Smart beta has gone from theory to practice. Investors now have a much better understanding of the investment merits of risk factors and now an increasing number are looking at implementations and allocations. “There has been a lot of interest and education over the past couple of years, but now we’re seeing actual implementation in portfolios,” says Greg Behar, director of global equity investment strategy at Northern Trust Asset Management.

The market is still settling on an actual definition of smart beta, and the very term is still debated in the market, but at its heart is the concept of factor tilting, which explicitly allocates to a risk factor that has demonstrated a durable investment premium through time, versus index investing based on market-cap weighted indices. The most common, and acknowledged, factors are value, volatility, size and momentum.

These factors, or risk premia, have been academically researched, have been found to be persistent (continued on page 5)
There are risks involved with investing in ETFs, including possible loss of money. Shares are not actively managed and are subject to risks similar to those of stocks, including those regarding short selling and margin maintenance requirements. Ordinary brokerage commissions apply. The Fund’s return may not match the return of the Underlying Index. The Funds are subject to certain other risks. Please see the current prospectus for more information regarding the risk associated with an investment in the Funds.

In general, equity values fluctuate, sometimes widely, in response to activities specific to the company as well as general market, economic and political conditions. The Funds are non-diversified and may experience greater volatility than a more diversified investment.

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Capturing Alternative Betas: A Dynamic Approach

Institutional investors are increasingly drawn to alternative betas for diversification and other benefits, but many wrestle with issues of implementation. Portfolio Manager Steve Gorman, Investment Director Brian Henze, and Portfolio Specialist Nathan Ritsko explain how they seek to capture the best of what alternatives have to offer through their multi-asset managed-risk framework.

**Q: What problems are you trying to solve?**

Henze: Asset owners today are focused on investments designed to solve problems specific to their institutions. We’ve developed a spectrum of outcome-oriented solutions using a portfolio construction philosophy that is rooted in the principles of consistency, diversification, and downside protection. Specifically, we draw on three building blocks — traditional betas, alpha, and alternative betas — and combine them in order to pursue a range of risk and return objectives. Each component is built from the bottom up with a specific objective in mind. For example, traditional betas are implemented with a custom indexing process often referred to as “smart beta” — rules-based, long-only investments that seek to deliver a better risk and return profile than conventional market-cap-weighted approaches.

We think these strategies can help investors looking to implement an alternatives allocation but struggling because some of the traditional options, such as hedge funds, are closed; are not delivering on their performance objectives; or present fee, transparency, and liquidity hurdles. We’re seeking to provide access to similar sources of return as some of those investments but in risk-targeted, dynamically managed, and liquid offerings with more attractive fees.

**Q: How do you define alternative betas, and how can they help improve portfolio diversification?**

Gorman: We regard alternative betas as systematic exposures motivated by an economic rationale and accompanied by a positive expected return — in other words, a compensated risk factor. The positive return reflects some combination of risk premia and behavioral drivers.

To understand how alternative betas can help diversify a portfolio, it is useful to consider how the evaluation of portfolio performance has evolved over time (Figure 1). Early investment theory attributed alpha purely to manager skill. The Capital Asset Pricing Model introduced the notion of systematic risk (beta), and measures like Jensen’s alpha (a measure of beta-adjusted excess return) soon followed. This can be thought of as the alpha/beta separation.

Researchers like Eugene Fama and Kenneth French moved beyond beta and identified systematic sources of return, such as value and size. Such research effectively expanded the notion of beta while narrowing the concept of alpha and laid the foundation for alternative...
bets as a third source of returns. Each of these return sources has a role to play. With tight risk control, beta provides traditional market participation, alpha adds return and diversifies risk through individual security selection, and alternative beta provides the potential for differentiated return streams with low correlation to traditional markets as well as to each other. What we’re seeking to provide is an approach that pulls together these return sources in an integrated, risk-controlled framework.

Q: What is your approach to investing in alternative betas?
Ritsko: We dynamically manage alternative beta exposures, meaning that we participate when we think the probability of success is high and are comfortable being on the sidelines when returns appear less certain. We don’t want to chase returns, and would rather sit out when we believe a strategy could be challenged. In terms of risk management, we seek protection in the form of diversification and proprietary downside controls that include position-level filters and systematic drawdown mitigation.

We invest in alternative betas because we believe doing so provides a better opportunity for attractive Sharpe ratios and reduced correlation to traditional asset classes. We start with an economic rationale and an expected Sharpe ratio hurdle and use managed or “active” positions, not passive buy-and-hold exposures. We target a broad array of instruments and trade types, considering cash requirements and operational burden, and all of our alternative betas are liquid exposures. We are not pursuing an illiquidity premium because we think it’s critical to provide clients with a liquid, transparent alternative investment.

Q: What alternative betas are in your opportunity set?
Gorman: We currently use four groups of alternative betas: carry, momentum, market relative value, and equity style premia. Let me discuss two of these groups, as examples of how we think about alternative betas. Carry strategies involve investing in higher-yielding markets and shorting lower-yielding markets. These can be defined as status quo trades, meaning you generate a premium and collect the carry as long as the markets don’t change. But when markets experience turmoil or periods of stress, carry strategies can exhibit a strong negative tail. We spend our research energy investigating the tails — trying to provide multi-layered diversification and downside controls to mitigate losses and control correlations.

The momentum group includes trades that seek to take advantage of the persistence of an asset’s recent performance in the near term, or what’s often called trend following. Importantly, momentum trades can profit from negative as well as positive trends — whether the market is up or down, we’re just looking for persistence. We’re also looking for diversification across asset classes and markets when it comes to momentum.

Q: What do you bring to the table by combining alternative betas with dynamic asset allocation and fundamental alpha?
Gorman: We think this combination, with its focus on multi-faceted diversification, capital growth, and downside mitigation, is a compelling and unique approach to liquid alternative investments. While investment banks and other asset managers provide access to alternative betas, we think our differentiating factor is the ability to do so within a framework designed to adjust these positions to control volatility and mitigate downside risk. Again, we are endeavoring to provide clients access to the sources of return available to hedge funds in a risk-targeted, dynamically managed, transparent, and liquid offering.

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1-617-951-5894

To learn more about this topic, read our paper, “Multi-asset managed risk: An alternatives framework for evolving institutional portfolios” at: www.wellington.com/alt_beta.
“They’re actual, proven risks, that if you bear, you are going to see periods of underperformance. But over the cycle, you will be rewarded.”

Eric Shirbini
ERI Scientific Beta

(continued from page 1)

and can be extracted by building statistical models and index structures around them. “This suggests is that by tilting your portfolio towards one or more of these factors, you can capture that performance,” says Lori Heinel, chief portfolio strategist at State Street Global Advisors (SSGA). There are periods when individual factors out-perform market benchmarks, and there are periods where they underperform, but over time, they have proven to generate significant accumulative return premiums.

It’s catching on. “The recent growth of smart beta has been phenomenal,” says Dave Gedeon, head of research and development at Nasdaq Indexes. With the investors de-risking coming out of the financial crisis, there was a growing awareness among investors of the sources of risk.

“Investors have become more intelligent about where they are going, and now seek out more nuanced exposures than simple broad small cap or broad market cap, for example,” he says. Investors also noticed that individual risk factors tend to behave differently than the broad market. “With smart beta, a number of opportunities to express a specific view of the market simply and intelligently emerged,” he says.

Investors are looking for transparent and repeatable strategies that they can access at reasonable fees. “Style strategies fit those characteristics,” says Ronen Israel, head of the global alternative premia group at AQR Capital Management. Increasingly, investors are trying to get transparent access to these sources of return and they are determining that smart beta, or style premia, can do that efficiently.

At the same time, investors have become more comfortable with the investment concepts. “They are recognizing what these things are and what they are trying to capture,” he says. They’re also recognizing that a lot of what active management has been providing is, in fact, these types of returns, just with higher fees, less transparency and more onerous terms.

“We actually see most investors turn to smart beta as a potential solution where they may have used an active manager in the past,” says John Feyerer, director of equities at PowerShares. That entails a due diligence process that examines, among many other things, the value proposition, the strategy and its durability. “Some are hesitant because many smart beta ETFs still have short track records,” he says. Most smart beta ETFs have three, four or five year track records, and due to the nature of rewarded risk factors, some may have underperformed recently.

Value is a good example. “There are factors that can have extended periods of underperformance, and it’s critical to understand the long-term time horizon that’s involved with these strategies,” Feyerer says. “Smart beta strategies are built on factors that, over extended periods of time, have shown to deliver value to investment portfolios.”

A new rewarded risk factor, or even a new tilt toward a factor, is very rare, because it is recognized only after it has been thoroughly researched and tested in academia to be durable and robust. “It has to be recognized and accepted as a beta, it can take 10 or 20 years to identify, research and test a new one,” says Eric Shirbini, global product specialist at ERI Scientific Beta. These recognized tilts are the most important, because there is academic evidence and empirical data that an economic rationale exists as to why investors would expect a return associated with this risk. “These aren’t characteristics found in a set of data that may disappear when everyone gets to know about them,” he says. “They’re actual, proven risks, that if you bear, you are going to see periods of underperformance, but over the cycle, you will be rewarded,” he says.

ERI Scientific Beta set out to provide investors to the recognized risk premia that academics have debated for ten years and longer. “When each one is researched, it is defined and measured in the same way, and it’s very simple measure,” says Shirbini. For value, for example, the academic definition is book-to-market.

Many smart beta providers adjust these measures and parameters to develop proprietary methodologies that may look better in back tests, but they deviate from the pure factor. “For value, we use book to market, which is the classic measure,” he says. Some
are concerned about a concentration of leveraged companies with this standard measure, so they may simply remove them, adjusting the book-to-market standard for leverage.

Or some may think the definition is too simple, or suffered excessive performance during the financial crisis in 2008. “Value was supposed to have been risky in 2008—that’s what you’re being paid for,” he says. “As soon as you start adjusting the measures and creating a different set of companies, you don’t know if you have the factor anymore.” If the validation of smart beta is the academic evidence and rigorous testing that’s been going on for a decade or more, using a standard measure throughout, why go and change it? “If you use a simple, simple measure to define the factor, and you are well diversified, then you get much more efficient performance,” he says.

“We already have a multifactor index that combines all the different risk premia, because diversifying across them helps to reduce their risk,” says Shirbini. Innovative ways of using these as building blocks to fulfill their particular investor objectives have emerged. For example, some investors are concerned about a correction in equity markets, so they look for a smart beta strategy that is more defensive.

