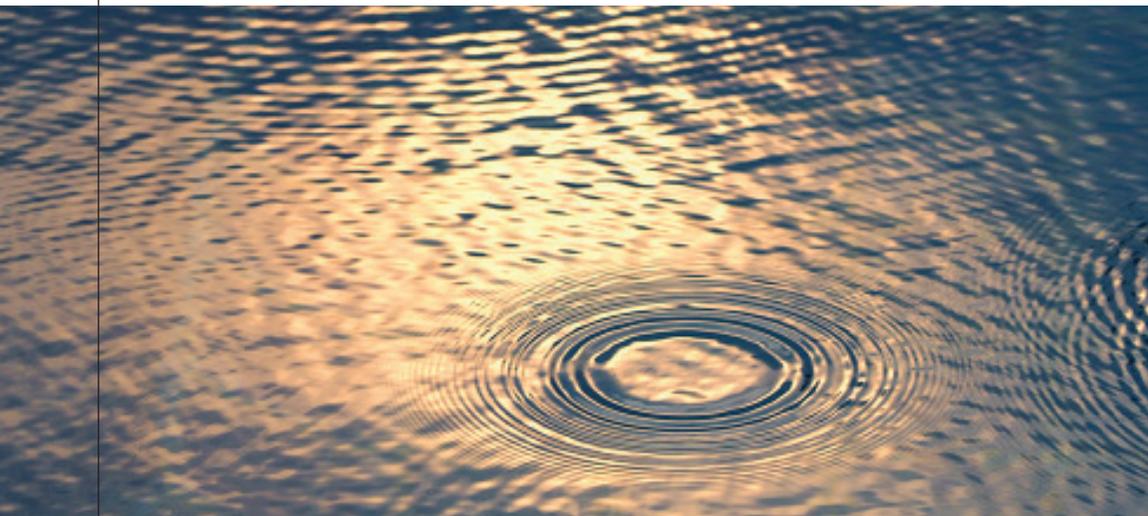


Dynamic Asset Allocation: Great Expectations



Below the ocean's surface, individual fish swim in schools of collective behavior. Above, the tides, waves, and ripples reflect and distort both the aquatic environment below and the terrestrial surroundings above. Similarly, investment professionals scrutinize the global capital markets from above and below. Over time, the distinction between top-down and bottom-up has blurred; investors increasingly comprehend that many things transpiring below the surface are wrought by the ebbs and flows of tides and waves. Asset allocation, in its many forms, is the discipline of exploiting evidence discernible at the ocean's surface.

This content is reproduced and republished from *Multi-Asset Strategies: The Future of Investment Management* with permission from CFA Institute. All rights reserved. William Blair is not affiliated with CFA Institute.

May 2018
Global Multi-Asset

Brian Singer, CFA, Partner

3. DYNAMIC ASSET ALLOCATION: GREAT EXPECTATIONS

Brian D. Singer, CFA

Out into the deep of the great dark world,
Beyond the long borders where foam and drift
Of the Sundering wave are lost and gone
On the tides that plunge and rear and crumble.

—*Carl Sandburg, “From the Shore”*¹

Below the ocean’s surface, individual fish swim in schools of collective behavior. From above, the tides, the waves, and especially the ripples reflect and distort both the aquatic environment below and the terrestrial surroundings above. This singular system seems quite different from each perspective. Similarly, investment professionals scrutinize the global capital markets from above and below. Top-down investors seek to ride macrothematic tides, navigate intervening waves, and ignore distracting ripples. Conversely, bottom-up analysts endeavor to benefit from unique insights into individual company characteristics and prospects. Over time, the distinction between top-down and bottom-up has blurred; investors increasingly comprehend that many things transpiring below the surface are wrought by the ebbs and flows of tides and waves. Asset allocation, in its many forms, is the discipline of exploiting evidence discernible at the ocean’s surface.

3.1. AN ARRAY OF ASSET ALLOCATION STRATEGIES

Over the years, there has been much debate over the percentage of return and return variation attributable to asset allocation. The seminal work was written by Gary Brinson and Nimrod Fachler to “propose

¹Carl Sandburg, “From the Shore,” in *Chicago Poems* (New York: Henry Holt, 1916): www.bartleby.com/165/.

an analytical framework for evaluating the portfolio's performance."² Subsequent research by Brinson and others, using this framework, found that the investment *policy* benchmark explains about 90% of the *variation* in quarterly returns.³

More recently, Roger Ibbotson and Paul Kaplan explored attribution from several angles, providing greater insight.⁴ They concluded that "about 90 percent of the variability in returns of a typical fund *across time* is explained by policy, about 40 percent of the variation of returns among funds [*across funds*] is explained by policy and on average about 100 percent of the return *level* is explained by the policy return level." The first conclusion corroborates the conclusion of Brinson and others. The second conclusion contributes to the existing body of knowledge by using a larger database to address performance variation across funds. The last conclusion is a gross-of-fee tautology when studying large numbers of funds.

