Insights

FTSE Russell

The rise of factor investing

Smart beta is a generic term describing indexes that depart from the standard approach of weighting index constituents by their market value. It is both a popular and an unwieldy concept.

It's popular because an increasing number of investors wish to alter the index risk and return outcomes by modifying the design of the capitalization-weighted index. It's unwieldy and imprecise because smart beta indexes span many non-standard index approaches and they may be viewed from different perspectives.

The first wave of smart beta index products was concerned with addressing index concentration and reducing volatility. Such products embed a set of implicit factor outcomes and were followed by products that explicitly targeted specific factor outcomes. In this article we provide an overview of why factors matter and how investors are using them.

How factors help us to understand markets' behavior

A factor is a common driver of stock returns. The component of stocks' returns that is driven by factor exposure (i.e., from exposure to systematic risk) is seen as distinct from the stock-specific (non-systematic) component.

In the Capital Asset Pricing Model (CAPM)[1], which was introduced in the 1960s, a single market factor explains stocks' returns. This market factor carries an associated risk premium, called the equity risk premium.

[1] The CAPM was introduced by Jack Treynor (1961, 1962),[4] William F. Sharpe (1964), John Lintner (1965) and Jan Mossin (1966) independently, building on the earlier work of Harry Markowitz on diversification and modern portfolio theory.

However, over time empirical evidence has emerged indicating that other characteristics, such as stocks' valuation and size, also help explain their performance over time. For example, stocks with lower price-to-earnings ratios (value stocks) have shown a tendency to outperform those with higher price-to-earnings ratios over the long term. And small-capitalization stocks have outperformed the shares of larger companies over the long term.[2]

Empirical evidence of other equity factors has been identified and these factors have achieved wide acceptance amongst investment practitioners. In parallel, a burgeoning literature that attempts to rationalize the existence of such factors has evolved. The explanations for their existence range from compensation for bearing risk, structural market rigidities and behavioral causes. FTSE Russell's global factor indexes cover the following equity market factors: value, size, momentum, volatility, quality, liquidity and yield.

A factor index is designed with the intention of capturing the return premium or premia associated with exposure to a factor or set of factors in a transparent, rules-based and replicable format. Factor indexes can be used both as benchmarks for the performance of actively managed funds and as the reference or benchmark index for an index-replicating product.

Interest in the factor approach now extends beyond equities and into other asset classes, such as fixed income, currencies and commodities.

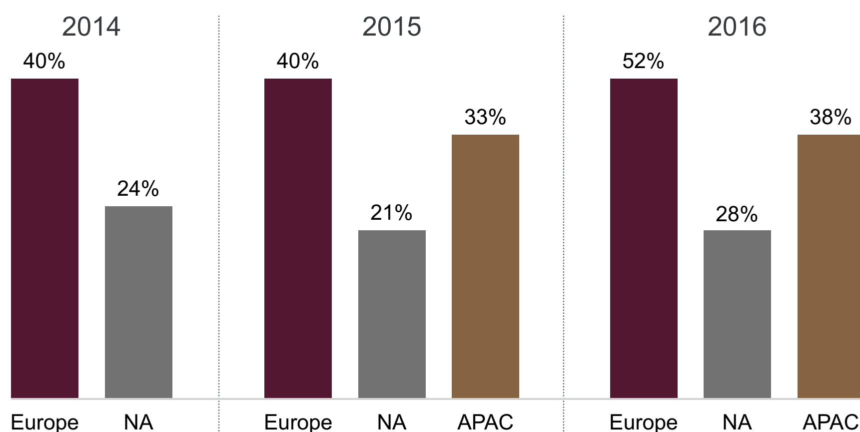
Interest in factors is rising

In early 2016 FTSE Russell conducted its third annual survey of global asset owners' use of smart beta, including factors.

This year's survey provided evidence of the rapidly growing interest in this area, and a couple of things stood out in the results.

First, European investors are leading the way in adopting smart beta. By 2016, 52% of the European asset owners surveyed had adopted smart beta, compared to 28% in North America and 38% in APAC.