There are a number of fairly standard products, but each institution is going to have its own specific criteria, and it’s an exercise in designing a strategy using factor tilts as building blocks that are suitable to reach their goals.

“It’s an exercise in how to use these indices in combination to give you what you want,” he says. Much of the attention on smart beta has been on equity-focused, long-only, often single-factor strategies. “Those can be crude tools for sophisticated investors to use,” says Adam Berger, asset allocation strategist at Wellington Management. “These techniques become most effective when factors are combined, there’s a notion of timing to take advantage of factors that are attractive or unattractive at various points in the market cycle, and/or when they’re extended outside of equities to fixed income, for example, where the traditional bond indices are often less geared toward what investors are looking for.”

Another expansive move for beta-based strategies that is generating investor interest is alternative beta. In some cases, smart beta and alternative beta may be taking advantage of the same factor. “You can have a smart beta portfolio that’s long equity with a tilt toward value, or you can have an alternative beta portfolio focused on value that is long cheap stocks, short expensive stocks and market neutral,” he says. It gives a pure exposure to that same factor, but in the alternative space there are strategies that don’t have a counterpart on the long-only side. One example is merger arbitrage, when you are long the merger target and short the acquirer to get the exposure.

One of the reasons that smart beta strategies are compelling is that they’ve been replacing traditional market-cap weighted passive exposure. “Among the investors that adopt smart beta, many are taking a more thoughtful approach to passive exposure,” says Sarah Williamson, director of alternative investments at Wellington Management. Those that implement alternative beta strategies tend to be redeploying assets from traditional, long-only strategies to alternative investments and use alternative betas as a complement to these alternative allocations. “In many cases, it’s more efficient to implement these exposures through an alternative beta approach, because it’s cost effective, or the capacity is available and it can be done quickly,” she says.

An Evolution

Over the past year, there’s been an evolution. Now, investors are much more focused on how to implement, where it fits into portfolios, and how it performs in different market regimes. “We’ve moved away from discussions over what it should be called, how best to define it and what it does and doesn’t do,” says Sara Shores, global head of smart beta at BlackRock. Investors are thinking about very specific implementation questions. “For example, they may want to improve returns by 50 basis points after fees or add 10 percent downside risk protection to the portfolio,” she says. “Once they have outlined the outcome they are trying to achieve, we can think about how to put these tools together in such a way to achieve it.”

In addition to beating the (continued on page 9)
Your Investment Challenges Are Not Average

“Traditional cap-weighted index portfolios reflect the collective wisdom of all investors, essentially representing their average expectations for the market. But are your investment goals average, or are you different?”

Andrew Ang, PhD
Head of BlackRock’s Factor Based Strategies Group and author of Asset Management: A Systematic Approach to Factor Investing

Many investors have distinct preferences, goals and constraints that are far different from the market. Some investors are looking for income, some are seeking to reduce risk and others are simply focused on total returns. Traditional passive strategies can provide exposure to the collective wisdom of the market but may not effectively deliver the more targeted outcomes sought by different investors. Smart beta strategies are designed to harvest broad, persistent drivers of returns by taking advantage of economic insights, diversification, and efficient trading execution. This style of investing can address some challenges in today’s market environment, including:

1. Potentially rising interest rates
2. Equity volatility and downside risk
3. Extracting cost-effective sources of incremental returns

1. Investor Challenge: Prepare for the potential impact of rising interest rates

Historically, traditional broad-based fixed income indices have been dominated by interest rate risk. These traditional indices have only small exposures to credit risk—another important source of risk premiums in fixed income. This makes core index portfolios highly sensitive to rising interest rates. As we exit a period of extraordinarily loose monetary policy, many fixed income investors are seeking more diversified strategies that emphasize other sources of risk and return.

Smart Beta Solution: Diversify interest rate risk in core fixed income

A diversified smart beta approach to fixed income can systematically balance exposures to the key drivers of risk and return for bond portfolios: interest rate risk and credit risk. A rules-based smart beta strategy can provide the potential for attractive yield with less duration risk, while retaining the scale benefits of index-based strategies.

Barclays Aggregate Index: Realized Risk Allocation

<table>
<thead>
<tr>
<th>Spread</th>
<th>Interest Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>90%</td>
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</table>

Smart Beta Risk Allocation

<table>
<thead>
<tr>
<th>Spread</th>
<th>Interest Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>50%</td>
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</tbody>
</table>

Enhanced diversification across interest rate and credit risk has historically led to better risk-adjusted returns, higher yield and lower duration compared to traditional bond indices.

Source: BlackRock, Barclays. Single factor regression of Barclays Aggregate Bond Index vs. interest rate risk using monthly returns from August 1988 to December 2014. Total Returns – Excess Returns were used to proxy interest rate risk. Diversification does not ensure against loss.
2. Investor Challenge: Protect portfolios from downside risk in equity markets

While stocks have performed well in recent years, there are reasons to be cautious going forward. Divergence in global central bank policies, geopolitical tensions and mixed economic data may all contribute to equity market volatility.

**Smart Beta Solution: Minimize equity volatility without sacrificing returns**

Minimum volatility strategies are designed to provide exposure to equity markets, but with less severe ups and downs. While minimum volatility strategies tend to outperform in times of market turbulence, they also provide upside participation when markets are rising.

Upside vs. Downside Capture for MSCI Min Vol Indices

<table>
<thead>
<tr>
<th></th>
<th>Global</th>
<th>Emerging Markets</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upside</td>
<td>68%</td>
<td>89%</td>
<td>76%</td>
</tr>
<tr>
<td>Downside</td>
<td>-40%</td>
<td>-62%</td>
<td>-48%</td>
</tr>
</tbody>
</table>

When the market falls, a minimum volatility portfolio will generally fall by less. When the market rises, a minimum volatility strategy may capture proportionally more on the upside than it loses on the downside.

Source: Morningstar. Based on monthly index returns from 12/1/09 – 6/30/15. MSCI USA MV Index incepted 5/30/08, all other MSCI MV Indices above incepted 11/30/09.

3. Investor Challenge: Improve returns and lower costs

Regardless of the market environment, all investors need consistent sources of returns to meet retirement goals, actuarial assumptions and spending needs. While the need for returns is a constant, investors are increasingly fee-conscious and seeking more scalable, low-cost solutions.

**Smart Beta Solution: Capture incremental returns more efficiently**

Smart beta strategies seek to harvest reliable long-term drivers of returns. These factors are present in many time-tested strategies that active managers have employed for decades, such as quality or value. Today, investors can potentially access these rewarded factors via a rules-based approach with smart beta, generally at a lower cost relative to traditional active management.

MSCI World Index vs. MSCI World Factors Returns

<table>
<thead>
<tr>
<th></th>
<th>Annualized Return</th>
<th>Annualized Risk</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>13.0%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Quality</td>
<td>11.0%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Value</td>
<td>10.0%</td>
<td>11.0%</td>
</tr>
<tr>
<td>MSCI World</td>
<td>9.0%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Size</td>
<td>8.0%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Momentum</td>
<td>14.0%</td>
<td>15.0%</td>
</tr>
</tbody>
</table>

Diversifying exposure across multiple factors: While many individual factors have historically outperformed the broad market, performance can be cyclical. Combining multiple factors into one holistic and diversified solution can help smooth returns throughout business and economic cycles, and has historically led to higher information ratios.

Source: MSCI. Performance based on index data from December 1975 – May 2015. The data refers to simulated past performance which is not a reliable indicator of future performance. It is not possible to directly invest in an index.

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Managing drawdown risk, income levels, terminal value or inflation are other goal-oriented approaches that smart beta can address.

(continued from page 6) broad market, each investor has a unique set of goals and objectives for smart beta strategies to address: income generation, risk management, different time horizons and governance issues, for example. “They’re looking at applications of factor-based strategies as tools to engineer their portfolios to meet unique goals and objectives,” says Behar.

The next step is to determine which factors will do the job and how to combine them in an efficient, effective way. “For example, a low-volatility strategy can help to preserve a defined-benefit plan’s funded status,” he says. “We implement that by combining it with quality to improve the consistency of returns and mitigate periods of underperformance.”

Using smart beta can result in a very different portfolio exposure. “For example, considering how a managed-volatility equity portfolio drives overall risk at the portfolio level, you can actually maintain a higher allocation to equities and have the same standard deviation or volatility in the total portfolio,” says Heinel. Smart beta provides ways to capture the premium as well as shape the risk attributes of the portfolio in a way that classic market-cap weighted indices don’t.

There’s not one optimal factor investing solution. “The optimal factor investing portfolio is client specific, based on the stated investment objectives,” says Joop Huĳ, head of factor investing research at Robeco. For example, a pension fund, which has liabilities, will be quite different from a sovereign wealth fund and each will view interest rate risk in different ways. If interest rates go up, it helps the pension fund, because its liabilities will fall. “But this could be bad news for a sovereign wealth fund, as inflation, which is the target that it wants to beat, could rise,” he says.

“Smart beta works best when investors understand the rewarded risk factors they want exposure to when approaching implementation,” says Feyerer. “They can then create simple portfolios that address these in a way that makes sense.” In some cases, it can replace active management. Smart beta strategies may provide similar exposure but in a more cost-efficient and tax-efficient way. If an investor is seeking greater returns than benchmark performance, there are opportunities to add potential incremental return without necessarily taking on additional risk. “On the flip side, if the investor’s objective is managing overall risk and volatility, and they’re truly interested in maximizing return per unit of total risk, low volatility strategies can work well,” he says.

Relative risk is an important issue for investors to think through. “It can be tough in a bull market,” he says. Investors have to decide how comfortable they are with periods of underperformance versus a benchmark index. “Those types of conversations help to guide the deployment of smart beta to provide solutions,” he says.

Another trend, which ultimately may be the most important, is that a greater number of investors are thinking increasingly in terms of the goals or the outcomes of their portfolios,” says Heinel. Liability-driven investing (LDI), which is explicitly managed to match a fund’s assets to its liability stream, is an example of this concept. Managing drawdown risk, income levels, terminal value or inflation are other goal-oriented approaches that smart beta can address. “You might make some different choices when looking at a portfolio through the lens of a particular goal,” she says. Most clients are concerned about overarching portfolio risk and managing volatility. “The idea of tamping down volatility through a managed volatility equity exposure, for example, really resonates,” she says.

