

## How smart can beta be?

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Angela Ashton | PortfolioConstruction Forum | 01 November 2013

Smart beta is one of the key trends in managed fund product development at present. It's a large subject – but, effectively, smart beta is just a snappy name for any systematic, rules-based way of constructing an index that differs from the simple market capitalisation-weighted approach, which is the standard approach used to construct accepted market indices such as the S&P/ASX200.

The term "smart beta" is comparatively new (and usually associated with the good folk at Research Affiliates), but the idea of using alternative methods to construct investable indices has been around for a long time. For example, [Haugan and Heins wrote about low volatility equity strategies in 1972](#).

Although there is no strong theoretical basis for the idea that smart beta in any form *should* work, there is also nothing that says it *shouldn't*. There is no theoretical basis for thinking that market capitalisation indices should be somehow efficient. CAPM does not require market-weighted indices, for example, and does not confer "efficiency" on them.

In fact, a recent study showed that [random weighting of stocks produces better returns than a market capitalisation index](#), so that would suggest that smart beta has scope. Some proponents say that the [smart beta approach looks to overcome issues of traditional indices](#) or markets (such as high weightings in certain sectors, or high weightings to expensive stocks). Others contend that [the approach is designed to improve performance or risk-adjusted return outcomes](#) while still investing passively. And others assert that [these approaches adjust for incorrect specification of CAPM](#).

There are a wide array of approaches to smart beta, from very simple equal weighting of all stocks, to weightings based on accounting measures, or correlations.

One [recent and very involved study on smart beta was conducted by Cass Business School](#), in conjunction with AON Hewitt (with special mention made of Janice Sengupta, Australian CIO for AON – a bravo for both women and Australians, although she was originally Canadian). The study categorised smart beta into three different types. It's a good construct to think about the different styles of smart beta investing:

- Heuristic-based approaches – stock weightings are based on a simple rule. Examples include equal weighting of stocks, Inverse volatility (low volatility strategy, as per Haugen and Heins), equal risk weightings, and so forth;
  - Optimisation-based approaches – these require some sort of optimisation procedure to calculate stock weightings. These might include minimum variance or maximum
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diversification; and,

- Fundamental weighting approaches – these use some accounting or other measure to build weights. The most well-known of these is the Research Affiliates approach (called Fundamental Indexing), but there are a number of different approaches within this bucket. In my view, there is a case that the central approach used by DFA to be considered a form of this type of smart beta, a contention I'll flesh out in future pieces on smart beta.

The Cass Business School study found that all the types of approaches looked at beat the simple market cap-weighted index on both an absolute and risk-adjusted basis over the period 1969 to 2011 for US equities. However, over the 1990's bull run, the market cap-weighted index outperformed all other approaches (more on that later) – although this can be explained by the fact that the 1990s bull-run was led by large, growth stocks rather than value stocks.

The Cass study found that there was evidence of both a size and value bias, but no momentum or beta bias, for the heuristic-based approaches and optimisation-based approaches. The authors estimate about 1% per annum in performance is added due to the smaller size bias these portfolios have and around 0.3% per annum is added from their value bias.

With the fundamental weighting approaches, the Cass study found no significant size bias, but the value bias in these indices was between 1.6% to 2.0% per annum (depending on the specific approach). This is significant and does mean much of the outperformance of these types of approaches has been due to a value tilt (hence my interest in the idea that the DFA approach may essentially be one of the first true smart beta approaches).

On the other hand, the Cass study also found that an approach of random selection of stocks within a portfolio also beat the standard market cap-weighted index and many of the other types of indices discussed here.

Finally, the Cass study debunked one common argument against smart beta approaches – that the associated increased costs of trading could outweigh the performance benefits. The Cass study found this is not really an issue.

One of the more famous opponents of smart beta approaches is Vanguard Investments. [Their 2011 study](#) found that after adjusting for size and style there were no excess returns to smart beta strategies. In all fairness, this study only considered smart beta approaches that would be included in the third type identified in the Cass study. In other words, the 2011 Vanguard study and the more recent Cass study broadly reach the same conclusion around fundamental weighting approaches.

The subject of smart beta is a large one – and the multitude of different approaches that can be included under the moniker means that broad statements and conclusions are difficult. Over coming weeks, we'll delve further into the different types of smart beta approaches and

have a closer look at the value (no pun intended!) that they may offer.

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