Adoption of smart beta by region

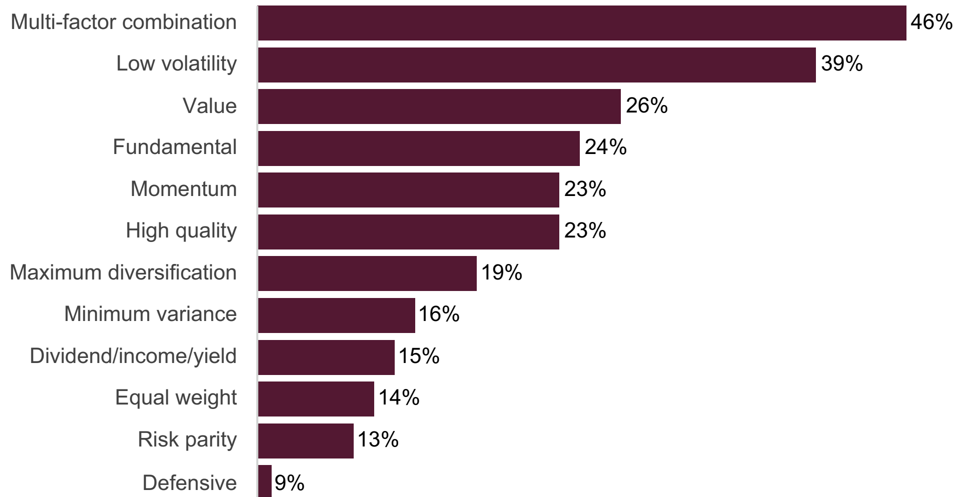


Source: FTSE Russell 2016 Smart Beta Survey

[2] Fama, E. F.; French, K. R. (2012). "Size, value, and momentum in international stock returns". Journal of Financial Economics

Second, the most popular type of smart beta strategy among survey respondents was multi-factor combinations. Investors are increasingly looking at how to combine factors, rather than examining individual factors or other smart beta strategies in isolation.

Which smart beta strategies are investors currently evaluating?



Source: FTSE Russell 2016 Smart Beta Survey

Factor combinations are often sought, since the behavior of individual factors is variable and they display relatively low correlations with one another. For example, the global size factor within the Russell 1000® Index had a positive year in 2009, with the prices of small-capitalization stocks rebounding from the depths of the financial crisis. Momentum and (low) volatility factors did less well that year, however. More recently, (low) volatility and quality factors have done well worldwide, while value has underperformed.[3]

Unsurprisingly, therefore, many investors have expressed interest in combining factors. However, many of them say they are also unsure about how best to do so. Respondents to the 2016 FTSE Russell smart beta survey told us that determining the most appropriate smart beta strategy (or combination of strategies) and how to manage unintended factor biases were their top two concerns when evaluating smart beta.[4]

Challenges in combining factors in an index

There are different ways of combining factors in indexes. A simple approach is to average the stock weights across a number of single factor indexes. An alternative approach is to use an average or composite of the factors of interest to create a single composite factor index.

[3] Source: FTSE Russell. Russell 1000 data from June 29, 2001 to 30 September 2015.

[4] Source: FTSE Russell 2016 Smart Beta Survey

Such approaches result in diluted exposure to the desired factors, by comparison with the factor exposure of the equivalent single factor index. This exposure dilution is exacerbated as more factors are combined and/or the factors are negatively correlated. Value, for example, has shown a negative historical correlation with both quality and momentum.[5]

An alternative approach to achieving exposure to multiple factors within an index is to "tilt" a starting index repeatedly; each time towards one of the desired factors. In other words, index weights are first tilted towards the first factor of interest, then towards a second factor of interest, and so on. Tilting sequentially results in exposure to all the desired factors.