“We Need to Own IBM!”

There are a lot of hairs to split in defining the systematic capture of investment risk attributes, and what the market is recognizing as smart beta. “Smart Beta simply means rules-based,” says Tom Dorsey, founder of Dorsey Wright & Associates, now part of Nasdaq, and CEO of Dorsey Holdings, acknowledging that most define it as tilting toward risk factors and not market capitalization. “How can it otherwise be smart unless someone has actually considered the rules to make it a systematic process?” he asks. Smart beta takes someone’s instincts about investing and turns it into a rules-based strategy, taking emotion out of the process. “Our firm has rules-based facilitators, not portfolio managers, and not one has a
hunch or does analysis and, having an MBA, scrutinizes the fundamentals and says, “We need to own IBM.”

“Smart beta is basically index investing with a non-market-cap weighting,” says Gedeon. Tilting the weighting of a core benchmark index results in its altered risk and return profile. “You can screen based on acknowledged investment factors, various fundamental ratios, or use equal weighting,” he says. “Those aspects can be blended together to produce a specific risk and return profile that will define an investment objective.”

From there, the definition becomes more refined. “I believe it is helpful to look at smart beta through two lenses, a factor-based lens and a ‘common ingredients’ lens,” says Feyerer. The first views smart beta through its exposure to rewarded risk factors such as value, low volatility and momentum. The second lens evaluates smart beta through its common ingredients or characteristics, which includes the formulaic rules-based methodology upon which it is based, its transparency, non-market-cap weighting. The critical element of systematic rebalancing is within that framework also.

Whether it rebalances back to a factor weighting mechanism or an alternatively weighted methodology, the key is that it happens through a built-in, fully objective, rules-based discipline that sells stocks that no longer fit the criteria and allocates to those that do. “Smart beta assures that investor emotion is removed from the equation,” he says. “Even when fear dominates market sentiment, the rebalancing process is systematic, based upon formulaic criteria, and not reactions to short term difficulties.”

It evolves from there. “Our view of so-called smart beta is based on a spectrum of factor and style investing, says Israel. The spectrum spans long-only, single style and single asset classes, such as equities, all the way up to long/short, multi-style and multiple asset classes. What most regard as smart beta, fundamental indexing, for example, sits on that spectrum. "Fundamental indexing is really a value tilt around a benchmark portfolio, which is a valuable source of return,” he says. “But we would also think about value in combination with other sources of return as being valuable as is implementing styles in multiple asset class contexts.”

Rather than risk factors, AQR refers to styles and style premia. “These are the systematic, classic sources of return that have the empirical evidence and economic intuition to back them,” says Israel. They are grouped differently than the classic smart beta risk factors as well, and they include: value; momentum; carry, which includes dividends; and defensive, which includes low risk, low beta, and high quality. “Most of the widely acknowledged risk factors fall into one of those buckets,” he says. The idea of style premia recognizes a broader implementation of systematic sources of return along that spectrum.

A whole category of strategies in alternative beta is carry based, which in some sense, area status quo trade. “If you are long higher-yielding stocks, currencies or bonds and short lower-yielding ones, you’ll have a positive return for that position, assuming the rest of the world stays the same and nothing changes in the valuation of those elements,” says Berger.

Smart beta is grown by becoming more multifaceted. “We think of smart beta as long exposure to an asset class with a tilt to a desired profile, such as low volatility, value, momentum and growth,” says Williamson. “The tilt is adding another dimension to the long exposure, which is one reason investors use it in portfolios as a tool.” “In contrast, we define alternative beta as exposure to a return source that’s not linked to the direction of the market, which makes it a more powerful diversifier.” That could be a balanced long/short portfolio or one that varies its market exposures over time but has no net long exposure on average. The concept of smart beta is evolving and extending as well. “While much of the focus has been on the equity side, there is more potential in fixed income and alternative betas,” says Conor McCarthy, director of client investment solutions at Wellington Management.

Getting More Juice

The market has moved from an early adopter mode to more investors actively considering smart beta as an effective tool that has unique and attractive attributes. “Most of our client

(continued on page 12)
ADVANCING THE AGG

With concentration and duration risk building inside the Barclays Aggregate bond indices, fixed income investors have been tempted to abandon the classic investment-grade benchmark. But what if, like a lot of major institutional investors today, you can’t simply “bag the Agg”? There is another way.

ULTRALOW INTEREST RATES DUE TO LOOSE monetary policies are one of the most challenging trends for investors across the globe. The thirst for yield has spawned investments outside the traditional arena and led to a growing sense of unease over the possible fallout once rates eventually start to rise. For institutional investors with fixed-income portfolios anchored to the standard Barclays Aggregate (Agg) indices, the issues are especially acute. The unprecedented policy and market developments since the global financial crisis (GFC) have meant that the Global Aggregate yield has fallen below 2 percent, a historical low.1 At the same time, duration of the Global Agg has risen to 6.52 (versus 5.30 before the financial crisis).2 For those invested in regional proxies such as the US or Euro Agg, the picture is no better. To be sure, passive Barclays Aggregate Index (Index) investors have taken hold in the industry to scrap the benchmark completely, or “Bag the Agg.”

In reality, it is frequently not such a simple operation to bag the Agg. For investment committees with billions of dollars under management as, the Agg is a critical frame of reference because it represents one of the most diversified exposure to the investment-grade bond universe. But there is another option. The Agg, after all, is not only an amalgam of fixed-income sectors, or “sleeves,” but also a combination of factor or risk premia. In general, investments in fixed income generate returns due to exposure to credit factor premia (default risk), term factor premia (higher risk as maturity is increased), or liquidity factor premia (risks surrounding the ability to freely trade an instrument). Looking at the Agg as a grouping of factor premia and then extracting those can be an effective way of potentially improving risk-adjusted returns while remaining within benchmark weights.

Using Fixed-Income Smart Beta to Improve the Agg

Smart beta has gained popularity as a nice marriage between passive and active management. Many investors think of smart beta in the context of equities. It turns out, though, that systematic, rules-based strategies can also be used to extract the premia in fixed income. Given the much more fragmented nature of the bond markets, it’s just a bit more complicated. The chart below (Figure 1) highlights the premia we’ve identified for each of the sleeves of the Global Agg. In the early phases of our “Advancing the Agg” approach, we have focused on extracting the credit risk premia in corporates and sovereigns because we think it gives us the biggest bang for our buck. Yet, even there, the rules we’ve had to construct to extract it within each of the two sleeves are somewhat different.

Corporates: The Biggest Quality Dividend

The Global Agg is currently comprised of 60 percent government debt and just 18 percent corporate credit (Figure 1).3 But don’t be fooled by the smaller percentage of corporates. Data shows that there is a strong degree of co-movement between the corporate credit sleeve and the overall Agg (Figure 2). Indeed, the return of the Global Agg is almost 90 percent correlated to the excess return of the Barclays 10+ Year Global Corporate Credit Index. Enhancing the risk/reward profile in the corporate credit sleeve can potentially have a material impact on performance relative to the global Agg.

Our research has shown that the primary factor premia in the corporate credit sleeve is credit, which is closely related to default risk. We capture both these aspects through the concept of “quality.” Using a simple rules-based approach, we identify high-quality companies, which we define as those with a (low) default risk consistent with better profitability, lower earnings variability and lower leverage. Then we compare this to the level of default risk already priced in the market, as measured by the options-adjusted spread (OAS) of the issuer, and look for where the mispricings are. People often ask, what’s the difference between your approach and the ratings the major credit ratings agencies already perform on a company’s fixed-income securities?

And our answer is simple: Ratings focus on a company’s perceived default risk. Our measure focuses on the difference between that perception and the true level of default risk reflected in a firm’s fundamentals. In fact, over time we find ample evidence that the OAS corrects to our fair value, prompting spreads to tighten. That’s where we get our premia from.

To implement our strategy, we tilt to quality names and borrow the weights from the remaining beta portion of the portfolio. This gives us room to create different weights for clients with various risk appetites. As shown in Figure 3, across each of our weighting schemes, the tilted strategy improved the back-tested returns of the benchmark during the period of quantitative easing following the GFC.4 The corporate quality tilt is duration neutral. This is done intentionally, to avoid a duration bet that differs from what is already embedded within the Index. In that sense, we are truly “advancing”

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1Barclays, as of June 5, 2015.
2Barclays, as of May 26, 2015 and December 29, 2006 (Barclays Global Aggregate Option Adjusted Duration).
3Barclays, as of June 5, 2015.
4Principal Component Analysis, commonly known as PCA, is a technique that is used to simplify and reduce the dimensions of a problem. With regard to asset classes, it looks for correlations and groups asset classes together in order to identify the key factors that drive returns. 

By Ritirupa Samanta, Ph.D.
Managing Director, Head of Quantitative Research & Senior Portfolio Manager

Figure 1: A Breakdown of Factor Premia Embedded in the Barclays Agg

Figure 2: During the Period 1/07 to 4/14, the Advanced Beta Quality Tilt Outperformed the Benchmark in Our Default Risk Model (Hypothetical Modeling)

Source: Barclays, as of June 5, 2015.

Source: State Street Global Advisors, Barclays POINT, as of April 2014.
the Barclays Global Agg as of April 2014. 

Squeezing Out Even More Value: Quality and Sovereigns

The notion of a quality tilt can also be used to improve the sovereign sleeve of the Agg by overweighting regions with lower sovereign credit risk and underweighting riskier regions. In the process, this may also help to address concentration risk. One of the most pressing challenges for passive Agg investors, concentration is particularly an issue in the sovereign sleeve, where 53.49 percent of market cap stems from the largest global issuers (Japan and the US).

To combat concentration risk, some competitor strategies will re-weight investors around a new metric other than market cap. For example, some funds may weight constituents by debt-to-gross-domestic-product (GDP). However, using a sole metric to weight constituents — whether liquidity, market cap or equal weighting — may reduce concentration risk but do not solve other metrics of risk.

Instead, we take a range of macro-fundamental criteria into account. Along with debt to GDP, our model considers the level of external debt to GDP, growth forecasts and investor protection in markets, among other metrics. We also consider market sentiment, historically a major driver of sovereign yields. Our rules-based approach can aggressively overweight a market when negative sentiment spikes, further helping to capture the evolving nature of sovereign credit risk.

