The art & science of Smart Beta

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The rise of data and technology is transforming the investment industry, just as it is transforming our everyday lives. Look no farther than your own pocket for proof: 30 years ago, the 7.5 kg Apple Macintosh revolutionized the home computer industry with its mouse capability, a paint feature and the ability to connect to a printer.

Today, the computer that you carry in your pocket can give you the shortest route to a destination by crowdsourcing traffic data in real time, control your TV and give you a satellite image of anywhere on the planet, all while firing off as many e-mails as your fingers can type. The investment industry has experienced a similar transformation: 30 years ago, it took a sea of analysts and a room full of super computers to gather and analyze basic fundamental data like dividend yield or price-to-book. That information is now freely available from the very same 5-inch computer that woke you up this morning.

Our lives are changing, and so is the way we can build portfolios. The availability of computing power and the sheer breadth of data now available has shifted the balance of power in the investment world. Insights on valuation and sentiment were once only available to investment insiders, providing a meaningful informational advantage that could be exploited as alpha. But technology and regulatory reforms have levelled the playing field and shifted the balance of power. Today we can build portfolios in ways that simply were not possible in the past: the widespread availability of reliable data and the insights on how to apply it have redefined the notion of passive investing. We can now deliver a wider range of outcomes – not just cap-weighted index portfolios, but index-like portfolios that capture proven drivers of returns that

have historically out-performed cap weighted indices – otherwise known as Smart Beta.

Indeed, Smart Beta strategies seem to have taken the investment industry by storm in the last few years. Smart Beta AuM has grown at an annualized growth rate of 36% since the beginning of 2012 – about twice the rate of the broader exchange-traded product (ETP) industry. Smart Beta is an increasingly global phenomenon, with adoption increasing across all regions, particularly in Europe. Dividend-focused funds represent close to half of global Smart Beta assets, but growth is fastest in minimum volatility and multi-factor funds.

The growth in Smart Beta has led to a proliferation of different investment strategies – at the last count there are more than 700 Smart Beta ETPs in existence, and this number is growing! How do investors choose among the plethora of offerings? While data and technology have powered the Smart Beta revolution, there are many human choices that are required in strategy development and implementation to ensure the end result is actually a smart investment. So when evaluating Smart Beta strategies, here are three things that matter:

- factor exposures
- portfolio construction rules
- implementation

First and foremost, factor exposures matter. Factors are nothing more than broad, persistent drivers of returns – the true economic building blocks of all portfolios. You might compare factors in asset classes to the nutrients that are in food – both milk and steak contain fat and protein, just as economic risk is present in public equities, private equities, high yield bonds and most hedge funds. Healthy eaters look at the foods they consume to analyse the nutrients they contain, just as factors allow us to cut across asset classes and identify the true sources of risk and return in any portfolio. Of course, the nutrients – or factors – you want will differ depending on your goals – if you are training for a marathon, you can eat a lot more cake and chips than someone trying to lose weight on a low-carb diet.

Finding the right mix of assets is impossible without understanding the economics of these underlying factors. Armed with a better comprehension of these return drivers, we can build more robust, better diversified portfolios.

If factors are important, which factors matter? Figure 1 describes a set of factors that are based on strong economic rationale, backed by a wide body of academic and empirical evidence. Each of these factors has historically outperformed the market over long periods, and has been implemented by the best investment managers for decades. They are so pervasive that these patterns of outperformance are seen in domestic and overseas equities markets, as well as across fixed income, commodities, and other asset classes. They are so persistent that we have known about them for decades. And yet, they persist because they represent a reward for bearing risk. These investment styles also continue to generate enhanced returns compared with the market, because they result from an economic structural impediment or go against behavioral biases of the average investor.