Despite the capital market characteristics that these studies confirm, relatively limited resources and primitive tools often direct asset allocations. The early Brinson and more recent Ibbotson studies' conclusions pertain to *policy asset allocations*. Given that the policy asset allocation drives 90% of the return variation *over time* and 40% *across funds*, asset owners can reasonably expect to steer their portfolio outcomes toward long-term goals by establishing policy asset allocations. These policy allocations are based on equilibrium expected returns and risks of all policy-encompassed asset classes. Equilibrium expected returns are those that provide a real risk-free return and an inflation premium available to all asset classes and risk premiums unique to each asset class. The risk premiums are derived from the nondiversifiable risk

²Gary P. Brinson and Nimrod Fachler, "Measuring Non-U.S. Equity Portfolio Performance," *Journal of Portfolio Management*, vol. 11, no. 3 (Spring 1985): 73–76.

³Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower, "Determinants of Portfolio Performance," *Financial Analysts Journal*, vol. 42, no. 4 (July/August 1986): 39–44; Gary P. Brinson, Brian D. Singer, and Gilbert L. Beebower, "Determinants of Portfolio Performance II: An Update," *Financial Analysts Journal*, vol. 47, no. 3 (May/June 1991): 40–48.

⁴Roger G. Ibbotson and Paul D. Kaplan, "Does Asset Allocation Policy Explain 40, 90, or 100 Percent of Performance?" *Financial Analysts Journal*, vol. 56, no. 1 (January/February 2000): 26–33.

embedded in an equilibrium covariance matrix. Thus, the equilibrium covariance matrix serves two purposes: to determine all asset class risk premiums and the risks needed to determine an efficient policy asset allocation.

A typical policy asset allocation includes some delineation of traditional asset classes, such as global equities and bonds; nontraditional assets, such as private equity, real estate, timber, and infrastructure; and strategies, such as hedge funds. These can be further segmented into market, sector, emerging, investment grade, high yield inflation linked, distinct types of private equity, and a variety of hedge fund strategies.

Many asset owners prefer to use *strategic asset allocations* (SAAs) that are slightly more flexible than their policy allocations. An SAA deviates from the invariant policy allocation for a period of time that is long but not as long as the policy horizon. Occasionally, say, annually or every few years, the asset owner makes a strategic tilt to the policy allocation to capture perceived capital market opportunities. Subsequent investment strategies are made relative to the SAA, as if it were the policy allocation. The SAA typically comprises small tilts away from the policy such that the portfolio remains aligned with the specific objectives and constraints that determine the policy mix.

In the early 1950s, Harry Markowitz and Bill Sharpe opened investors' eyes to and provided the theory for fund diversification. Their modern portfolio theory (MPT) not only guided policy allocations but also facilitated the development of rudimentary tools to affect efficient portfolios as circumstances changed. *Dynamic asset allocation* (DAA) and *tactical asset allocation* (TAA) emerged to help navigate these changes. DAA is longer term than TAA in its application.

DAA is built on the concept of intrinsic (or fundamental) value, a concept that was pioneered by Benjamin Graham early in the 20th century. In *Security Analysis*, Graham and his co-author, David Dodd, stated that an analyst's concern is "with the intrinsic value of the security and more particularly with the discovery of discrepancies between

the intrinsic value and the market price.”⁵ Further, they described speculative factors that influence price “through the intermediary of people’s sentiments and decisions.”⁶

In today’s parlance, intrinsic value is the present value of expected future cash flows discounted by an interest rate that reflects nondiversifiable risk. The long-term fundamentally determined intrinsic value of either an individual security or an index of such securities can be determined in this manner. According to Gary Brinson, DAA⁷ “means deviating temporarily from the normal policy mix. It is based upon judgments that one or more asset classes is in a state of disequilibrium with respect to the investment characteristics that were utilized in forming the policy mix.”⁸

DAA is a fundamentally driven, intermediate-term approach that rides the tide of discrepancies between intrinsic values and market prices. Intrinsic values exert a “gravitational” pull on asset and index prices that inexorably drives them toward equilibrium. An index’s price temporarily varies around, but is always drawn toward, its intrinsic value, as shown in **Exhibit 3.1**.

A dynamic asset allocator’s job would be relatively easy if prices converged on intrinsic values overnight; however, investors must abide reality. Because convergence does not occur overnight, investors must navigate the waves that jostle and potentially capsize their portfolio boats. Index prices’ deviations from intrinsic values have half-lives of about four years and can be said to substantially converge over an 8- to 10-year period.⁹

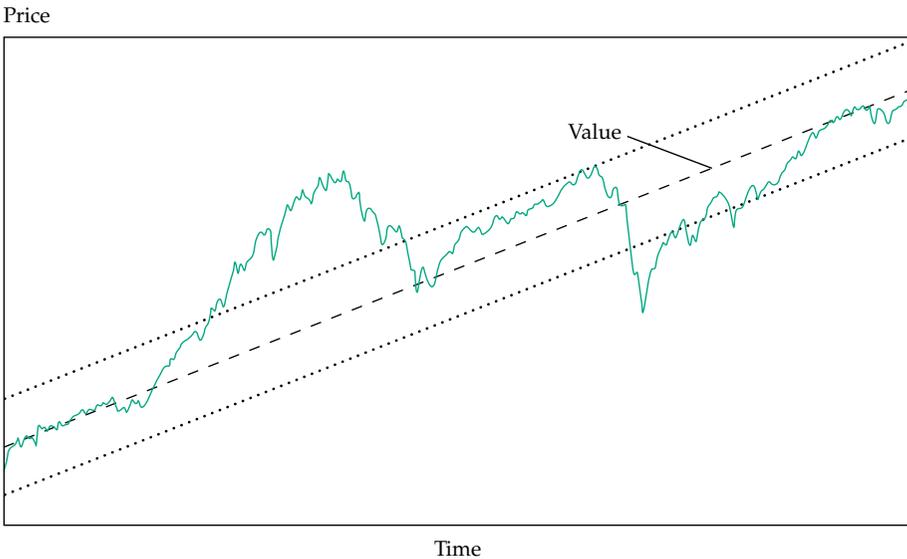
⁵Benjamin Graham and David L. Dodd, *Security Analysis: Principles and Technique*, 6th ed. (New York: McGraw-Hill, 2009): 64.