Based on all these inputs, our macro-fundamental and market analysis generates a sovereign credit score for each country. We apply this score to the Barclays Global Treasury Index, the Barclays Euro Treasury Index and the Barclays EM Treasury Index. And then we quality tilt the sovereign sleeve by overweighting countries with the strongest and most improving fundamentals while down-weighting those with the weakest.

Historical analysis demonstrates that a smart beta approach to the sovereign sleeve can potentially improve risk-adjusted returns. The tilted solution — when applied to the Barclays Global Treasury Index, for example — achieved steady outperformance relative to that Index from December 31, 2002 to April 30, 2015, even with fairly conservative overweights and underweights relative to the benchmark.

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Figure 3: During the Period 1/07 to 4/14, the Tilted Strategy Improved the Risk-Adjusted Returns of the Benchmark Across Each Weighting Scheme During the Period of Quantitative Easing (Hypothetical Modeling)

<table>
<thead>
<tr>
<th>Benchmark: Global Agg, Investment Grade Corporates</th>
<th>Unfunded</th>
<th>Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Return</td>
<td>5.23</td>
<td>6.70</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.72</td>
<td>0.72</td>
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<tr>
<td>Information Ratio</td>
<td>3.96</td>
<td>3.96</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Tilted Portfolio: Global Investment Grade</th>
<th>Unfunded</th>
<th>Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Return</td>
<td>8.38</td>
<td>10.33</td>
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<tr>
<td>Standard Deviation</td>
<td>1.11</td>
<td>1.21</td>
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<tr>
<td>Information Ratio</td>
<td>7.16</td>
<td>10.59</td>
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<table>
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<tr>
<th>Improvement in Risk-Adjusted Returns (bps)</th>
<th>Unfunded</th>
<th>Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>After Transaction Costs</td>
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**Figure 4: Backtested Quality Tilted Global Credit Portfolio Returns**

- **Cumulative Excess Return** (“Unfunded”), After Costs
- **Cumulative Total Return** (“Funded”), After Costs

**Source:** FICC Quantitative Research, as of April 2014.

Data is from January 2007 through April 2014.

The customized benchmark is constructed from all bonds for which default data is available in the Global Investment Grade Credit Universe. Our default risk model covers approximately 80% of the corporate credit universe of the Barclays Global Agg as of April 2014. The data displayed is a hypothetical solution of back-tested performance for illustrative purposes only and is not indicative of the past or future performance of any SSGA product. Back-tested performance does not represent the results of actual trading but is achieved by means of the retraction of a model designed with the benefit of hindsight. Actual performance results could differ substantially, and there is the potential for loss as well as profit. The performance may not take into account material economic and market factors that would impact the advisor’s actual decision-making. The performance does not reflect management fees, transaction costs, and other fees expenses as a client would have to pay which would reduce returns. Please reference the disclosure for the model methodology and other important disclosures.

Unfunded returns refer to the excess returns to the over and underweights in the strategy over the benchmark. Funded returns are the returns for the active weights plus the benchmark. Hence these are the nominal returns after costs to the complete strategy. Past-performance is not a guarantee of future results.

Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income.

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**State Street Global Advisors, as of April 2014, “Refining the Agg,” retrieved from https://www.ssga.com/definedcontribution/us/docs/SSgA_DC_Refining_the_Agg.pdf**

In addition, there is continued frustration with active managers, many of which have seen lackluster performance while charging relatively high fees. “By using multiple active managers, in many cases asset owners end up with a portfolio that has significant coincidental factor tilts,” says Heinel. They can often replicate those characteristics with a low-cost smart beta strategy and use only a limited number of active managers to generate pure alpha.

Active managers are not going away, but smart beta is clearly putting them on the defensive. “If active management is defined as portfolio managers who actually make day-to-day decisions on what to buy and sell, then they will find that automation will overtake them,” says Dorsey. “With technology developing so rapidly, if an active manager isn’t thinking about developing systematic strategies that are automated, they’re whistling past the cemetery.” Indeed, the growth of ‘40-Act funds demonstrates that many quantitative managers are adapting their strategies into systematic, indexed vehicles for the broader market. “By 2020, the ETF will have passed the actively managed mutual fund like a rocket,” he says.

This is causing investors to evaluate their portfolios on a risk factor basis, and they can be surprised by what they find. “When investors analyze their active portfolios from a factor perspective, they can find that they look a lot like a market cap-weighted index, but at a much higher fee,” says Behar. Or they find unintended risks or those for which they aren’t compensated. “A pension fund that would like lower volatility to preserve funded status might find itself inadvertently overweight high volatility stocks when it analyzes its active managers’ exposures,” he says. Increasingly, they’re looking at their portfolios in these terms and they want tools to align with their objectives.

However, smart beta tools can be useful to active managers. “This could be the rebirth of active management,” says Shores. Just as an active manager will have a view of being overweight Japan and underweight technology, for example, why not have a view of being overweight momentum and underweight quality or short interest rates and long inflation in a particular period of time. “Those exposures are a source of return, but you should pay active fees for them only if there are insights attached,” she says. The static average exposure is something that can be delivered more cost effectively through smart beta strategies.

“Timing these factors is the new frontier in investment research,” says Gedeon. On a risk-adjusted basis, certain factors have outperformed the market, as well as other factors, over time. “They have been identified, and the new question is how to take best advantage of them, and also how to time them,” he says. For example, momentum doesn’t always outperform, but it tends to, and has over the past 40 years on an annualized basis. “That’s pure alpha that’s been generated,” he says. “But we want to know when momentum will not outperform, and harnessing that will be the new alpha."

While the business models of some active managers may be under scrutiny, the truth is, smart beta is an active proposition, and there is an enormous amount of judgment, even when implementing a rules-based transparent process, in the whole practice. “Simply to pick the best value stocks means defining value in a specific way,” says Heinel. Value based on what? Price-to-earnings, price-to-book or something else? “The determination of how we’re going to extract the factors, the weighting schema that we’re going to apply to the factors and the universe we’re going to apply it to requires a lot of judgment calls,” she says.

Smart beta also means that investment staffs are taking strategic and tactical decisions in-house, away from the realm of active management. Before, if the fund was underperforming, the active manager would explain the market conditions and relative benchmark performance in order to justify the fund’s returns. When smart beta underperforms, it’s usually known and part of a long-term strategy.
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The choice now resides more with the asset owner, and there’s a lot of cyclical in how these factors perform,” says Behar. “It’s an active decision, implementation and ongoing strategy.”

It’s a misperception that smart beta is passive. “It’s fundamentally active in the sense that it’s different than the typical cap-weighted benchmark, and the decisions that are made to construct the methodology and implement it will drive results in very different directions,” says McCarthy. These decisions, both in defining the exposure and in implementing it, are key to whether an investor’s objectives will be met or not. It’s an exercise in applying smarter exposures as well. “For example, in a low-volatility strategy, we combine smart beta, alternative beta and alpha together to achieve a better outcome for clients,” says Williamson. “We combine beta elements in a way that adds value, then we add alpha, in the strict sense of the word, as the actively managed portion of a portfolio.”

This is leading to investors beginning to change their basic thinking and, as a result, the way they view their portfolios. “Increasingly, particularly among institutional investors, we see investment staff working to build more resilient portfolios that have a broader, more strategic, long-term view,” says Israel. It’s not about short-term responses to whether a particular manager is doing well or not. It’s more about a long-term strategic viewpoint and allocation to a set of returns. “Once investors start to think about their long-term goals in that way, they end up with better investment behavior, because they have a realistic view of how the sources of their returns really perform in different market environments,” he says.

The Alchemy of Combined Factors

Smart beta providers are using more sophisticated, although not complex, combinations of factors to solve specific investment issues. “There is a considerable interest in multi-factor strategies, but keeping the methodology very simple and transparent,” says Feyerer. For example, PowerShares recently launched FXEU, a low volatility European equity portfolio with a currency hedge. “The underlying S&P Eurozone Low Volatility USD Hedged Index starts with a universe of 950 stocks reduced the list to 80 least volatile companies and layers on a currency hedge to reduce that risk,” he says. For yield-seeking investors, a high-dividend portfolio combined with low volatility has worked well. “Those strategies that have demonstrated strong asset growth and the most interest have been those that can be reviewed and evaluated very quickly,” he says. “The more simple and transparent, the better.”

The first question is which strategy to invest in, and most consider a multi-beta solution. “Instead of placing all your eggs in one kind of beta, it’s best to diversify,” says Shirbini. All of ERI Scientific Beta’s listed products are multi-beta products. “The majority of investors that have adopted our indices, have chosen multi-factor, or multi-beta, approaches,” “The one we find the most popular is our oldest, a four-factor index, which includes value, momentum, a size and low volatility,” he says.

Increasingly, investors are looking for multi-factor strategies, in which timing risk can be mitigated and the tracking of the overall portfolio versus established benchmarks can remain within a tolerable band.

Increasingly, investors are looking for multi-factor strategies, in which timing risk can be mitigated and the tracking of the overall portfolio versus established benchmarks can remain within a tolerable band.
Since November 23, 2009, EDHEC-Risk Institute has been designing equity smart beta indices.

With live annualised outperformance of 2.37%,¹ these Smart Beta 1.0 indices based on the Efficient Maximum Sharpe Ratio methodology have shown that a good diversification method can lead to significant and robust outperformance over cap-weighted indices.

Since 2013, with the Smart Beta 2.0 framework, EDHEC-Risk Institute has created Scientific Beta multi-smart-factor indices that are even better diversified and therefore more successful. Over the long term, these indices exhibit outperformance of 3.85%² compared to their cap-weighted benchmark and have outperformed our Smart Beta 1.0 offering over the live period.³

We believe that the academic consensus and concern for robustness that underlie the design of our smart beta indices are always demonstrated, not only in our long-term track records, but also in our live performances.

