Smart beta

Considering all the factors

In conversation:

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Considering all the factors

Smart beta, alternative indexation, factor indices, alternative beta, systematic beta. Call it what you will, smart beta remains a hot topic as investors debate its merits as an asset class alongside whether it is really new or actually as ‘smart’ as its name suggests.

As well as the plethora of monikers, one of the difficulties for investors to get to grips with has been the multitude of choice. There are thousands of products and indices, primarily in equities, but increasingly in fixed income and multi-asset, all offering subtly different weighting schemes. It is no wonder much of the conversation has been around trying to define these terms, let alone invest in the strategies.

But cutting through the noise it’s clear to see investors do like the concept. According to data from Towers Watson, last year its global clients allocated more than $8bn to smart beta taking total exposure to $40bn – double the tally of 2012. Elsewhere, the 2014 EDHEC European ETF Survey revealed 25% of respondents already use products tracking smart beta indices, and a further 40% are considering investing in such products in the near future.

Investors are attracted by the promise of low-cost systematic exposure to factors such as size, value and momentum or low volatility indices which offer respite from the much-maligned pure passive approach of market capitalisation-weighted indices and the pure active universe, which many investors have become dissatisfied with. Executed in the right way, investors can earn a premium through these factor exposures and the portfolio rebalancing required to maintain them.

However, the term ‘smart’ also suggests that these strategies ‘just work’ which is not always the case and in an ever-increasing marketplace investors need to ensure they enter the right products and understand why they are doing so.

This roundtable sees a panel of asset owners, consultants and asset managers discuss whether smart beta has lived up to expectations, the benefits and risks of these strategies and how investors can choose which products to access. It also considers the development of smart beta as it moves into fixed income and multi-asset products.

Sebastian Cheek

deputy editor, *portfolio institutional*

Ben Horsell

"I prefer factor definitions. When you examine fundamentally weighted [indices], they tend to have factor tilts. Minimum volatility tends to have defensive factor tilts, so the sources of returns are very similar." Ben Horsell

A recent Towers Watson survey showed its clients allocated more than $8bn to smart beta in 2014, taking total exposure to around $40bn – double 2012. According to EDHEC's European ETF survey, 25% of respondents already used products tracking smart beta indices, and a further 40% are considering them. It's a popular strategy but does smart beta live up to expectations?

John St Hill: From the point of view of pension scheme investors, I think it's a response to some perceived weaknesses in market cap benchmarks that some alternative benchmarks have been created. It is hoped to be a more efficient form of equity investing, with a better risk/return trade-off. As it happens, it has also been sold – and to some extent bought – on the basis it has also delivered better performance than just in pure return terms, the market cap-weighted approaches, which is particularly interesting.

There was a Russell survey out last year that showed that the principle reason for people choosing these sorts of approaches was better returns, and lower risk was the third or fourth reason. Therein lies a significant danger in people seeing it as a more efficient, perhaps more logical, risk/return trade-off than you would expect to get from market capitalisation indices.

I think broadly in two camps – one is the alternative weighting schemes, and the other is tilting towards factors such as value, quality. Is that how everyone thinks about smart beta, or do you think purely in the kind of alternative weighting schemes? Things like minimum volatility, or maximum diversification indices, or does it encompass both for you?

Simon Hill: That is a very apposite question, as I suspect we'll all agree that this term, 'smart beta',

covers a very wide range of approaches. It's important trustees understand what it is that it's trying to achieve. Not only have you got the factor tilt approach versus a lower risk approach, but you've also got a difference between approaches that aim at something fundamental. Though some of these approaches have been around for a long time, they have not had a great deal of acceptance. A lot of the data is back-tested rather than live and even low volatility is different from controlled volatility. This makes it extremely hard for trustees to get to grips with because the alternatives are so confusing.

Ben Horsell: I prefer factor definitions. When you examine fundamentally weighted, they tend to have factor tilts. Minimum volatility tends to have defensive factor tilts, and so the sources of returns are actually very similar.

Hill: If you've got a common language of the main factors you can gain exposure to in the equity market, then all smart beta strategies are going to effectively be expressed in terms of which factors they're exploiting. Then, the decision is which factors do you want and how do you want to combine them.

David Schofield

"Where managers' performance is being judged over shorter periods – one, two or three years – the cap-weighted index is almost by default the measuring stick of choice." *David Schofield*

St Hill: One of the things that started us down this path was when we started to look at the attribution among active managers, we realised some of what we were paying for in terms of active management was actually just beta. It provides an opportunity for much cheaper implementation of that beta.


John St Hill

Hill: By that, you mean factor beta?