⁶Graham and Dodd, *Security Analysis*, 70.

⁷At the time of authorship, Brinson simply referred to “dynamic asset allocation” as “asset allocation.” The only distinctions were policy and asset allocations.

⁸Gary P. Brinson, “Asset Allocation vs. Market Timing,” *Investment Management Review* (September/October 1988).

⁹The half-life indicates how long it takes for half of the value/price discrepancy to close.

EXHIBIT 3.1. PRICE VARIATION AS IT CONVERGES ON INTRINSIC VALUE

Source: William Blair.

Brinson distinguishes tactical asset allocation (TAA) by describing market timing as “the alteration of an asset mix motivated by a forecast of future price change.”¹⁰ Considering shorter-term horizons, market timing references *global tactical asset allocation* (GTAA) and its domestic sister, TAA. Price movement *forecasts* are typically for relatively short horizons and are predicated on the analysis of past prices or underlying macroeconomic and geopolitical developments and such ratios as price to book, and market behavior or mass psychology. Whether one uses a technical analysis of price patterns or price momentum or a top-down fundamental analysis, the objective is to *forecast* future market price direction and magnitude.

To John Maynard Keynes, speculation was the forecasting of market psychology. From this perspective, GTAA and TAA

¹⁰Brinson, “Asset Allocation vs. Market Timing.”

are, in fact, largely concerned, not with making superior long-term forecasts of the probable yield of an investment over its life, but with forecasting changes in the conventional basis of valuation a short time ahead of the general public. They are concerned, not with what an investment is really worth to a man who buys it “for keeps,” but with what the market will value it at, under the influence of mass psychology, three months to a year hence. Moreover, this behaviour is not the outcome of wrong-headed propensity. . . . For it is not sensible to pay 25 for an investment of which you believe the prospective yield to justify a value of 30, if you also believe that the market will value it at 20 three months hence.¹¹

The “speculation” that Keynes referred to provides liquidity to capital markets, facilitating the continual process of price discovery such that scarce capital is directed to attractive investment opportunities. Myriad buyers and sellers with different time horizons, objectives, and constraints determine the evolution of price over time. At one end of the spectrum, a short-horizon investor, such as a market maker or high-frequency trader, continually transacts on the basis of time-proximate information. Alternatively, a long-horizon investor occasionally transacts when price deviates from future cash flow value. In between, day traders, quantitative and discretionary investors, and others converge on the market in pursuit of their own unique objectives. In this manner, price equilibrates the instantaneous supply of and demand for capital. Each market participant’s actions stem from disparately known and uniquely valued information. This chaotic sequential short-term behavior pushes prices around but slowly and inexorably toward long-term intrinsic values. If price deviates from intrinsic value too much, longer-horizon investors will step in to take advantage of information and knowledge valuable to them but not necessarily relevant to short-term investors.

¹¹John M. Keynes, *The General Theory of Employment, Interest and Money* (New York: Harcourt Brace Jovanovich, 1964): 154–155.

After the Cold War and the subsequent period of US hegemony, “mutually assured destruction” has been replaced with geopolitical uncertainty and populist and other macrothematic waves. It is not sensible to ignore “the influence of mass psychology” that arises with the evolving uncertainties observed since about 2000.

3.2. SYSTEMATIC RISK ALLOCATION

Asset allocation is now just one segment of a growing top-down universe that not only is more granular than before but also encompasses other systematic investment processes. Top-down investors allocate funds across compensated systematic risks. Historically, these systematic risks were proxied by asset classifications of similar characteristics, such as fixed or variable cash flows, and by organizational structures, such as domestic or international analysts. Top-down investing has involved shifting among these systematic asset class risk buckets by changing asset class, or “traditional beta,” allocations. Seeking competitive advantage, top-down investors have pursued greater risk granularity across markets, sectors, credits, and currencies. But this could progress only so far. Now, highly competitive investors are pushing beyond these static groupings to identify and gain access to additional exploitable, systematically compensated behaviors and risks. Analytic sophistication has advanced beyond single-period MPT constructs—narrower than the long-term tidal pull of value—and analyzing short- and intermediate-term investor behavior and risk factor waves.

How much capital market return variance is due to systematic factors? If there were none other than market risk, then these top-down endeavors would be for naught. If significant, then the top-down search for systematic risk factors would be of value.

