfolio with the goal of not giving up much return may fund higher volatility MAC strategies (8%-14% volatility) from equities.

Hedge Funds

MAC strategies may be integrated into an existing hedge fund program. Just like hedge funds, MAC strategies can short, employ leverage, and hedge, yet typically offer lower fees,⁹ improved transparency, and liquidity.¹⁰ Having said that, Callan believes there are hedge fund managers that can deliver a robust uncorrelated return pattern, net of fees. These managers offer a differentiated source of return primarily from illiquidity and/or alpha, where the source of return is complex and cannot be systematically replicated.

MAC strategies can serve as a low-cost core allocation complemented by high-conviction satellite hedge fund strategies that offer a differentiated source of return. This structure may be more suitable for direct hedge fund strategies in contrast to a hedge fund of funds (FOF), which is typically diversified across a wide range of sub-strategies. Hedge FOFs focus on highly idiosyncratic and less liquid niche strategies that are a very limited opportunity set. However, as hedge FOFs continue to come under pressure, more offerings emphasizing these differentiated strategies may emerge.

We are not ruling out the suitability of a hedge FOF serving as the core allocation instead of a MAC strategy. Although hedge FOFs add an additional layer of fees and are typically less transparent, they offer diversification and professional oversight, and many have much longer track records than MAC strategies. If the risk exposures of a hedge FOFs are well understood and there is conviction in the strategy, specific MAC strategies may complement the FOFs.

Conclusion

The latest generation of multi-asset class investing is encouraging. MAC strategies can short, lever, and hedge. They are liquid, transparent, and typically offer a flat fee ranging from 50 to 150 bps.

However, short track records, more complexity than traditional asset classes, and lack of a market benchmark make performance evaluation more challenging. In addition, MAC strategies have high implementation risk as long-term success will largely depend on manager skill. Investors must build confidence in the investment team and process, and be disciplined when the MAC strategy lags in a bull equity market. MAC

⁹ Over 95% of MAC strategies offer a flat fee. A performance fee (carry) is rare.

¹⁰ Most products offer at least monthly liquidity. There are no lock-ups or gates.

strategies range widely by approach and Callan expects wide manager dispersion. We have developed four categories of MAC strategies: Long Biased, Absolute Return, Risk Premia, or Risk Parity. Each MAC category has defining characteristics that may or may not be a good fit for a portfolio. MAC strategies can be combined and structured in a number of ways to achieve investment objectives and desired risk tolerance. Callan has seen increased interest and traction in MAC strategies over the last year and expects this trend to continue.

Appendix: The Factor Zoo

Value: The value factor centers on the observation that assets with low valuations outperform assets with high valuations over the long term. Value is most often expressed in equity, fixed income, and currency asset classes.

Carry: The carry factor centers on the observation that high-yielding assets outperform low-yielding assets over the long term. Carry can be implemented in various ways across all four asset classes.

Quality: The quality factor captures the tendency for higher-quality assets to outperform lower-quality assets. Quality is generally an equity factor and most often expressed with individual stocks.

Size: The size factor captures the tendency for smaller companies to outperform larger companies. Size is generally an equity factor.

Volatility: The volatility factor centers on the behavioral phenomena that investors tend to overpay for downside protection. For investors willing to provide protection against major drawdowns, an “insurance premium” can be captured in exchange for protection, albeit with meaningful left-tail risk. Volatility is most often expressed in equities, but can be implemented across all asset classes.

Momentum/Trend: The momentum factor captures the behavioral phenomena wherein recent asset performance tends to continue in the near future. Momentum factor expressions can be constructed in two very broad ways. The momentum factor can be beta neutral through offsetting long positive momentum positions with short negative momentum positions within an asset class, often called cross sectional momentum. Alternatively, momentum can be directional where trending assets are held long or short with no specific offsetting position, often called time series momentum or trend following. Cross sectional momentum is most often implemented with single name equities. Trend following can be implemented across all four asset classes.

These factor descriptions are necessarily very broad and belie a tremendous amount of complexity in actual design, construction, and implementation by investors. Within a specific factor, actual methodologies vary greatly from one expression to the next. “Equity Value,” for example, has scores of live investable definitions and many more academic backtests. Interestingly, despite attempting to harvest the same conceptual risk premium, results of the various expressions of a specific factor often exhibit high levels of performance dispersion and low cross correlations.

About the Authors



Mark Andersen is a Senior Vice President in Callan's Trust Advisory Group (TAG), where he is responsible for asset allocation, manager structure, and general investment research for discretionary portfolios. He also supports firm-wide research on liquid alternatives, multi-asset, and real asset investments, and serves as a portfolio strategist. Mark is a member of Callan's Defined Contribution and Alternatives Review Committees and is a shareholder of the firm.

Prior to joining TAG, Mark was a member of Callan's Independent Adviser Group for 10 years. In this role he focused on capital market research, investment manager research, and portfolio construction in support of Callan's middle market adviser investment platform. Prior to joining Callan, Mark worked as Director of Research at Hewins Financial Advisors, where he was responsible for manager research, performance measurement, and operations. Before joining Hewins, Mark was a technology, medical device, and media research analyst at Robert W. Duggan and Associates.

Mark graduated from the University of California at Santa Barbara with a degree in Economics.



Jason L. Ellement, FSA, CFA, MAAA, is a Senior Vice President and a consultant in the Capital Markets Research group. He is responsible for assisting plan sponsor clients with strategic planning, conducting asset/liability studies, developing optimal investment manager structures, and providing custom research on a variety of investment topics. Jason is a regular instructor at the "Callan College" and a shareholder of the firm.

Jason joined Callan in 2002 and has over 18 years of experience in the pensions and investments industry. Prior to joining Callan, Jason practiced as a pension actuary for a prominent public retirement system and an international consulting firm.

Jason is a Fellow of the Society of Actuaries and a member of the Academy of Actuaries. He earned the right to use the Chartered Financial Analyst designation and is a member of the CFA Society of San Francisco. Jason graduated with First Class Honors from the University of Manitoba, Canada with a BSc in Actuarial Science & Statistics.

If you have any questions or comments, please email institute@callan.com.

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Callan

Corporate Headquarters

600 Montgomery Street
Suite 800
San Francisco, CA 94111
800.227.3288
415.974.5060

www.callan.com

Regional Offices

Atlanta
800.522.9782

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