Evaluation of heuristic-based smart beta methodologies

Angela Ashton | PortfolioConstruction Forum | 29 November 2013

With some US$150 to US$200 billion worldwide now invested in smart beta products, and the likes of Towers Watson and Russell Investments agreeing that there is something to the idea, there is little doubt that the popularity of smart beta funds will continue to grow. Even academics such as Macquarie University's Frank Ashe and UTS's Ron Bird agree that there might be something in at least some of the smart beta ideas (although they generally they think that, far from 'smart', much of it is investment industry repackaging and repricing some old ideas).

Over recent weeks, we'll delved into various smart beta approaches and their performance.

Here we dig down into the simplest smart beta approach – the equal-weighting approach. It effectively builds an index based on every stock in a reference index, giving each stock an equal weight, and rebalancing at some pre-set interval (usually monthly or annually). This is a heuristic-based smart beta solution; one built on simple rules. Other examples include diversity weights, inverse volatility, equal risk and risk clustering[1].

A study from Cass Business School (which we've referenced in prior articles on smart beta) uses US equity data to show that the equal-weighting approach outperformed the underlying index by about 1.6% per annum from 1969 to 2011 and in every decade except the 1990s. Most of this outperformance (around 1.3% per annum), however, was due to the size tilt inherent in the approach[2].

Another recent paper by the Edhec Business School (an active proponent of smart beta), found that equal-weighted portfolios drawn from the S&P500 from 1967 to 2009 outperformed the standard index by about 1.1% per annum. According to this study, which used 1,000 random portfolios of 100 stocks, the outperformance came mostly from alpha (i.e. not from size or value), as a result of the monthly rebalancing used. This study effectively found that the alpha was derived from the contrarian nature of rebalancing (or a value tilt), not from the choice of initial weights.

A study by Research Affiliates published in the *Financial Analysts Journal* showed that an annually rebalanced, equal-weighted index outperformed the MSCI World Index by about 1.1% per annum between 1987 and 2009 and produced a higher Sharpe Ratio. Replicating the same analysis with the S&P500 as the reference index found outperformance of 2.3% per annum from 1964 to 2009. The authors concluded much of this was due to size and value tilts.

So far, so good... We have three studies that, in an area in which there is not a lot of good published research, seem to back the notion that outperformance is available from the simple equal-weighted smart beta strategy and which provide some economic basis for that outperformance.

But if this smart beta strategy is that simple and works due to its exploitation of previously known risk premia, do these studies simply prove that this particular smart beta strategy is, as Ashe and Bird contend, an old trick dressed up in a potentially higher fee structure?

Or perhaps, if the small cap and contrarian premia can be exploited fairly simply by using this mechanistic approach (and potentially to greater effect than an active strategy), we might have the basis for believing it can add something to portfolios. Outperformance- even if from previously understood sources - delivered in a cheap and efficient manner would be be a step forward in better quality portfolio construction.

ENDNOTES

1. One of the problems with newer areas in finance is that not everyone uses the same terminology or categorisations. I've used the categorisations used in the Cass Business School study. Some of the papers referenced use different terminology. Towers Watson, for example, have included approaches based on fundamental metrics or economically weighted approaches under this heading. We'll consider those under a different categorisation in the future.

2. Another of our recent articles on smart beta discussed Michael Edesess's views of this Cass Business School study and, in particular, his scathing assessment of one section of the study in which the authors randomly generate portfolios to test against cap-weighted indices. The findings discussed here do not rely on that section of the study at all.