Staub and Singer hypothesized that capital market returns are determined by multiple systematic risks (multiple betas) and concluded that systematic, or macro, decisions explain nearly twice the idiosyncratic security contribution. With respect to typical capital market characteristics, “independent of any perception of how a portfolio should

be structured,” two-thirds of a portfolio’s return variation over time is due to asset allocation (systematic risk exposures) and one-third to security selection.¹² This conclusion is based on the analysis of a universe of 20 national equity markets and 20 national bond markets, where each market includes 100 securities. If all securities were perfectly correlated, the only practical decision would be an asset/cash decision. With more realistic assumptions that allow partial security independence, security selection explains 35% of return variation and 65% is the result of systematic risks:

- Stocks in a national market have a correlation of 0.50.
- Bonds in a national market have a correlation of 0.80.
- Stocks of different national markets have a correlation of 0.40.
- Bonds of different national markets have a correlation of 0.60.
- Stocks and bonds of the same national market have a correlation of 0.30.
- Stocks and bonds of different national markets have a correlation of 0.20.

Asset management has long been characterized as either “traditional” or “alternative.” The exploitation of systematic risks, previously the realm of hedge funds, has spawned part of an entirely new type of asset management vehicle referred to as “liquid alternatives.”

Traditional portfolios are built on strategic policy allocations or capitalization-weighted benchmarks. Such long-only portfolios derive most of their performance from broad market exposure and because they are managed relative to benchmarks and have limited the scope of performance contributions from security and asset class weight variation.

¹²Renato Staub and Brian D. Singer, “Asset Allocation vs. Security Selection: Their Relative Importance,” *CFA Institute Investment Performance Measurement Feature Articles*, vol. 2011, no. 1 (May 2011): 7.

Alternative portfolios relax the traditional constraints and attempt to deviate from easily and cheaply attainable market risk to create uncorrelated return streams.

More recently, however, investors have realized that many alternative investments are capturing systematic opportunities that can be replicated at much lower cost and with considerably more liquidity. These “liquid alternatives” straddle the traditional and alternative divide, drawing on the better features of each world—the liquidity and low fees of traditional portfolios and the flexibility of alternative portfolios.

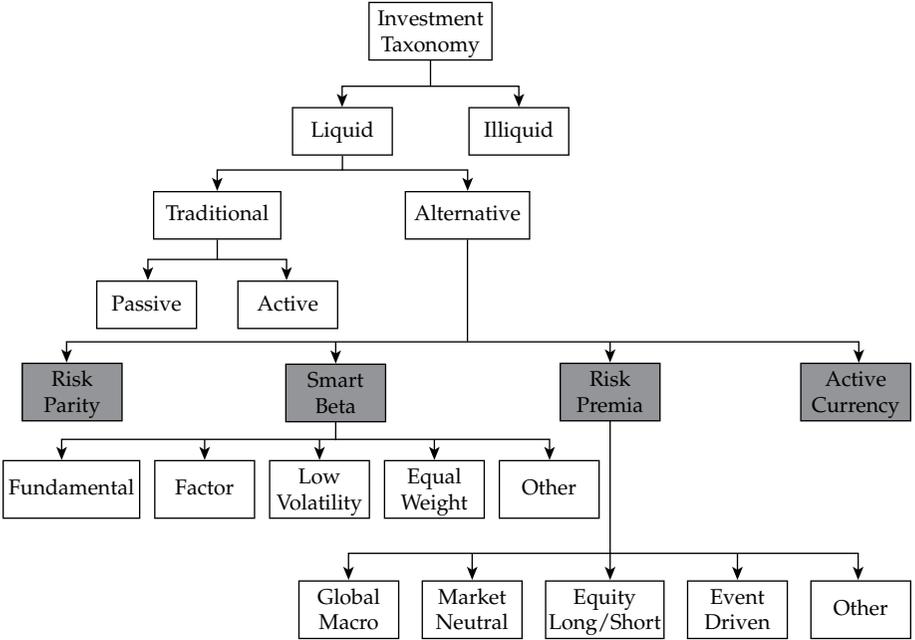
Because the liquid alternative phenomenon is relatively recent, a standard nomenclature has yet to fully emerge, and so such phrases as “liquid alternatives,” “smart beta,” and “alternative beta” are loosely used. The emerging investment management paradigm may be made clearer by providing an investment taxonomy delineating and specifying nomenclature for many methods of investment management. Other taxonomies could be crafted, but this captures the current state of the industry in a manner that best identifies the new and growing liquid alternative investment approach.

3.3. INVESTMENT TAXONOMY AND LIQUID ALTERNATIVES

As shown in **Exhibit 3.2**, the primary branches are liquid and illiquid investments. The liquid investments are separated into traditional and alternative investments. Of course, illiquid investments can be similarly split, but this representation focuses on only the liquid branch. *Traditional* liquid investments comprise long-only portfolios that are either actively or passively managed relative to a specified market-cap benchmark, SAA, or policy asset allocation.

Liquid alternative investment approaches—typically referred to as “liquid alts”—capture underlying systematic risk factors, many of which had previously been exploitable only by hedge funds. In some instances, liquid alts are specifically designed to replicate one or more

EXHIBIT 3.2. INVESTMENT TAXONOMY AND LIQUID ALTERNATIVES



Source: William Blair.

hedge fund categories. Consequently, using such strategies introduces liquid risk factor diversification into portfolios.