For more information, please visit www.scientificbeta.com
or contact Mélanie Ruiz on +33 493 187 851
or by e-mail to melanie.ruiz@scientificbeta.com

¹ - The average annualised returns of the FTSE EDHEC-Risk Efficient Developed Index are 13.00%, compared to 10.63% for its cap-weighted benchmark, computed using daily total returns from November 23, 2009 (live date) to December 31, 2014.
² - The average annualised returns observed with US data over 40 years (December 31, 1974 to December 31, 2014) of the Scientific Beta US Multi-Beta Multi-Strategy LW index are 16.11% and 15.91% respectively, compared to 12.16% for a reference index based on the 500 largest market-cap US stocks.
³ - The average live outperformance across all Scientific Beta developed regions of Scientific Beta Multi-Beta Multi-Strategy (Equal Weight and Equal Risk Contribution) indices is 3.47% and 3.39% respectively, while that of the Efficient Maximum Sharpe Ratio strategy in the same period is 2.53%. This live analysis is based on daily total returns in the period December 20, 2013 (live date) to December 31, 2014 for following developed world regions – USA, Eurozone, UK, Developed Europe ex UK, Japan, Developed Asia Pacific ex Japan, Developed ex UK, Developed ex USA, Developed, and Extended Developed Europe. The benchmark used is a cap-weighted portfolio of all stocks in the respective Scientific Beta universes.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.
There has been significant research on which factors consistently work, and combinations of low volatility, value and momentum tend to perform for most smart beta applications in a variety of market conditions.

By contrast, to offer investors a multi-beta solution, ERI Scientific Beta creates a separate index for each and blends them together. “It is very important to create separate single risk-premia indices and then combine them instead of doing it at the stock level, because premia at the stock level creates too much company-specific noise,” says Shirbini. “When combining signals at the individual stock level, you don’t have a clue what you have in the end.”

There has been significant research on which factors consistently work, and combinations of low volatility, value and momentum tend to perform for most smart beta applications in a variety of market conditions. “Historical returns show that each of these factors can lag the market for long periods of time,” says Huij. To overcome this, diversification is key. “You need to diversify across these premiums by combining these factors,” he says. It’s a challenging task for several reasons. “These factors diversify really well, but when combined, they can cancel each other out,” he says. Optimizing the end portfolio is can make sure that combined factor strategies work together. However, optimization usually happens at the manager level, and it should happen with a holistic view at the client level. “If a client’s managers do their own optimizations, the client might end up with a sub-optimal portfolio,” he says. For example, when combining value, stocks with low returns, with momentum, stocks with high returns, you can end up with something that resembles the broad market index. Furthermore, a smart beta strategy should be evaluated not only for the outperformance it will generate, but for the interaction it will have with the total portfolio.

Investors are looking more closely at the best way to structure these strategies in their portfolios. “They’re looking more closely at the finer detail, and in doing so, there’s a greater emphasis on craftsmanship—the nuances between different implementations and how to capture these returns in the most efficient way possible,” says Israel, “and we’ve found that the most effective way to put a portfolio of styles together is in an integrated fashion.” This means building a portfolio that incorporates specific styles while trying to capture synergies and natural netting effects that occur as the styles interact with one another.

For example, a value strategy tends to perform better over time when combined with momentum, and making a separate allocation to each would generally improve the overall portfolio. “But you can take it one step further and build a more efficient portfolio that integrates the two, because you can capture the netting benefits,” says Israel. The cheapest stock and the most outperforming stock are not always the most desirable. “The stock that might be the most powerful in this strategy is the one that looks best in combination which might mean cheap but not the cheapest and outperforming but not the most outperforming,” he says. Sometimes the cheapest stock is the worst performer, and as those two attributes are offsetting, you can lose the netting benefit when you invest in two separate investment vehicles. “One owns it, and one sells it, so you don’t get the benefit of that netting that you get by directly integrating the two,” he says.

“Combining factors is ETF alchemy,” says Dorsey. “H2 plus O equals water.” Likewise, combining a momentum strategy with a low volatility strategy, for example, creates an entirely new product. “Momentum is the engine, and low volatility is the brake,” he says. Momentum and low volatility combined acts differently than the two single strategies working in tandem. “It’s critical to understand that,” he says. A good example of combined factors in a multiple asset class vehicle is DWA’s DALI (dynamic asset-level investing) tilt strategy. A client’s specific risk tolerance level determines the minimums and maximums in various equity and fixed-income categories. “We allocate the minimums, then allocate what’s left tactically to the maximums, based on an investor’s risk tolerance level and the performance of the category, like US mid-cap equities or emerging market sovereign bonds, with regular rebalancing when the tactical approach suggests a switch in the underlying investments,” he says. This is different from modern portfolio theory rebalancing. The mini-
Nasdaq Global Indexes has been creating innovative, market-leading, transparent indexes for more than 40 years and is one of the world’s largest smart beta index providers*. In addition to its full suite of factor and fundamental-based indexes, Nasdaq recently acquired Dorsey Wright & Associates, a leading advisor to the professional financial community and pioneer in data analytics and smart beta strategies. Nasdaq is now better poised than ever to provide solutions that help investors achieve specific objectives, Vice President and Head of Index Development and Research Dave Gedeon explains.

Nasdaq offers tens of thousands of indexes worldwide, and has significantly grown its smart beta suite in recent years. Can you tell us more about your offering?

Nasdaq as an index provider has always focused on solving specific investment challenges, driving value for the end-user and creating indexes that benefit the market. In terms of smart beta, it really expanded with the development of our income-oriented indexes and the acquisition of the Dividend Achievers index family in 2012. Most recently, we acquired Dorsey, Wright & Associates. Their expertise is in relative strength strategies, with about a dozen indexes that have $10 billion in licensed AUM. In addition, the Nasdaq AlphaDEX index family provides a rules-based strategy to generate outperformance based on growth and value factor weightings, but with similar correlation and risk characteristics as the broad market. In essence, we have almost every corner of smart beta covered whether it is factors, fundamentals or weighting.

How can investors integrate smart beta concepts into their portfolios?

You have to look at how a smart beta solution addresses a strategic or tactical issue within a portfolio. For example, relative strength can indicate sectors of the market to overweight and uses momentum defensively by overlaying with other factors, such as low volatility. We can use momentum — usually considered a bullish factor — to generate outperformance in a downward or sideways market by tactically rotating between momentum and low volatility stocks. As another example, an investor might seek higher income; there are numerous strategies that can address this via multi-asset allocation indexes. Since these indexes are rules-based, they can provide more predictable integration into broader portfolios.

How can investors use smart beta to gain yield?

In the environment of near-zero interest rates and a pending graduated rate increase, yield investing has been increasingly popular. The Nasdaq Dividend Achievers family, the basis of $25 billion in ETF AUM, looks at U.S. companies that have consecutive years of dividend increases and we believe are better suited to withstand the rising rates. Dividend Achievers, comprised of a basket of stocks that can increase payouts faster than inflation, are designed to forgo yield today to generate more income tomorrow.

In the dividend space alone there are countless strategies with live and back-tested track records, so it is important to analyze each strategy against specific investment goals. On the fixed income side, it’s becoming more challenging to get exposure through individual corporate and government securities. To help investors build a portfolio that works in this space, we developed the Nasdaq IBIS Preservation Index family, which holds five ETFs as a component, and it creates a singular solution from a fixed-income exposure perspective. The indexes will rotate each quarter based on market signals and thus provide a single ticker solution for fixed income. The other aspect on fixed income is targeting a specific duration. If the Fed is to raise interest rates, the Nasdaq BulletShares family, indexes of high yield and investment grade bonds which lock in specific durations, can be a great tool to manage this.

What other smart beta ideas can we expect to see from Nasdaq?

We’re constantly evaluating the market for new opportunities. We are expanding our factor suites and launched additional iterations of the Buyback Achievers and Dividend Achievers families to take advantage of new research in that space. With Dorsey Wright, we can take the momentum strategy in new directions; the demand for tactical solutions is only going to increase, and Dorsey Wright has a proven methodology across and within asset classes. Investors and product sponsors are seeking more multi-factored strategies, so it’s an exciting time as an indexer to help manage risk and performance through creating diverse solutions.

For more information:
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Making Smart Beta Work in Real Life

“There’s ample evidence that smart beta strategies can generate outperformance, but most implementations are suboptimal,” says Huij. It’s necessary to understand why these factor premium patterns are there and that understanding should be part of the investment process. “For example, there is a correlation between the risk in a value strategy and the potential higher returns, but there is no empirical evidence of a relationship between actually taking the risk and earning the higher return,” he says. “This means that if you follow a generic value strategy, you will be exposed to risks that are not necessarily rewarded.” This concept is also consistent with the low volatility factor. “It’s very difficult to attribute this low volatility anomaly to risk because you’re taking less risk,” he says. The way to make a factor investing strategy more efficient is to identify clearly the risks to which you are exposed when following a strategy and deciding on a technology to take out those that are unrewarded.

“The most important thing to understand with any smart beta strategy is the actual exposure that is delivered,” says Shores. “The choices that you make in portfolio construction have a very large impact on the exposure that’s delivered and the outcome that’s achieved.”

Do you constrain sectors and countries relative to a parent benchmark? What is the starting universe for security selection? Does it include small-cap securities or just large- and mid-cap securities? How often do you rebalance? These considerations have a major impact on the exposure that’s delivered. “Understanding the nature of the exposure helps us to understand the role it is likely to play in your portfolio and how it will perform in different market environments,” she says.

“Design matters and all factor-based strategies are not created equal,” says Behar. For example, some indices may claim to be high dividend or low volatility but they also come with interest rate sensitivity or a bias toward growth or leverage that may be unintended and not compensated. “A lot of these strategies come with large sector biases, so you have to examine what is really driving returns,” he says. A dividend strategy, for example, may be overweight utilities and underweight financials and technology. If interest rates go up, utilities, which have high payout ratios already, don’t have economically sensitive revenues, and their results could be negatively affected. A technology company flush with cash might increase or initiate dividends, while financial companies tend to do well when interest rates go up. “An investor may be surprised by how it ends up performing,” he says. “Through thoughtful portfolio construction, it is possible to get higher dividend yields without having those sector biases.”

There’s a proliferation of off-the-shelf smart beta indices. “How do you evaluate them for efficiency, intended factor biases and those that are unintended?” asks Behar. A number of indices have similar names—risk weighted, low volatility, minimum volatility, defensive—but on closer examination of the construction and methodology, it’s clear that they can perform very differently in different market conditions, and they may not perform as advertised.

“Academic studies typically ignore things like trading costs,” says Huij. They also ignore restrictions like shorting. “Shorting can be very expensive, and it’s important to consider the effects that shorting can have on returns in a factor investing strategy,” he says. Another market concern is the impact of crowding. “Investors are putting a lot of money in these strategies,” he says. “We already see some meaningful consequences for particular stocks being so popular,” he says. As their prices are pushed up, their characteristics and role within a factor index changes.