St Hill: Yes. The second thing we found was that the smart beta indices can offer a much more challenging – and appropriate – benchmark for individual managers. So, where you have a performance fee, you're paying for actual insights and value added, as opposed to just static factor allocations. Finally, we found we were able to customise our portfolio. Our key objective is to ensure the assets outperform the liabilities. Smart beta indices enable you to take a much more targeted approach towards designing your portfolio, and getting rid of any tilts you may have in your liability profile or in your plan sponsor profile.

David Schofield: One of the difficulties, however, has been the multitude of choice. There are literally thousands, not only of products but indices, that all offer subtly different weighting schemes. It is possible to come up with a generic definition that smart beta products are essentially offering alternative weighting schemes. I'm not sure there is such a clear distinction to be made between a factor based product and other products, because they all arriving at a different way of allocating capital to individual stocks.

That's a problem and based on work we've done, there's an underlying common return source between many of these strategies, which depends to a greater or lesser extent on the rebalancing trading that is required to maintain the particular weighting scheme in question.

St Hill: One of the interesting questions around this is the extent to which they are disguised mean reversion or rebalancing approaches, and whether it's actually the factor or just the mechanics that is driving the more efficient outcome. That is not new at all. For most pension schemes, what actually matters is asset return, and how that is correlated with liabilities. What the benchmark is, whether it's a fundamentally weighted benchmark or whatever, really doesn't matter.

Schofield: That is certainly the case in the long run, but where managers' performance is being judged over shorter periods – one, two or three years – the cap weighted index is almost by default the measuring stick of choice. Even if it's not necessarily a formal benchmark, it's going to colour the judgement of these alternative weighting scheme portfolios for the foreseeable future.

Horsell: The other dimension to the range of solutions out there is, in fact, the choice of the universe. There are a lot of solutions that reweight the existing universe. Those concentrated portfolios really emphasising factors are starting to become more prevalent, as well.

Hill: One of my trustees pointed out to me it's all very well saying the asset return has been fine, but most has been from fixed income assets, not equity assets and certainly not multi-asset approaches. When the fixed income assets do what they're supposed to do, our expected return is going to drop, and will be close to actuarial assumptions. That is quite an astute observation. That makes judging the suite of products particularly difficult, because asset returns have been distorted in a way that violates the models upon which they're based. My concern is that we don't know what's going to happen if and when the wind changes. Presumably, at some point, real interest rates have to stop falling and we'll be in a different environment which may be more challenging for financial assets.

David King: It's interesting to see how correlated some smart beta approaches are with, for instance, interest rate movement and will be interesting to see how this pans out.

Schofield: The term 'smart' carries with it the implication it just works by itself, and just gets on with the job without too much intervention and it's just going to work all the time. But, whatever your chosen risk factor is, there are going to be potentially very long periods when those factors will not work.

Aniket Das: That's a brilliant point, and why you should allocate to a number of these factors, because when you look at each of these factors, they have drawdown periods of up to five, 10, 15 years. Value

can have these streaks of 10 years without any kind of return, so it makes sense to be allocated to a number of them and keep yourself insulated through time. Smart beta has this connotation of being long only, but the use of long/short strategies – pure risk factor strategies, pure risk premium strategies – is very important for investors. That is very powerful from a portfolio context, especially with investors who have already large amounts of equity exposure. Instead of thinking of a replacement as one-for-one with equities, you're allocating to something lowly correlated to it.

Schofield: But is there not a danger, if you combine all the main factor exposures together, that you end up with a fancy cap weighted portfolio again?

Das: No. it comes down to how you define those factors, and making sure that they aren't overlapping with one another. As you increase the number of factors, you can move more towards a cap weighted index, but this doesn't occur in the case of long/short strategies. Most factors in academic research are not defined as long only factors, so there's been lots of leaps made by people moving from the long/short world to the long only world.