There are four primary liquid alt categories: risk parity, smart beta, risk premium, and currency. *Risk parity* portfolios are built on the premise that a portfolio should distribute risk exposures evenly across assets and commodities. If risks were equally distributed across all risk categories, the risk parity approach would build the global capital market portfolio. Thus, its foundation is solid and actual results depend on active deviations from the market portfolio. In practice, the market portfolio is not the objective of any risk parity portfolio. The more qualitative approach, pioneered by Ray Dalio at Bridgewater, distributes its risks in a manner that balances growth and inflation risks

and is designed to perform well in all environments.¹³ Quantitative approaches balance risk exposures to equities, bonds, and commodities to limit the portfolio swings due simply (and primarily) to equity market risk exposure. Risks are derived from historical data, and portfolios are rebalanced regularly.

Smart beta portfolios are rules-based strategies that effectively build indexes that are not market-cap weighted. These strategies are all thought to have risk and return characteristics that are superior to those of market-cap-based indexes. Some capture underlying compensated risk factors and others replicate systematic elements of hedge funds. Because systematic exposures can be replicated cheaply, smart beta has disrupted some hedge fund strategies at near-passive fee levels. In addition to being low fee, these strategies are liquid, transparent, and mechanically constructed on the basis of prespecified rule sets. They merely require ongoing rebalancing to maintain compliance with the rule set.

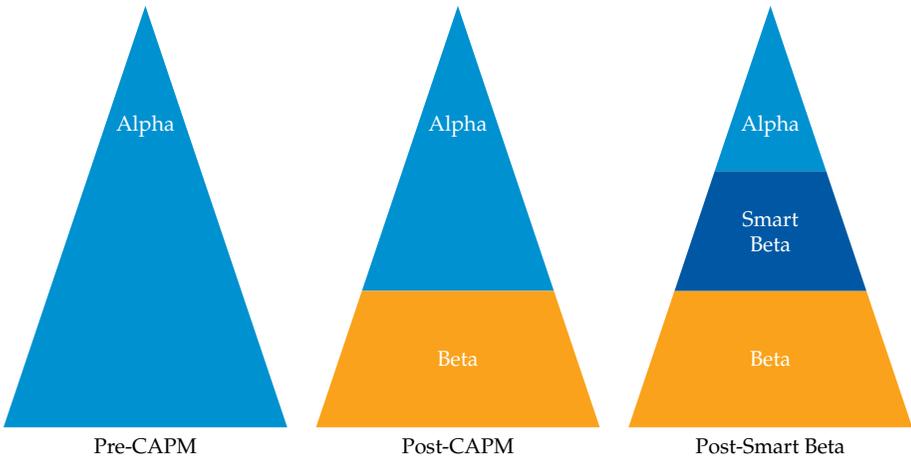
As shown in **Exhibit 3.3**, the emergence of smart beta further narrows what can viably be classified as alpha. Because many smart beta strategies pursue persistent and systematic risk exposures—with market risk being the largest—they add betas to the market portfolio beta and leave less to be categorized as pure alpha.

Among smart beta approaches are fundamental indexation and factor, equal weight, and low volatility strategies. Fundamental indexation was popularized by Rob Arnott's 2005 introduction of the Research Affiliates Fundamental Index (RAFI). Fundamental indexes are predicated on fundamental information, such as dividends, cash flow, sales, and price-to-book ratios. Any number of fundamental measures can be used to specify the rules for construction of a fundamental index.

Factor strategies are not new, but they have grown explosively since the mid-1990s. They attempt to identify compensated systematic risk

¹³Matthew C. Klein, "Bridgewater's 'All Weather' Strategy Aims to Balance Risk across Economic Environments: Myths and Facts about 'Risk Parity,'" *Financial Times* (25 August 2015).

EXHIBIT 3.3. IS SYSTEMATIZED ALPHA—"SMART BETA"—A FREE LUNCH?



Source: William Blair.

factors, or “alternative betas,” and build portfolios accordingly. The first incarnation of a factor-based strategy was originated theoretically by Stephen Ross in 1976 and was empirically tested in 1980.¹⁴ The approach became widely practiced after Fama and French empirically confirmed that three factors—market, size, and book-to-market ratio—capture a significant amount of cross-sectional variation in average stock returns.¹⁵ Mark Carhart subsequently added momentum as a fourth factor, and the four-factor model became an equity hedge fund favorite.¹⁶ Since then, the alternative beta set has expanded to include value, inflation, currency, carry, and credit, among others. The alternative risk premiums that had been the purview of hedge funds have become available in low-fee liquid strategies open to the public, enabling macro risk exposure diversification.

¹⁴Stephen Ross, “The Arbitrage Theory of Capital Asset Pricing,” *Journal of Economic Theory*, vol. 13, no. 3 (December 1976): 341–360; Richard Roll and Stephen Ross, “An Empirical Investigation of the Arbitrage Pricing Theory,” *Journal of Finance*, vol. 35, no. 5 (December 1980): 1073–1103.

¹⁵Eugene F. Fama and Kenneth R. French, “The Cross-Section of Expected Stock Returns,” *Journal of Finance*, vol. 47, no. 2 (June 1992): 427–465.

¹⁶Mark M. Carhart, “On Persistence in Mutual Fund Performance,” *Journal of Finance*, vol. 52, no. 1 (March 1997): 57–82.

