Control and transparency in equity factor investing

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The 2008 financial crisis gave a huge boost to factor investing. Twelve years later, equity markets are again being rocked, this time by the coronavirus pandemic, with its severe knock-on effect on economic activity and corporate earnings.

As in the previous crisis, a factor approach to investing helped investors navigate the inevitable uncertainties associated with equities. However, to serve their purpose, factor methodologies need to offer their users adequate control and transparency over portfolio exposures.

How factors took off

Equity factor investing is not new. It's been a growing trend since Fama and French showed in the early 1990s that past US equity market returns were better explained using three factors (market, value and size) than one (the market factor only).

The investors' factor toolkits then expanded to include other systematic sources of return, such as (low) volatility, quality and momentum.

But in 2009, a report by three leading academics on the performance of the world's largest sovereign wealth fund triggered a shift in the way many institutions manage their money.

Concerned at its losses during the 2008 financial crisis, Norway's Government Pension Fund Global asked three finance professors, Ang, Goetzmann and Schaefer, to review its active equity management policy and to advise whether things could be run more efficiently.

One of the key conclusions reached by the professors was that a significant component of the fund's past equity performance could be explained by exposure to factors, rather than as a result of the skill of its active managers.

The fund, therefore decided to build equity factors into its benchmarks and to increase its use of index-tracking strategies to replicate these factors. This policy has since achieved widespread recognition—and emulation.

FTSE Russell's 2019 smart beta survey, showed how widespread factor-based investment approaches are amongst large investors.

More than 71 percent of the institutions surveyed now use a combination of equity factor strategies in their portfolios.

Factor implementation challenges

The most common equity factors—momentum, volatility, size, quality and value—are now frequently used to construct stock portfolios, often in combination with each other.

Many investors now use dedicated factor benchmarks to obtain their desired exposures and outcomes. However, different methods of index construction often yield different long-term results and investors must understand how this can impact investment performance.

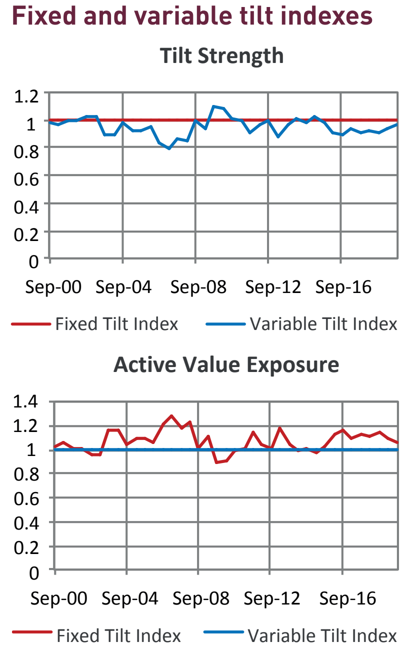
Two significant challenges faced by investors in multi-factor portfolios are how to achieve consistent factor exposure and how to control for unwanted factor exposures.

The first challenge arises from the simple observation that any company's factor profile varies over time, reflecting the changing nature of its business. For example, our value factor is calculated using a composite of cash flow yield, earnings yield and country-relative sales-to-stock-price ratio, all of which are variable.

To address this, FTSE Russell has developed a set of "variable tilt" indexes. The idea is to change the mathematical "tilt" toward a particular factor so as to achieve fixed factor exposure over time.

In the illustration below, you can see that a fixed tilt strength (red in the top chart) leads to variable factor exposure (red in the chart on the bottom). But using a variable tilt (blue in the top chart) leads to steady factor exposure (in blue in the chart on the bottom).