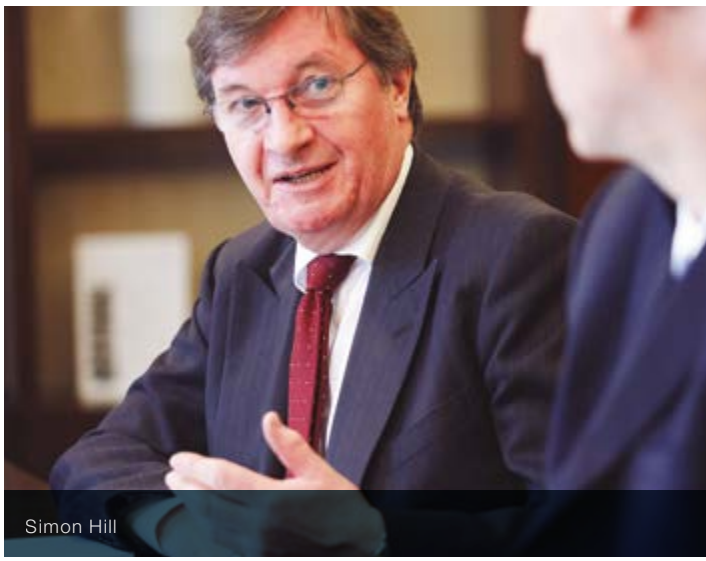
Horsell: In constructing a factor-based portfolio, the first thing we'll do is try to get a risk parity across the sector weights, so that you're not overweighting any particular sector and then within each sector, look at the exposure to the factors. That gives you quite a reasonable deviation away from what a market cap portfolio will do.

Schofield: We have been discussing the flaws of smart beta but one of the great positives has been to shine a light on just how poor a cap-weighted portfolio is and to provoke thinking about what is driving returns of various different portfolios. That's definitely a benefit for investors.

Das: Very few people will give money to a fundamental manager without seeing any evidence of track record, and in the same way, you should do the same for smart beta strategies. I think the processes are very similar, and you can't just assume smart beta is smart. You need to verify it.

Hill: This term 'smart' is a marketing man's dream and an investment professional's nightmare. Everyone wants to be smart and some believed the Holy Grail has been discovered. Whenever trustees get excited about this, I mention those words 'active quant'. Most of them have probably all been rebadged smart beta approaches. The key difference between active management and these more structured approaches is how engineered you want to be.

We always expect active managers will have a defined style and you want consistency to that style and understand why they outperform or underperform under different market conditions. But you expect a degree of flexibility, and perhaps a speed of response.


Simon Hill

John, has smart beta lived up to the PPF's expectations in terms of performance?

St Hill: Yes, it has performed in line with the modelling we did when we first entered into this in 2010. When we look at the performance of the smart beta strategies in combination, our equity portfolios have added value relative to the index. So, both the decision to enter into smart beta, and the combination of the managers, has worked as we expected. That said, one has to be always vigilant for changes in the environment, and aware that, as the environment changes, the ability of strategies to extract value can adjust. We are convinced the rebalancing effect is fairly predictable, and there are good financial and theoretical reasons why a systematic, robust and well implemented rebalancing process should add value to a cap weighted approach over time. So, for us, it's done what it said on the can.

David King

"The ability to achieve cap weighting is somewhat constrained, particularly when you get securities which have liquidity constraints and are closely held. I don't think in practice it's straightforward." *David King*

Hill: It has been a benign period for strategies, so it's quite difficult to demonstrate added value. One of the issues we have with pension scheme trustees, is demonstrating the benefit of lower volatility relative to liabilities. It's very hard to prove. When we make changes to a portfolio, with the intention of improving the risk/return trade-off at the asset allocation level, to do de-risking, it's very difficult to prove that benefit.

Schofield: Not all of those low volatility approaches have managed to keep pace with such a strongly rising equity market and if people have gone into it for the wrong reason – that 'smart' means it always works – there's a certain amount of regret when you go into a low volatility approach and the market is up 20% or 30%, and you have lagged a bit. That underlines the importance of investors understanding what they're buying into.

Das: If there's a benefit to be had from investing in these relative to the liabilities, that should be modelled. So, in your risk model, you should have certain factors such as a low vol factor and basically, it should come out in the correlations that low vol is correlated to, say, fixed income, embedded in the liabilities. And, as that correlation is there, then you should see an element like funding ratio at risk decrease once allocating to these factors.

King: It [comes down to] compounding. Because we looked at the low volatility effect and a lot of it seemed to be just about avoiding the really highly volatile stocks in the market, and so if you exclude

those, that compounding effect really kicks in.

Simon, you mentioned this idea of better performance versus the net risk.

Hill: A lot of trustees are looking at the benefits of a better risk/return trade-off as something that gets them out of the conundrum of accepting that pension schemes generally run quite a lot of risk relative to liabilities, but they want to reduce risk without giving up too much return. These approaches hold out the prospect of being able to hit both those goals, to some extent, and easing the difficulty of doing that. Trustees can see a way to square that circle. However, trustees worry about what will happen if equities return to more typical, historical levels of volatility.

Horsell: A Towers Watson study shows a lot of the money was travelling out of active managers and flowing into smart beta. I'm not sure whether you guys have had similar discussions with your clients.