Equal-weight strategies avoid the higher-priced securities (or asset classes) that may be bubble-priced in market-cap portfolios. Even if not dictated by pricing extremes, market-cap strategies induce the behavior of buying high and selling low. The earliest application of an alternatively weighted index seeking to avoid market-cap pitfalls that I can recall is the GDP-weighted index created by MSCI in 1988, which served to bring the weight of Japan down from 41% to 19% not long before that market's 61% decline from December 1989 to August 1992.

Low-volatility strategies are designed to exploit the systematic low beta/volatility market comparable returns with a lower risk than traditional portfolios. *Ex post* analysis suggests that the compensation is attributable to behavioral biases, but no explanation is more than a working hypothesis.

The crucial feature of smart beta strategies is that they are rules based and, therefore, passive. Consequently, they lend themselves to exchange-traded fund (ETF) implementation. But the strategies considered part of the *risk premium* category are actively managed. Risk premium strategies are total return (not necessarily market neutral) oriented and rely on active long–short investing in liquid securities or instruments. Again, the nature of risk premium strategies effects transparency and relatively low fees. Furthering the risk factor diversification provided by risk parity and smart beta strategies, the risk premium branch includes global macro, long–short equity, market-neutral, and event-driven strategies. Because they are actively managed, little can be said about how each type is managed; however, macro strategies invest in securities and aggregates in equity and bond markets and currencies around the world. The others are self-descriptive.

3.4. HIDDEN DIVERSITY IN ACTIVE CURRENCY

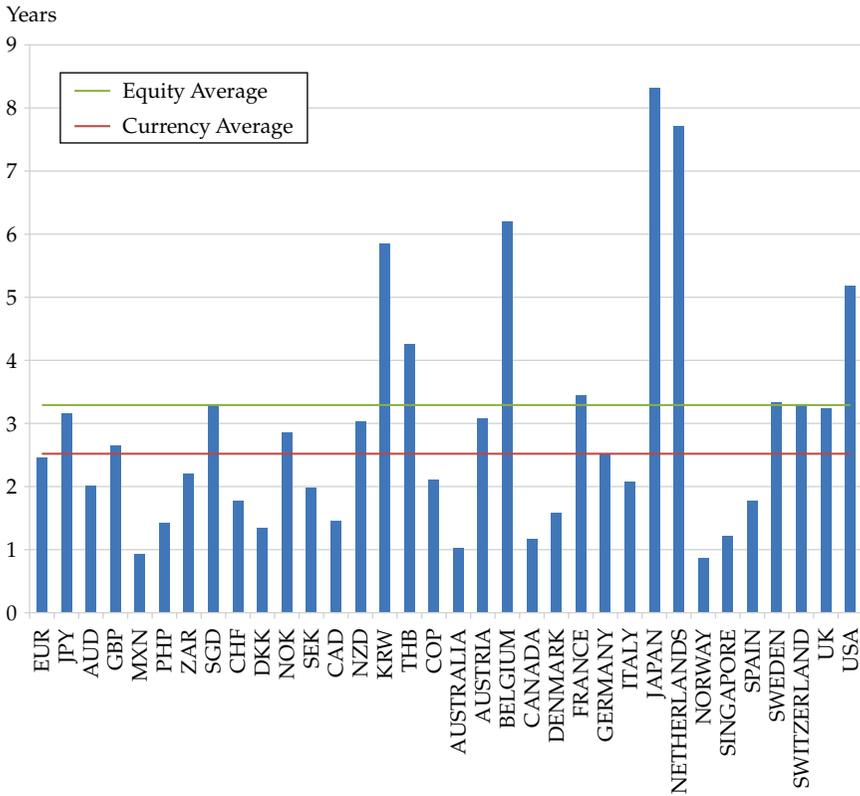
Active currency, the last liquid alt in our investment taxonomy, can do a lot of the “heavy lifting” in DAA. The primary objective of investors in active top-down capabilities is positive real returns without the downside of equities when markets experience a protracted downside. Dynamic management of currency exposures separate from market exposures is

getting more attention against a backdrop of low expected returns, divergent and extreme central bank policies, and the need for diversification.

It is common to find technical or systematic currency portfolio managers. Most use straightforward carry and momentum strategies, with differences driven mostly by implementation. Fundamental currency management is much less common. Consistent with the fundamental DAA framework, “value” in the context of exchange rates (relative prices) is not a discounted-cash-flow concept in the way it is for assets or indexes but, rather, a framework of relative purchasing power parity and persistent differences in carry, or real cash rates. There is ill-founded skepticism in the marketplace that exchange rates converge to intrinsic values over the medium term, yet both the theoretical underpinning and the empirical evidence indicate that currencies do, in fact, revert to equilibrium exchange rates and do so with greater robustness than is the case for equities or bonds. The theory can be appreciated by considering that although the expected cash flows arising from asset claims—and the discount rates that should be applied to these flows—are not directly observable and need to be estimated under conditions of uncertainty, the relative prices of goods and services in common currency terms across national borders are much more visible. From a McDonald’s “Big Mac” (popularized by the *Economist’s* somewhat frivolous yet informative index of currency valuation) to baskets of internationally traded items represented by producer price baskets recorded in national statistical data, misalignments in purchasing power are apparent. Empirically, it can be shown that for a range of currencies, prices have reverted to straightforward measures of exchange rate equilibria over a shorter time window than intrinsic value reversion for markets, as shown in **Exhibit 3.4**.¹⁷ Currencies and equities each reflect a wide range of convergence periods. The averages indicate that the equity 3.3 year convergence half-life is higher than 2.8 years for currencies. While it is inappropriate to excise extreme events, the Asian currency crisis elevated the convergence half-lives of SGD, KRW, and THB. Absent these currencies and PHP to cover all affected Asian currencies, the

¹⁷William Blair, “Currency Management: The Case for Value Investing,” white paper (November 2014, updated in 2017).