Figure 1: Summary of macro and style factors

Macro factors:
Non diversifiable risks that have historically exhibited a positive expected return over longer periods

- Economic
- Credit
- Inflation
- Real rates
- Liquidity
- Emerging markets

Style factors:
Have historically delivered return premium over long term-capturing a risk premium, behavioral anomaly or structural impediment

- Value
- Momentum
- Quality
- Size
- Low volatility
- Carry
- Curve

Alpha:
Returns have historically been only consistently positive for managers with skill

- Security selection
- Country and industry selection
- Market and factor timing

For example, we can apply this lens to three very different sounding ETFs: a dividend fund, a value factor fund and an equal-weighted portfolio of Canadian banks. Figure 2 plots the Z scores for each of the ETFs to four style factors: Value, Momentum, Volatility, and Size (a score of zero would indicate style exposures similar to the broad global equity market). These three seemingly different ETFs turn out to have similar factor exposures – they are all biased towards large cap stocks, less volatile names and less momentum oriented names. These style exposures will drive a large portion of excess returns. Understanding these exposures becomes even more important in multi-manager portfolios where it is critical to determine how the pieces add up: are your selected strategies diversifying in relation to one another, or simply compounding unintended risks?

Figure 2: Z-score for style exposures
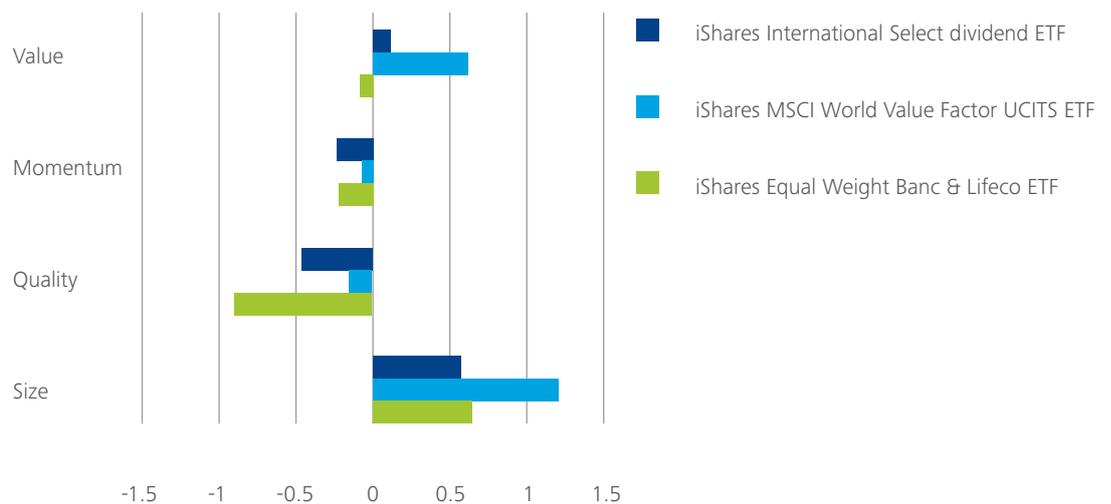
Secondly, portfolio construction rules matter – because it is these choices in portfolio construction that give rise to the factor exposures that are ultimately delivered. Many strategies may sound similar, but subtle differences in portfolio construction choices may lead to large differences in performance. Of the many portfolio construction choices to consider, the rules governing security selection (screening) and weighting scheme have the largest impact on portfolio characteristics and performance.

To illustrate this, Figure 3 plots the cumulative historical return for three value-oriented strategies: a traditional (cap-weighted) value index, a fundamentally weighted index and a value factor index. Each provides a tilt towards value-oriented securities – but with a very different total performance experiences:

- A traditional value index like MSCI World Value Index includes only a subset of the universe with the lowest valuation ratios, but remains cap weighted

- A fundamental index like MSCI Value Weighted includes all securities in the universe, reweighted in proportion to a value score to emphasize the most value-oriented names

- Finally, the MSCI Enhanced Value Index, a value factor fund, is both screened and reweighted, including only the names with the highest value scores, then reweighted in proportion to those scores

While all three strategies deliver an exposure to "value" in varying degrees, the rules governing stock selection and weighting criteria have a profound impact on the strength of the nature of the exposure that is delivered and therefore on the performance of the strategy.