“We know how these factors behave, but the manner in which you capture and integrate them in portfolios is critically important,” says Shores. For example, just getting rebalancing right is an exercise unto itself. “Is it monthly, quarterly or semiannually? A more frequent rebalance might result in a more pure exposure, but it will incur far higher trading costs, which might erode the benefits.”
Pension funds, insurance companies and sovereign wealth funds increasingly apply factor investing to equities in their portfolios. And now they would also like to apply this concept to credits. “These investors believe that factor investing can give long-term outperformance in equities and have started to wonder why they should stop there,” says portfolio manager and researcher Patrick Houweling of Robeco Global Multi-Factor Credits.

The concept of factor investing in credits is similar to equities, explains Houweling. “It is a disciplined way of constructing portfolios where we apply rules to identify which companies or bonds score well on specific metrics. All decisions are based on research: both academic and our own proprietary research.”

In 2014, Houweling, together with quantitative researcher Jeroen van Zundert, wrote an academic research paper entitled ‘Factor investing in the corporate bond market’. The study is the first of its kind to show that factor strategies can be attractive in credit markets. A multi-factor credit portfolio is found to generate substantial premiums in the form of better risk-adjusted returns. The presence of these premiums was no surprise to Houweling. “Many of the explanations that apply to equities are also relevant to corporate bonds. Consider for example, human behavior, incentives and the structure of the financial sector.”

Besides the research paper, the strategy builds on Robeco’s earlier factor investing experience in equities and low-risk investing in credits. The strategy is innovative, says Houweling. “We have packaged the results of our research into a corporate-bond strategy that we can offer to clients.”

So how does the strategy work? It invests in global investment-grade bonds, and enables institutional investors to take advantage of four factors: Low Risk, Value, Momentum and Size. Low Risk selects low-risk bonds issued by low-risk companies, Value selects bonds that are cheap relative to their associated level of risk and Momentum selects recent winners. In addition to these three factors, which Robeco also uses in its equity factor strategies, the Size factor has been included. Amongst others to take advantage of the liquidity premium, which plays a more significant role in less liquid markets than it does for equities. The strategy aims for a better return than the market with a similar risk profile. Diversification is a way to reduce risk. “We make sure that the portfolio is well diversified across companies and factors,” says Houweling. “Performance should not come from one or two winners. Instead, it should come from the exposure to factors. And by combining multiple factors in a portfolio you can achieve more stable performance.” It is a strategy that pays off in the long run, concludes Houweling. “There can be periods of time when specific factors underperform the market, but we are confident that these factors will outperform in the long run.”

Institutional investors have shown considerable interest in the strategy. “Some see it as an alternative to their actively managed portfolios, while others regard it as a replacement for their index portfolios.” Clients also like the fact that the strategy is research driven, he adds. “There is a huge body of academic literature that proves the existence of the factor premiums. Factor investing represents a different style of generating performance to the more traditional ways of managing credits and we firmly believe that it deserves a place in a diversified bond portfolio.”

For more information, please visit www.robeco.com/factor-investing

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“Having a realistic view on capital market conditions, trading costs, the impact of risk return and costs simultaneously is critical when you’re building these portfolio construction rules,” she says. Once the rules are written, they are followed to the letter, so it’s imperative to get them right.

Correlation across similarly structured smart beta strategies can become an issue as well. “If you use a definition of value that is identical to everyone else’s, it can become a crowded trade,” says Berger. “You may be less differentiated than your peers and less diversifying than you expect.” Therefore, the strategies are recognized as active, and a lot of analysis goes into how each exposure is defined, how different exposures are combined, and how the strategy is implemented and rebalanced over time. Furthermore, in some cases, a strategy’s transparency can work against it. “Some of the larger funds that have a clearly described methodology can be front-run,” says McCarthy. Trades and re-balancings that are known can be traded on in advance. In some ways, the more index-like a traditional smart beta strategy is, the less valuable it is to an investor, because if everyone knows your set, transparent rules and how and when you rebalance, people can anticipate it and take advantage of it, says Berger.

New Frontiers
Smart beta providers each identify fixed income as the next frontier to apply risk premia and alternative weighting methodologies. But applying smart beta methodologies to the bond market can be challenging. In February BlackRock launched the Fixed Income Balanced Risk ETF. “We started by thinking about what drives returns in bond markets, and what is the most important decision that a bond market investor can make,” says Shores. The two most important things in fixed income are interest rate risk and credit risk, and the amount of those exposures in a fixed-income portfolio will govern the vast majority of the total return. “We wanted to make sure that we got those two things right,” she says. With interest rates expected to rise, investors are seeking less interest rate risk. “Now they’re worried about more about the amount of duration their portfolios and how that might impact their future returns,” she says, “and we wanted to provide a better diversification of interest rate and credit risk in an index-based portfolio.” That allows for a more attractive risk profile while still earning a reasonable yield.

Constructing the portfolio wasn’t an easy process, however. Researching and back testing fixed income is inherently more challenging than equities. “Just getting your hands on the pricing data for these OTC securities is a significant undertaking,” says Shores. Liquidity is an issue as the ability to source bonds is significantly more challenging. “That’s part of the reason why at last count you see more than 700 exchange traded equity smart beta funds but only nine for fixed income,” she says.

Where Are We Heading?
“There will be continued innovation and even more productive solutions that improve results for clients,” says Shores. A lot of that has to do with empowering investors to understand what they own and what they should own, which gives us a better understanding of how best to implement these ideas in portfolios. “This factor-based view of the world that’s focused on the true drivers of return empowers investors to better understand their portfolios and to better achieve their desired outcome,” she says.

Most agree that there will be more innovative applications of smart beta strategies. “We’ll begin to see these ideas applied in long-only portfolios in other asset classes like fixed income,” says Israel. But there’s no reason to stop at long-only equity investing. “We’ll also see them applied in long/short portfolios in other asset classes and in diversified multi-strategy implementations,” he says. For those who believe in value as a style in equities—overweight the cheap and underweight the expensive—that concept is easy to translate by going long the cheap and short the expensive. One can then extend that same idea to other markets, where cheap and expensive are just defined differently. “The notion of long only equity investing is well established, but the philosophical foundation for it is one that exists in other asset classes,” he says.
Some assert that once a strategy is “discovered” it can’t work anymore. Others, often implicitly, assume the future will look as wonderful as the past. Perhaps not surprisingly, we stake out a middle ground. We’re going to argue that certain well-known classic strategies that have worked over the long term will continue to work going forward, though perhaps not at the same level and with different risks than in the past.¹ We will focus on classic “factor”-type strategies, which include smart beta.² Our favorites won’t shock anyone. They are things like value, momentum, carry and quality/defensive.³ Of these, we’ll use value investing as a common example throughout this discussion.

We don’t consider these classic strategies to be “alpha” in the traditional sense. However, there can be better or worse versions of them, and creating new, better versions is certainly a form of alpha (this can lead to great semantic battles).⁴ Still, to be real alpha something has to be known to only a modest number of people/organizations (one being optimal). By this definition, classic strategies defined in well-known ways don’t fit. But, presumably sometime in the past, when they were much less well-known, they were indeed at least closer to “alpha” in all senses of the word. This brings us to the title question — now that they are “classics” and known to many, why should they still work?

First, of course, let me say that all else being equal, everyone would prefer that only they knew about these strategies! It is hard to argue that widespread knowledge of them is a good thing for those few who knew about them before. We think in the past we (the “we” is those collectively doing many of these systematically 20-25 years ago) were in the position of knowing about these strategies and using them when they weren’t widely known. We believe that many strategies make a journey from alpha to a middle ground. This middle ground is a place where they are known, still work — though perhaps not at the same level as in the past — and eventually fall under a set of overlapping labels like alternative risk premia, style premia, priced factors, exotic beta, and, of course, smart beta. When you realize this journey has occurred, there are two important things you must do. First, decide if you really believe the strategies will work going forward. That is, are they now really “premia” or are they gone? Importantly, if you believe they will keep working, be cognizant of how they might act differently now that they are more widely known, both from return and risk perspectives. Secondly, make sure these strategies are available for a fee consistent with something being known and not with the higher fee appropriate if you believe something is true, unique alpha.

If you believe in these classic strategies going forward, and you can invest in them at a fair fee, we think they are very special in the investment world.

So, now we begin to tackle our main question. Why, even if something has worked for 100 years in a variety of places (actually especially so, as this is how it gets to be “known”), can well-known classic styles still work going forward? To start, of course, we have to discuss why any, known or unknown, systematic strategy (be it “factors” or smart beta) works to begin with.⁵ Basically there are two reasons.

The first reason is they work because the investor is receiving a rational risk premium. Let’s use as our example the value factor among individual stocks⁶ — going long cheap stocks and short expensive stocks (use your favorite metric or metrics for measuring valuation). If the long (cheap) stocks are, in some relevant sense, riskier than the short (expensive) stocks — and riskier not just individually, which can be diversified away, but as a portfolio — then it’s completely rational for them to be awarded a higher expected (or average) return. Now, keep in mind, to be risky, that investment has to lose sometimes, particularly when it really hurts to lose! This is something often lost as some investors assume that risk is simply that something occasionally goes down. That would indeed be risk
if it was all you owned, but it isn’t the right measure of risk for a small part of a portfolio. Rather, winning on average is the compensation you get for the times you lose only if those are very painful times to lose (and, yes, the industry is still debating how to define this pain, with the CAPM’s answer being that it’s about falling when the overall portfolio of invested wealth falls). If you win or lose completely randomly, most theory, and basic intuition, says you are not compensated for it with higher expected return as this randomness can be diversified away.

The second reason these strategies may work is because investors make errors.8 Errors, mispricing, inefficient markets, overreaction, underreaction and myopia of various kinds are all in the bailiwick of behavioral finance. In this case, following our value factor example, the long (cheap) stocks have higher expected return not because they are riskier, but because investors make errors. In other words, these stocks are “too cheap” and you make money when things return to rational (or from the superior carry while you wait), and vice versa for expensive stocks.

“The good news is that if something is rational compensation for risk, then there is no reason it should ever completely disappear or necessarily fall below a rational level.”