EXHIBIT 3.4. AVERAGE HALF-LIFE OF CURRENCY AND ASSET REVERSION OF PRICE TO VALUE (YEARS)



Source: William Blair.

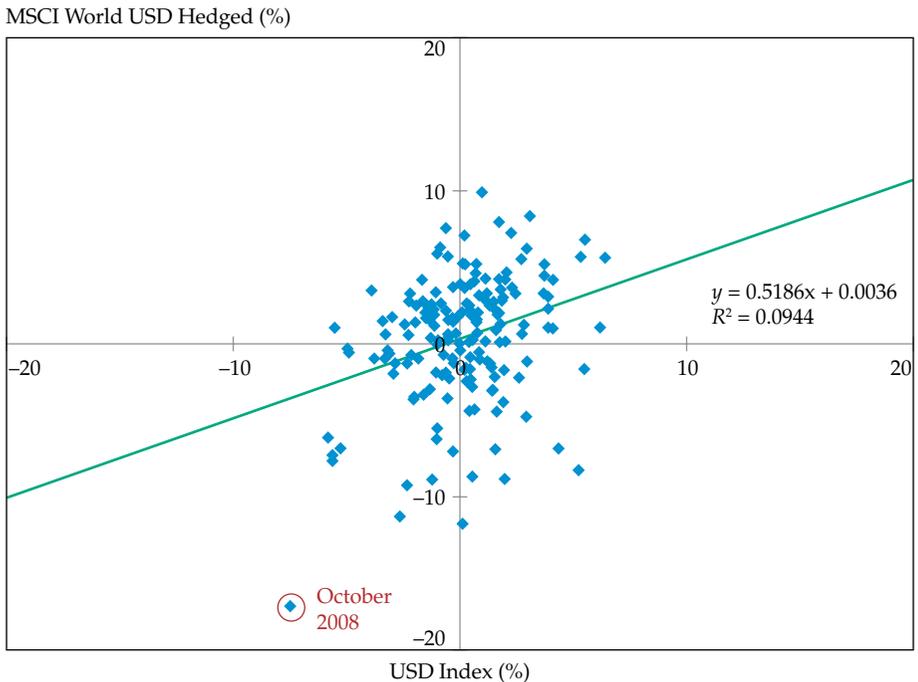
currency half-life would drop to two years. Qualitatively, the currency and equity half-lives would be about 2.5 and 3.3 years.

The second valuable feature is diversification. Exchange rates have very low correlations with equities and bonds over time. Theoretically, their correlation is zero, because currencies do not have risk premiums and are not claims on underlying economic wealth generation. In practice, correlations are sometimes positive (e.g., the positive correlation that was observed between “commodity-sensitive” currencies and their associated equity markets during the steep falls in commodity prices

in 2015) but are also sometimes negative (such as the response of the euro, which depreciated, compared with that of eurozone equities, which rallied, during the early stages of the European Central Bank's quantitative easing announcements in 2014).

The diversification potential is demonstrated by a scatterplot of monthly USD Index and MSCI World USD-hedged index returns.¹⁸ The hedged MSCI is unaffected directly by each constituent's currency movement. From January 2002 through October 2016, the correlation is only 0.31 (**Exhibit 3.5**).

EXHIBIT 3.5. CORRELATION OF MONTHLY RETURNS, JANUARY 2002-JUNE 2017



Source: William Blair.

¹⁸The USD Index is the US Dollar Index (DXY), which is based on the euro, yen, pound, Swedish krona, and Swiss franc.

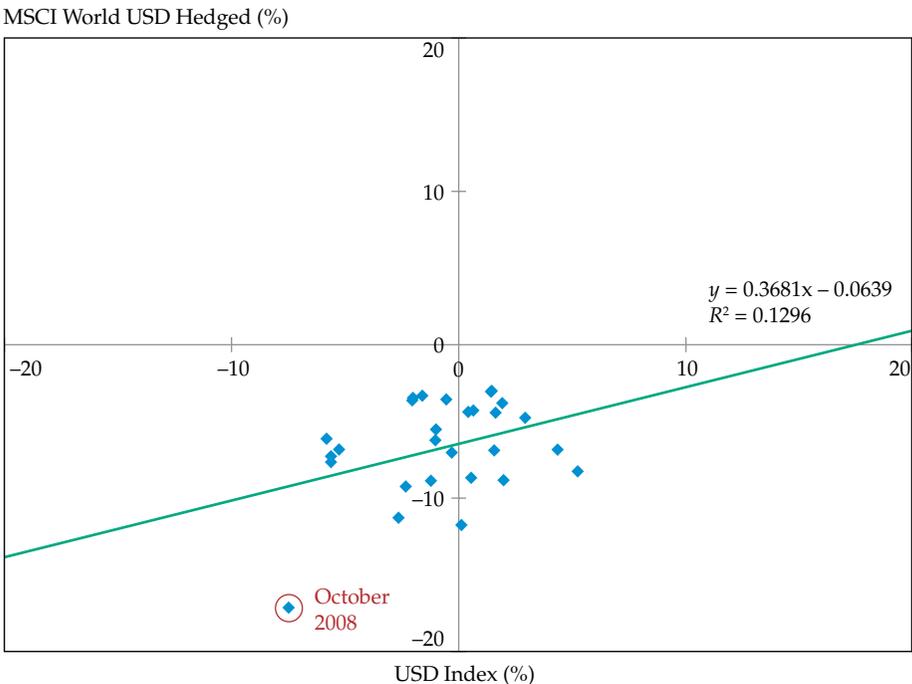
As **Exhibit 3.6** illustrates, in instances where the hedged MSCI World declines more than 3% in a month, the correlation does not increase from 0.31; rather, it drops to 0.11, making it a better diversifier on relatively large market declines.