Fixed and variable tilt indexes



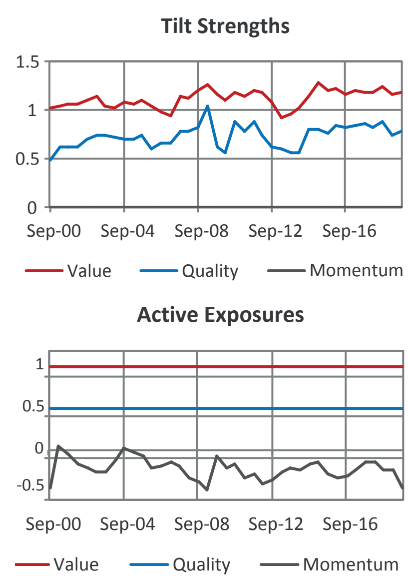
Source: FTSE Russell. Data based on the FTSE Developed Universe and Value factor scores from September 2000 to September 2019.

The second factor implementation challenge arises from the fact that factors are correlated. The value factor, for example, has shown a negative historical correlation with both the quality factor and the momentum factor.

Let's imagine that an investor wants to diversify across the first two of these two factors, combining them in a portfolio but with a higher target exposure (1.0) to value than to quality (0.5).

The variable tilt approach allows the two-factor index to achieve its exposure objectives. In the illustration below we see that varying tilt strengths to value (in red) and to quality (in blue) in the top chart produce the desired target exposures to both factors in the chart on the bottom.

Value and quality: tilt strengths and active exposures



Source: FTSE Russell. Data based on the FTSE Developed Universe and Value and Quality factor scores from September 2000 to September 2019.

But this approach leads to a new and potentially undesired negative exposure to the momentum factor, which is evident in the chart above.

This additional exposure arises from the correlation between the factors that are explicitly targeted (in this case, value and quality) and those that are not (in this case, momentum).

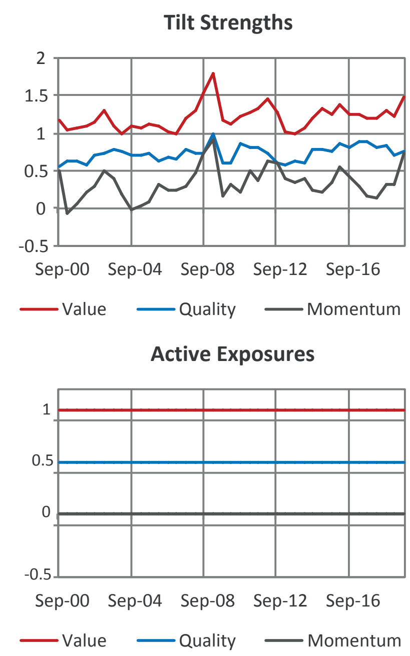
Given that factors are often associated with positive long-term risk-adjusted returns, a systematic negative exposure to a factor could also have a detrimental effect on overall portfolio performance.

Fortunately, this is not the end of the story. There is a way to dampen down the exposure to undesired factors, and it relies on the same tilting approach.

In the example we have just given of a two-factor value/quality portfolio, we can correct for the unwanted momentum factor exposure by applying an additional momentum tilt. This has the effect of neutralising the momentum exposure, while leaving the (desired) value and quality exposures in place.

In our final illustration, below, we can see in the top chart that applying variable tilts to all three factors—value, quality and momentum—results in the active exposures we want in the bottom chart: 1.0 for value, 0.5 for quality and zero for momentum.

Value, quality and neutralized momentum: tilt strengths and active exposures



Source: FTSE Russell. Data based on the FTSE Developed Universe and Value, Quality and Momentum factor scores from September 2000 to September 2019.

Target exposure indexes

In our new Target Exposure index range, we have generalized the approach of applying variable and corrective tilts.

These new indexes, as part of the FTSE Global Factors Index series give investors the ability to pursue a variety of explicit factor exposures, while reducing exposure to unwanted factors and retaining market, country and industry neutrality.

The Target Exposure indexes can be used in a variety of applications but are particularly well-suited for the multi-factor investment approaches that are now used by nearly three-quarters of the world's largest investors. They can also incorporate specific climate-related objectives, such as reduced carbon emissions from the stocks in an index.

As factor-based investing goes mainstream, investors need access to the tools that will offer consistent exposure to their desired outcomes. With equity markets reminding us in 2020 of their inherent riskiness, achieving control and transparency in factor investing is a prerequisite for broader success.