Hill: We tend to regard it as an alternative to passive, or a passive element, and tends to be therefore a core element rather than an alternative to active management. We think it's a more efficient solution to what you're trying to do with passive than market cap weighted. One of the big difficulties with these alternative quasi-passive approaches is they're not as cheap and they're not as simple, and that has, I think, been the main calling card for market cap weighted index tracking.

Schofield: But they're also not passive. The danger of that is during periods of extreme stress, smart beta strategies that have these exposures need to be maintained, and if they're all doing slight variations on a similar thing, there's a danger of similar stresses becoming apparent in the system.

Smart beta indices perhaps look good on paper, but are they investable in sufficient volume to handle the wave of assets that is chasing them? That's untested. In order to be usable as an index, it has to be transparent. It has to be systematic, rules based etc. The performance of the indices themselves will not be so good, if the volume of assets that comes into these strategies increases.

Das: There are differences in capacity and then we have the case of CTAs. CTAs are basically momen-

tum on a multi-asset level, rather than within just equities. They are seen as a smart beta risk premium. People thought that there was too much money flowing into CTAs following their performance in 2008 – about $300bn in assets worldwide – but last year CTAs had a very strong year following years of mild performance. So, you shouldn't underestimate the capacity of some of these strategies. Cap-weighted is the only macro-consistent approach. Not everyone can be value weighted or min vol weighted, that just doesn't work. But they can all be cap-weighted.

Finally implementation – a strategy such as momentum can be front run very easily if it's not implemented well. So, momentum in index format is very dangerous, because indices are known to rebalance at certain points in time, and they can totally be front run. So momentum should be left to an active manager to trade, and not in an index implementation.

King: It's generally true that most people can approach cap weighting, but in practice, the ability of people to achieve cap weighting is somewhat constrained, particularly when you get securities which have liquidity constraints, and which are closely held. While in theory it may be possible for every investor to be cap weighted, I don't think in practice it's always quite as straightforward as that.

Is there still a place for market cap-weighted indices, then?

King: It goes back to looking at the underlying sensitivities. Look at the small cap premium in the US: it's very correlated with the cycle. It's not always going to work for you, whereas in other markets, it's not cor-

"Momentum in index format is very dangerous because indices are known to rebalance at certain points in time. So momentum should be left to an active manager to trade, and not in an index implementation." Aniket Das

Simon Hill and Ben Horsell

"The discussion around market cap and fixed income is even more straightforward. We can argue market cap has got a place in equities, but it's more difficult to argue it's got a place in fixed income." Ben Horsell

related so you've got to understand what the characteristics are of the stocks you're buying when you buy these indices. When they deviate from market cap, they are deviating quite significantly, in some cases. But they're putting you into different exposures.

Schofield: Yes, the volume of assets that needs to be invested has a role to play. It's cheap, quick and easy. It can be used as a tool for managing risk.

Das: And then, yes, most futures are in cap weighted indices. I think we will start seeing capital markets development in alternatively weighted futures, but that day is still at least five to 10 years away. A lot of investors, such as pension schemes, here use equity futures as a way of getting leverage within the pension scheme so cap-weighted has its place.

John, how did you decide which factors to go for when accessing smart beta?

St Hill: The approach we took was quite involved, quite rigorous, but it started off by reviewing the academic literature and then talking to other players in the marketplace in order to understand what the fundamental drivers of these generic ideas called smart beta are.

Hill: One of the things that we have been quite keen on is not looking at academic research, although obviously one does, but to look at what active managers are doing, because they pick up some things that are going on in markets.

So we look at what successful active managers are doing and if we should be doing that systematically. I

get the idea of not paying an active manager to have a systematic bias.

St Hill: The problem we identified in the active management community is that active managers generally have a very good knowledge of the practicalities of the marketplace and emerging ideas, but there is a much lower level of rigour for the analytical work that's done.

Hill: Yes, but a lot of those who take a more structured approach are guilty of spurious rigour. You have referred to it as torturing the data until it talks.

Horsell: For me, the discussion around market cap and fixed income is even more straightforward. We can argue market cap has got a place in equities, it's more difficult to argue it's got a place in fixed income. We talk about scenarios in terms of the Japanisation of Europe. What do you want to do with your fixed income allocation in that situation?

St Hill: The majority of bonds are not priced from a transaction, but from a matrix. So, any sort of smart beta analysis is recovering the matrix model that one of the banks is using to define their index. That creates a very unique challenge for fixed income which doesn't necessarily exist for equities.

Hill: It sounds to me that some of what you are doing is effectively replicating, doubtless improving, on what rating agencies do, and isn't that what rating agencies are supposed to do? You are obviously enhancing that. Clever people just didn't go into bonds. It was the boring space. That has changed out of all recognition now, but I just don't think the same degree of academic work is being done in fixed income.