Lastly, as the lower-than-equity volatility dictates, the extremity of exchange rate misvaluations generally is less than those of equities.

This means that a meaningful allocation of risk capital to dynamic currency management can assist greatly in meeting DAA objectives.

In our investment taxonomy, DAA and GTAA are implementable in the traditional active, global macro, and active currency strategies.

EXHIBIT 3.6. CORRELATION OF MONTHLY RETURNS (MSCI DOWN > 3%), JANUARY 2002–JUNE 2017



Source: William Blair.

These are denoted in Exhibit 3.2. If the intent is to “ride the tide” of intrinsic value over intermediate investment horizons, DAA is appropriate. However, if the intent is to “navigate the waves” of market behavior borne from geopolitical developments, central bank actions, and other one-off events, it is best to pursue a GTAA approach. DAA and GTAA are not mutually exclusive. Portfolios managed according to the intrinsic value discipline but with requisite shorter-term horizons should be composed of DAA for riding the tides and GTAA for navigating the waves.

3.5. RISK MANAGEMENT

Liquid alternative strategies afford more precise and different risk exposures than previously available. As a result, the primary risk contribution of these strategies is diversification. Although many of these strategies are hired for anticipated downside protection, there is no free lunch. Downside protection is insurance and comes at the cost of continual premium payment. For long put positions, the option premium paid is the cost of insurance. Generally, the cost would be the same for strategies that sell for protection as markets go down and buy for exposure as they rise. These are simply put option replication strategies and are expected to have exactly the same compensation as a long put position.

Downside limitation can come from higher expected returns for a specific risk level, reduced risk, or increased diversification. High-return expectations are not an expected risk, but if the returns are sufficiently high, the tail risk is not reduced but is shifted higher, becoming less or non-negative. Reduced risk is simply moving pro rata from the risky strategy into riskless assets—moving the risk down and the tail above a zero return. Despite some events that drive correlations higher, increased diversification remains a true investment free lunch. Diversification is not a panacea, but it helps reduce downside tail risk, or black swan, portfolio events.

Lastly, the “Holy Grail” of risk management is creating an anti-fragile portfolio. Unfortunately, building an anti-fragile portfolio is easier said

than done. But advances are being derived from agent-based models and critical state theory. In particular, self-organized criticality, like the self-organized interactions in a market, is a state in which the next interaction would be expected to have an outcome magnitude that is inversely related to the outcome probability, such as a falling grain of sand sparking a likely jostling of an adjacent grain or an unlikely avalanche. In this state, the relationship is known but the probability is unknown. Self-organized criticality is simply an environment that is subject to a high-magnitude event.

3.6. CONCLUSION

Top-down investing is evolving rapidly. Sources of return enhancement that were previously the domain of active bottom-up and hedge fund portfolios are being exploited by liquid active and passive top-down managers. Active risk premiums, risk parity, and currency strategies are capturing these return sources by dynamically and tactically taking systematic risk exposures. Passive smart beta strategies specify rules for deviating from market-cap index weights to a different set of rules-based weights. The rules are specified to acquire and sustain risk exposures expected to be systematically compensated over time. A primary characterization of all active or passive top-down liquid alternative strategies is exposure to systematically compensated risks. Some have equities and bonds on individual companies, but the positions are driven by top-down considerations and are a minority of strategy risk exposures.

The categories of liquid alternative strategies should continue to increase in number as more exploitable systematic risks are identified and to capture more capital owing to their efficiency and low cost. As this trend continues, the industry will continue to evolve and new taxonomies will emerge.

Information and opinions expressed are those of the author and may not reflect the opinions of other investment teams within William Blair. This content is for informational and educational purposes only and not intended as investment advice or a recommendation to buy or sell any security. Investment advice and recommendations can be provided only after careful consideration of an investor's objectives, guidelines, and restrictions. Any investment or strategy mentioned herein may not be suitable for every investor. Information is current as of the date appearing in this material only and subject to change without notice. Any discussion of particular topics is not meant to be complete, accurate, comprehensive or up-to-date and may be subject to change. Factual information has been taken from sources we believe to be reliable, but its accuracy, completeness or interpretation cannot be guaranteed. Past performance is not indicative of future results. Diversification does not eliminate the risk of loss.

Copyright 2018, CFA Institute. Reproduced and republished from *Multi-Asset Strategies: The Future of Investment Management* with permission from CFA Institute. All rights reserved. William Blair is not affiliated with CFA Institute.

6995869 (05/18)