Figure 3: Cumulative performance comparison for value strategies
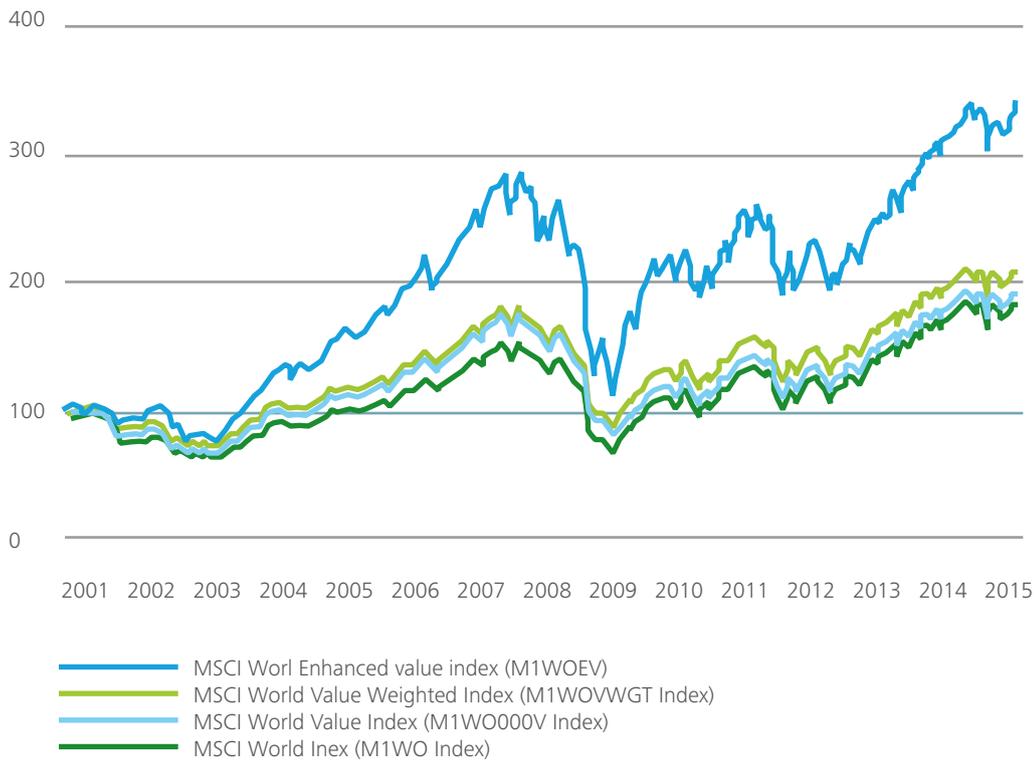
Lastly, implementation matters. The best-laid designs can be quickly eroded without skilled implementation. Smart Beta strategies tend to have a higher level of turnover and a less advantageous liquidity profile compared to standard cap-weighted strategies: most Smart Beta indices have annual turnover rates in the range of 20-60%, for example, compared to 3-5% for a standard cap-weighted index of large and mid-cap securities. Without skilled implementation, transaction costs and illiquidity can quickly erode the benefits that Smart Beta strategies aim to provide. The best managers utilize thoughtful evaluation of potential returns alongside risk and costs – a skill that requires an understanding of benchmark methodology and global capital markets. Of course, implementation matters for even the most straightforward and liquid index strategies. For example, comparing the annual returns for flagship S&P 500 Index funds across the four largest index managers

reveals differences of 12 bps in a single year[1]. The S&P 500 is arguably one of the most liquid and replicable indices on the planet, and the potential differences are only magnified for strategies that are more complex and challenging to trade. Choosing a skilled manager for Smart Beta implementation becomes a critical final component for success in the strategy.

At their best, Smart Beta strategies empower investors, providing efficient and affordable access to time-tested investment strategies. The rise of data and technology make data mining easier than ever, and has powered the surge in Smart Beta strategies. Before you pack your skis and head to the mountains for the winter, be sure you have vetted the underlying factor exposures, portfolio construction rules and implementation skills of any Smart Beta strategy you consider.