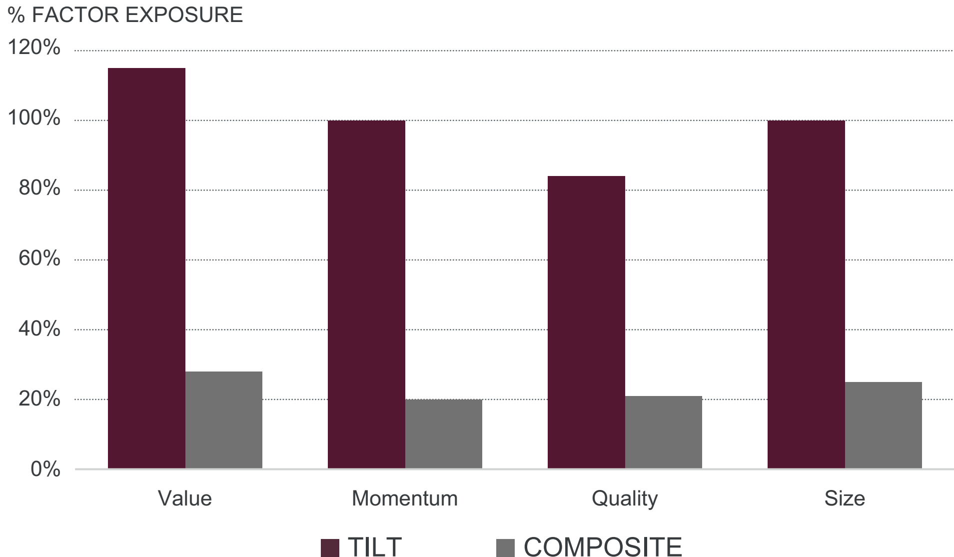
Combining four factors via composite and tilt approaches

The chart below uses back-tested data to illustrate the difference between an averaging/composite approach and the multiple tilt (tilt-tilt) approach for a four-factor combination consisting of value, momentum, quality and size, using the Russell 1000® Index . Each bar shows the factor exposure within the multi-factor index as a percentage of the single factor index's exposure to the same factor.

A composite approach to combining the four factors dilutes the value and size factor exposures to around 25–30% of their value in the single factor indexes, while the momentum and quality factor exposures are reduced even further, to around 20%.

However, the tilt-tilt approach retains over 80% of the starting exposures to all four factors, with the size and value exposures completely undiluted.

Russell 1000® Value + Momentum + Quality + Size Index



Source: FTSE Russell, June 2001 – September 2015. Past performance is no guarantee of future results. Returns shown may reflect hypothetical historical performance. Please see the end for important legal disclosures

[5] "Value and Momentum Everywhere" (Asness, Moskowitz and Pedersen, 2012)

There are trade-offs involved in the different approaches to combining factors. A composite (averaging) approach is likely to result in lower levels of active share, tracking error and turnover than the multiple tilt approach. Relatively high levels of factor exposure in the tilt-tilt version are likely to result in a greater divergence in performance against the benchmark capitalization-weighted index. If the chosen factors are important determinants of risk and return outcomes, then higher levels of exposure will generate a greater disparity in index returns.

Look into the index methodology

As factor approaches to investing gain in popularity, it becomes more important to look into the details of factor indexes construction and consider the trade-offs and compromises.

Smart beta indexes embed the design choices of the firms producing and calculating them. These design choices represent a trade-off between the desire to remain faithful to the headline objective of the index and implementation issues, such as turnover, control of non-target factor exposures, ease of replication and levels of diversification.

This is not necessarily a problem and reflects variation in the preferences of investors. Competition amongst the providers of indexes is a good thing. But for factor indexes to fulfill their purpose they should meet a clear investment objective and the underlying methodology and design should achieve this objective in an effective, transparent and investable manner.

In conclusion

Smart beta adoption and evaluation among asset owners is increasing, with Europe continuing to lead the way. Multi-factor combinations are now gaining popularity with levels of adoption and evaluation growing. Investors embarking on the multi-factor journey should consider three things. First, investors must clearly set out their investment objective—and then decide upon the appropriate index. Second, they should understand the factor definitions within the index as they will vary by provider. Third, they should understand the methodology that's employed to achieve the multifactor exposure. As we've explained, this has a significant impact on the resulting factor outcomes, tracking error and costs.

For more information about our indexes, please visit ftserussell.com.

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FTSE Russell index expertise and products are used extensively by institutional and retail investors globally. For over 30 years, leading asset owners, asset managers, ETF providers and investment banks have chosen FTSE Russell indexes to benchmark their investment performance and create ETFs, structured products and index-based derivatives.

FTSE Russell is focused on applying the highest industry standards in index design and governance, employing transparent rules-based methodology informed by independent committees of leading market participants. FTSE Russell fully embraces the IOSCO Principles and its Statement of Compliance has received independent assurance. Index innovation is driven by client needs and customer partnerships, allowing FTSE Russell to continually enhance the breadth, depth and reach of its offering.

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