Of course, just to complicate things, these explanations are not mutually exclusive. They can both be true. Furthermore, their relative impact can vary through time. For example, cheap value stocks might usually be cheap because they are riskier, but in the 1999–2000 technology bubble they were too cheap because investors were making errors. Much ink has already been spilled by researchers arguing over these competing explanations (though few seem to explicitly deal with the annoyingly complex possibility of both mattering). It’s not our task here to adjudicate between them. Rather, we’re focused on what happens as a strategy that works for either reason becomes more known.

What Happens When a Strategy Becomes Known?

Let’s consider the first case where a strategy works for “risk”-based reasons. The good news is this strategy may remain fairly robust after becoming “known.” In fact, it’s odd to think of it as ever being unknown. If cheap has beaten expensive because investors have correctly perceived the cheap as riskier in a deep, meaningful and undiversifiable sense, and thus demanded a premium, that’s always been known even if less formally and more implicitly. Still, being risk-based wouldn’t make a strategy entirely impervious to popularity. The price of risk (how much you’re rewarded in extra expected return) can vary though time, and perhaps fall as the risk premium is more popularized (if, in this case, not really “discovered” but just disseminated). The good news is that if something is rational compensation for risk, then there is no reason it should ever completely disappear or necessarily fall below a rational level. But, there’s bad news in this case, too.

The bad news is, of course, that risk is risky! Remember this shouldn’t be some mere label called “risk” but actual pain coming at the times it’s hardest to bear (this might be short sharp pain, or long periods of less-severe agony, but it has to be pain when pain really hurts). In our opinion, those espousing risk-based stories, sometimes, at the margin, don’t seem to want to uncover this real pain but merely use the word “risk” as a proxy for “rational” so everyone can feel good about investing. “Oh, you get paid for doing this on average, but sometimes it ends your career or ruins your retirement” may or may not be an exaggeration but it’s certainly not a great tag-line for an investment product! But it is indeed a reason for the expected return premium associated with bearing this risk to be real.

This brings us to the more interesting case, and the one we’ll focus more attention on: a strategy that works based on behavioral finance reasons — that is, investor errors. This type of strategy starts out, all-else-equal (same belief in its efficacy), better than one based on risk. Why? Well, because it doesn’t come with risk! It is a stochastic free lunch (that’s a free lunch you get to eat on average but not all the time).9 But it also has a big potential problem: it is likely more susceptible to going away. This can come from the irrationality that drove it going away (investors collectively wising up) or other investors pouring into it, taking the other side of those making errors, and “arbitraging” it away (a subtle difference where the unanointed don’t wise up but the cognoscenti are more active in exploiting them).10 Let’s examine both of these things with some objective analysis and also, admittedly, some editorial opinion.

Expected Return and Risk When a Strategy Becomes Known

What might change when a strategy becomes more widely known? Consider the generalized idea of expected return (in excess of the risk-free rate) compared to the risk taken. If the “compared” in the prior sentence means division and the “risk” is volatility, then this reduces to the familiar Sharpe ratio. In fact, we’ll discuss it as Sharpe ratio but this discussion is fairly general to other measures of risk. We’re using Sharpe ratio not to defend all the assumptions behind it but to make discussion easier.

Sharpe Ratio = [Expected Factor Return minus Cash Return] / Factor Volatility11

Let’s first talk about expected return. Thinking about each of these strategies as a long and a short portfolio,12 we can easily imagine that as a strategy or factor gets more popular the “value spread” between the long and the short side will, on average, get smaller.13,14 The value spread is a measure of how cheap the long portfolio looks versus the short portfolio (and for some factors can go negative). For value strategies the long
portfolio always looks cheap, that’s by definition, but how cheap, or the “value spread,” varies through time. You can think of the value spread as one potential way of measuring the crowdedness of an investment. If too many people buy the long side and sell the short side, the long side gets bid up and the short side bid down, squeezing the value spread. A tight value spread should logically lead to lower long-term average returns to the factor going forward. But, lower does not have to mean irrelevant or disappearing. That will depend on how many investors on net are trying to lean this way. As of now, in broad generality (we expect to write more on this soon) we do see spreads on many factors somewhat tighter than they have been in the past, but not shockingly so (in fact, in our main example today’s spread is almost exactly at the historical median). Moreover, they are considerably less tight than are the valuations of long-only stock and bond markets versus their own historical valuations. In other words, if value spreads on these known factors are somewhat tight versus history, they are not, in our view, nearly as tight as traditional markets are expensive versus their own history.

Let’s look at one very simple version of this exercise. But, before doing so, we must caution you that even intuitive measures of strategy attractiveness like this are poor predictors of short-term strategy performance, and only somewhat better at predicting long-term performance (you just never get that $R^2$ of 100% you want!). We think measures of strategies’ attractiveness are most useful when at unprecedented extremes (e.g., near the peak of the technology bubble, and if someday we ever see valuation spreads way lower than the past), and even then no indicator is perfect, certainly as to timing. Still, if the cheap stocks looked way less cheap versus the expensive stocks than ever before, we might not panic or abandon a strategy, but we would certainly pay attention. Let’s take a look at one simple intuitive measure we’ve been examining and writing about for more than 15 years.

Using the Fama-French approach (data from Ken French’s website) above, we plot the ratio of the summed BE/ME (book-to-price) of the cheap one-third of large stocks over the BE/ME of the expensive one-third of large stocks (all U.S.) through June of 2015. In brief, the cheap will always have a higher BE/ME than the expensive, that’s a tautology, but how much cheaper can and does vary dramatically through time, and seems to be a reasonable, intuitive and empirical measure of prospective long-run expected returns to the systematic value factor (as in all these predictions, it’s far weaker short term and still far from perfect long term). The red line is the median, and higher implies cheap is cheaper than usual versus expensive.

The current level is almost exactly at the 60-year median. While the strategy might be more exciting to invest in at times like the peak in 1999–2000 or the milder but still famous growth stock frenzy of the late 1960s and early 1970s, one usually has to suffer greatly before those opportunities turn profitable! Anyway, fairly basic measures like these show little evidence of a strategy that’s recently been arbitraged away.

We don’t know the precise effect on the numerator (expected excess return) as a strategy gets more known. Does it go away entirely, get reduced significantly or is it only mildly affected? Directionally, however, what happens to the expected return of a factor as it gets more popular seems straightforward even if we see little evidence it’s happened yet! What happens to the denominator (risk) is perhaps a bit less obvious.

It does seem clear that you have more risk of a crisis — a “run” on a strategy, if you will — when it’s well known. There are more candidates to start running, and more price impact of the run, which can itself stimulate more running. Moreover, people who get into a strategy for “me-too” reasons are likely to run sooner than true believers. It’s hard to imagine a run on a strategy only modest handful, except by coincidence. That is, unique strategies seem relatively immune from runs, and the chance of a run seems logically to follow a strategy becoming known. Besides runs, there are other more mundane reasons we might rationally worry that risk would increase when a strategy gets known.

Let’s examine this mundane everyday risk. Think of it for now as the classic measure of volatility if you’d like.
Imagine a world without crises (it isn’t hard to do). Not having crises doesn’t mean a strategy always works or even works on average. Consider the value strategy again. You are long “cheap” stocks (whatever your own favorite measures are) and short expensive ones. Even in a world where nobody else is doing it, there is still risk. The expensive stocks could turn out to be worth their prices, or more than worth them, and the cheap stocks could be not cheap enough. That’s not what happens historically on average, but it could have been the case, and it certainly can be and is at points in time. Even if a strategy is known only to you, it is still buffeted by real world news and outcomes and even just changes in opinion. If a lot of good and bad news comes out for your short and long positions, respectively, then you lose at that time.

Now imagine that a strategy becomes well known and popular. You still have the mundane risks we just mentioned, but now you have the addition of potential big and systematic “flows.” Flows only happen, except by large coincidence, when a strategy is known. What we mean by flows is somebody raising or lowering an allocation specifically to the factor in question (or some version of the factor: an allocation away from capitalization weighted and to fundamental indexing, for instance, would affect all value strategies implemented over the same stocks because fundamental indexing is simply a value tilt). All-else-equal, a flow into the factor would be expected to increase the return to that factor over the period it’s flowing in, and to lower returns after it stops. This can happen quickly should the return reverse fast as price-pressure abates, or slowly should the inflow compress the value-spread discussed earlier. Outflows, of course, work the opposite way. Essentially flows now become a new source of day-to-day volatility. In fact, we can unite these two things by thinking of a crisis or “run on a strategy” as just an extreme flow. Even with no change in the long-term average return we’d expect a somewhat lower Sharpe ratio to a “known” strategy just from this effect — higher volatility from the additional risk source of flows. How much higher is an empirical question.

Just as we did earlier for the value spread, we can examine the realized volatility of the value strategy. There are lots of ways to do this, but here is a basic and obvious way. Above we plot the realized, rolling 5-year monthly volatility (annualized) of long cheap, big stocks and short expensive, big stocks (again, using the Ken French data).

Again, the technology-driven 1999–2000 period is the outlier. Smaller extremes happened in the late 1960s through early 1970s (remember the graph looks back five years) and during the 2007–2008 financial crisis. Also, note that the rolling volatility of the value factor is 0.7 correlated with the volatility of the market itself, and the “residual” volatility (that not explained by the market) of the value factor is mostly negative since the technology bubble (in other words, the volatility of the value factor portfolio has been lower than average when adjusted for market volatility). While it is reasonable to worry — and we will continue to worry — there seems little evidence, at least at the monthly frequency, to suggest that we are seeing the steady rise in volatility to the value factor that one might fret about as “flows” become a bigger and bigger part of life. So, while we stand by our theoretical discussion of flows, we can’t find a lot of evidence they have become a big issue yet (admittedly realized volatility is a coarse measure affected by many other things, again more work for the future).

**Can We Say More About Current Attractiveness?**

As a strategy becomes well known it leads to a potentially lower numerator (expected reward) and — probably less obviously — a potentially higher denominator (risk). Yep, it’s better to be the only one to know about a good strategy! But does broad knowledge of a strategy, even if it’s based on investor error, mean it has to go away? Does the numerator have to go to zero, or the denominator so high that the risk is unacceptable? The above is some very early evidence that, at the very least, this has not occurred yet for the most basic version of the most widespread smart beta, or factor, which is value. Let’s continue this discussion (with, admittedly, more opinion than factual graphs).
First, we think the evidence that these strategies are flooded with money, as compared to the past, is weaker than many critics believe. These strategies have been well known since the late 1980s. (We mean becoming known in their systematic form, many were obviously “known” more generally well before that; value and momentum in general are not new ideas!) The widest value spreads to the value strategy ever witnessed were in the late 1990s during the technology bubble, when the systematic value strategy was widely known (in fact, widely ridiculed). Yet, as we discussed above, value spreads do not look like “the world has changed” for value.22 Given that the value strategy forms the core of many factor and smart beta strategies — for example, the famous fundamental indexing strategy is precisely a known systematic value tilt versus a capitalization-weighted index — we take comfort in this finding.

While money has been moving to smart beta — and this worries some people, a worry that might ultimately prove justified — it has to be coming from somewhere. If it has been coming from more expensive (in terms of fees, not the stocks they chose) stock pickers, and those stock pickers themselves had a bias to value investing, it’s less than obvious how big the net effect is. Furthermore, the inflows being discussed today are (mostly) into long-only unlevered smart beta, or factor-tilted, investments. This contrasts sharply with 2005-2006 (which preceded the sharp sell-off and the almost as sharp recovery of some of these factor stocks) when much of the flow was into levered long/short strategies.23

Interestingly, at the same time that many are worried about these strategies “going away” because they are too well known, we also read all the time about how it’s a “super-narrow market with some stocks overpriced and many underpriced.” We’re only being half-serious as reasoning from anecdotes in the financial press is generally unproductive. However, to those saying both these things (and you know who you are), we ask, well, which is it? Are investors mispricing the cross-section now in a big way, or have we all achieved rationality? We doubt either extreme.

In fact we have doubts about the extent to which these strategies are “known.” We encounter skeptics every day (being skeptical is allowed!) who find that these strategies are too simple, leave out too much (how can anything work without the judgment of a skilled stock picker?) or are just too naïve to be effective. In fact, it’s kind of odd to be called too obviously right (and thus too popular) and too naïve at the same time, but that’s often the case (and sometimes in the same meeting!).24

Going further, many implicitly assume that if more people pursue a strategy, they will “arbitrage it away.” In truth, it’s unlikely that even real arbitrage opportunities — let alone attractive expected returns (an expected return is not an arbitrage as it sometimes loses!) — get fully closed. This is not the place to discuss these theoretical limits. It’s a long topic, but those who want to begin should start here25 and here26 and here27 and here28. It’s comforting to know that besides empirics and general economic reasoning, there are strong theoretical reasons why known strategies, if real to begin with, might be less attractive but not completely eliminated.

Until we see evidence (and perhaps this will never come, but if it does, the trip there, but not the destination, will be fun29) that value spreads are at, and remain at, unprecedented low levels versus history, we see no reason to believe these strategies are so well known that all the expected return is gone from them.

Advice to Investors30

So, in a world where these strategies are more known and more popular than they were during the history they’re studied over (which includes at least 20+ years of real-life results), but not so well known as to be eliminated, what’s an investor to do?

• First, assuming attractive but lower-than-historical rewards (the numerator) seems prudent.31 Recall we believe this “lower-than-historical” verdict applies even more so to traditional long-only capitalization-weighted stock and bond markets (index returns). Thus, the marginal benefit of adding these strategies may be as or more important now than ever, even if stand-alone they are somewhat attenuated. And, remember, we’re certainly agreeing that logic says they should be somewhat attenuated when known, but our one simple test (for the most basic, but still only one, factor) didn’t find evidence of this!32,33

• Second, on the risk side it seems clear, and pretending otherwise would hurt not help, that crises or runs on these strategies are more possible now that they’re well known. However, historically, and logically, such runs are about surviving the short term. This is particularly an issue for levered versions of these strategies, something far less popular today than a decade ago (and thus, again, probably actually safer today). Crises and runs have an impact on volatility over different horizons. Short-term volatility — say, daily or weekly — may be higher and have the risk of some large extremes when strategies become popular. But volatility over long horizons, call it monthly and beyond, might not go up much at all as the “flows” we discuss have less importance than the reality of economic outcomes. This is because these crisis events have been, and in fact should be, highly mean-reverting because they
are based on price pressure and not fundamentals. That doesn’t make them something to ignore. If they kill you, you’re no less dead because they will right themselves soon (for someone else!). But institutions or individuals allocating to these in sizes they are confident they can stick with through extremes can take comfort in this longer horizon. In fact, if the possibility of short-term craziness scares off many, it can be a reason that these strategies remain attractive (still a good “numerator” with value spreads not super-compressed compared with those in the past). Remember, just because they are now known doesn’t mean everyone believes in them or is comfortable with them! With all this said, regardless of value spreads, if much more of the industry eventually adopts a long/short levered implementation of these strategies, it will be time to worry about them more. Bottom line, we recommend open eyes. Short-term crisis risk, and the risk that this will occur when markets have short-term problems, is likely larger in more well-known strategies. But again, it’s a short-term not long-term issue. Plan for crises so you can survive them without giving up the long-term benefits, but it’s not a reason to eschew factor strategies.

- Given how much factor strategies can improve a portfolio that was devoid of them, the current expensive state of traditional long-only market exposure, and the evidence that the “arbitraging away” of these strategies is still incipient, the strategies can have a lot of attenuation and still be valuable, so we believe they should be added to portfolios lacking them. While we, and other providers, always strive to be as good as we can, it’s often surprising how small a risk-adjusted expected return that a truly uncorrelated investment needs in order to have an important impact on a portfolio.

- We think you allocate to factors and stick with them. We think higher-frequency timing of them should not be dismissed out of hand, but should be treated very much like timing the stock market. It may be a good idea but should be treated with great caution. We think sticking with these smart betas / factor tilts — and setting yourself up to stick with them (through study, preparation, risk-control methods and the size of your allocation) — will be more important than timing them.

- Among the classic strategies, look to those that might, at the margin, be less crowded. Our AQR-centric answer is that we’ve written extensively about how these smart betas / factor tilts apply to not only stock picking but also to many other decisions (e.g., country equity and bond markets, currency, commodities) that are underappreciated. Evidence supports these strategies not being arbitrated away even for choosing stocks — but to those particularly concerned we emphasize the perhaps underutilized fact that they, again, work in many other places (indeed, this gives us much of our confidence they aren’t data mined even in the original locale stock picking) and we would recommend diversification across choosing stocks and choosing non-stocks.

- For those who can we’d look to well-constructed long-short versions of these smart betas / factors. You can get far more diversification across themes and geographies and asset classes this way (and do somewhat better by incorporating the short side). If this method ever becomes dominant again, we must revisit this recommendation. For those investors for whom such an implementation is just not feasible due to constraints (a very common situation), we continue to believe the long-only implementations — smart beta in bottom-up construction or the much related factor tilt approach in a long-only portfolio — can significantly improve long-term risk-adjusted returns.

- Make sure fees are reasonable! Known strategies are OK: that’s our main message. But paying true alpha prices for known strategies is not OK!

In conclusion, it’s always better to be the uniquely informed investor. We don’t pretend otherwise. But unique is also much harder to evaluate (skill versus luck, real versus data mining versus lucky good draw) and much harder to find and invest in scale. Known strategies have the advantage of, well, you know about them! And they are often available in scale. If the known strategies make sense to you, if they have a great body of in- and out-of-sample evidence behind them, and if they pass some basic intuitive tests of whether they’ve been arbitrated away or not, then it makes no sense to ignore them. Don’t be blasé about the potential problems that might come with extreme crowding into these strategies, but also don’t assume that once something is known it’s gone forever from that day onward, and thus ignore good diversifying strategies that we believe will be with us for quite a while — and are needed now more than ever!

*This article originally appeared as a Cliff’s Perspective on aqr.com.*

AQR is a global investment management firm that employs a systematic, research-driven approach to manage alternative and traditional strategies. As of June 30, 2015, we managed approximately $136 billion for institutional investors and investment professionals.
4 Of course, using the word a different way, if we’re right, we’ve been looking at since 1999 and we think that the short term is the wrong time horizon to judge international diversification.

50 or factors (e.g., market capitalization), is harder to get a handle on the value spread than for the value factor itself (we have a forthcoming AQR white paper on exactly this; S. Chandra, A. Ilmanen and L. Nielsen, “Are Defensive Stocks Expensive? Yes, They Look at Value Spreads”). However, we stress again that the value strategy is, in our view, the most economically important factor both to those who think of this as factor investing and those who’ve labeled it smart beta.

23 Paradoxically, while not for everyone, we think this could include some things better called “preferences not risk.” We think of this as a more carry-based “difference” measure would compress if the market’s own expected returns are based on long/short, by definition. We think of this as a more carry-based “difference” measure would be to exacerbate current moves; if the market was in trouble.

12 Again, if analyzing a long-only portfolio we can think of the strategy as being a crowding indicator, and are, in our view, more levered and taking a big part of your risk budget in a world of guarantees, we try to defend against data mining. (While we don’t live in a world of guarantees, we try to defend against data mining.)

20 We can only conjecture about how big a source this is. We know they occasionally matter a lot (e.g., the crises we see in the past out of random chance: perhaps they are a result of diligent data miners and only appear to have worked by coincidence, or perhaps are strategies that have the strategy is well known (i.e., it becomes harder to be successful with this strategy) — and we try to use fundamental economic principles to consider potential tail risks absent from our sample. For example, if there’s a sign’s options are implicitly being written, then we apply a basic conservative assumption that the future won’t be as strong as the past. See Harvey, Liu and Zhu for more discussion — http://papers.ssem.com/.

Footnotes:
1 By “work” we mean statistically, i.e., a little more often than not. If your car worked like this you would fire your mechanic. On the other hand, if your investments worked all the time, you might need to turn your manager in to the authorities!

2 “Smart beta” strategies are classic factor strategies that are long-only, usually about stock selection, and that focus on generating tilts vs. caps weights that are usually entirely factor based. In contrast, but still usually coming out quite similarly, long-only factor-based “quant” strategies start from a benchmark, generating tilts by thinking in terms of “tracking error.” Both are covered by this discussion.

3 For those not that familiar with these strategies, here’s a quick summary: value bets on cheap investments, similarly, long-only factor-based “quant” strategies start with a quick summary: value bets on cheap investments, and that focus on generating tilts vs. caps weights that are usually entirely factor based. In contrast, but still usually coming out quite similarly, long-only factor-based “quant” strategies start from a benchmark, generating tilts by thinking in terms of “tracking error.” Both are covered by this discussion.

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