St Hill: We did quite an innovative piece of work around trying to price liquidity as a factor, and making sure that, if we have a corporate bond that we can hold against that liability, we can work out exactly how much the illiquidity of that corporate bond is worth to us as a factor. Then, setting a separate illiquidity budget and deciding if we are getting enough return for holding that individual corporate bond against that liability. I think this will become more prevalent.

Aniket Das

What about the increase in multi-factor strategies?

Hill: My concern here is the language that is so often used here is 'harvesting' risk premia. It's as if it's standing there waiting to be gathered. The practical difficulties are even more intense when you go multi-asset, because you're dealing with a whole new set of problems, in terms of figuring out what the risk premia really are, and how sustainable they are, and how easy they are to access. Those big questions are really primary for trustees, and adding a bit of extra return, frankly, just doesn't really register on the radar just yet.

King: In our multi-asset mandates, we do embed these kinds of strategies, selectively though. Typically it is trying to find areas where we see an opportunity we're not getting from our existing equity exposure so we create our own customised baskets of stocks. We are getting some interest in liquid alternatives, but that's an area for the future.

Das: We have seen increasing numbers of them use systematic strategies within the UK diversified growth fund (DGF) universe. There's a question about who takes the responsibility for allocations to these strategies. Their use tends to move the decision more towards the investor, and away from the manager, but it should be the fiduciary who actually makes the call, but the boundaries have definitely become more blurred.

St Hill: Some of the managers have very convincing presentations in this space, but as an asset owner you're obliged to understand the factors now, and also understand how the factors will combine. One shouldn't let any of this distract you from the key thing which is to understand what you've bought, why it works, and how it fits into your objectives.

Schofield: Absolutely, and disentangling that is quite difficult.

Smart beta: It's all about rebalancing

By David Schofield, president of INTECH's International Division, Janus Capital Group

The term 'smart beta' has become the industry's label for a diverse mix of thousands of products, all offering systematic, 'different' equity exposures from cap-weighted indices. Their return premium is often attributed to inherent factor exposures, but in many cases it is actually the portfolio rebalancing, or the trading required to maintain such exposures, that is responsible for most of the premium. This article will examine the background to the smart beta phenomenon, the role played by rebalancing, and the implications for investors.

Since the 1960s 'beta' has been industry shorthand for exposure to the market in a capitalization-weighted portfolio, and such portfolios have become the accepted proxy for the return of the market as a whole. They have the advantage of being a cheap, quick and easy way of investing vast sums in the market and have attracted trillions of dollars.

Systematic strategies designed to improve upon index portfolios began to emerge already in the 1980s and numerous alternative methods have been proposed over the years. Of these, 'size' (1981), 'value' (1992) and 'momentum' (1997) have attracted such a following that they have become named 'effects.' Some might add to these the 'low volatility anomaly'.

So why the sudden popularity of 'smart beta', if similar ideas have been around for so long? The short answer is risk diversification and cost.

A key benefit of passive management is its low cost. For about 50 years, the only passive option was cap-weighted indexation, which, though inexpensive, has a number of shortcomings, including a lack of downside protection. Even in an index fund there's a reasonable chance you might lose half your money in a twelve-month period. Less well-appreciated is that cap-weighted indexation forgoes a potential return premium arising from rebalancing, which will be examined in more detail later in this article.

'Smart beta' approaches purport to offer a similarly low-cost, passive approach, but are designed to exploit many of the aforementioned risk factors to generate a higher return at the same or less risk.

But is 'smart beta' genuinely smart, and is it really beta?

We think not. A basic tenet of smart beta is that portfolios can be constructed systematically and simply, at a reduced cost. Often overlooked, however, are their embedded risks, and the potential for unexpected results that can be generated by naively implementing them without appropriate evaluation.

Typically, smart beta classifications fall into three distinct categories:

- Factor portfolios (size, value, momentum)
- Fundamentally weighted portfolios
- Low-volatility/minimum variance portfolios

Adherents to these approaches believe that tilting the portfolio towards certain characteristics will result in a risk premium that will generate higher returns. Consequently, each has a potential added risk that

needs to be understood.
When compared to cap-weighted benchmarks, smart beta vehicles, by their very nature, are subject to short-to-medium term variations in relative return. As the aforementioned factors 'tilt' the portfolio, its composition and performance will drift from the cap-weighted benchmarks. This, in turn, can lead to return profiles that differ from the original subscription. Unfortunately, most smart beta providers do not integrate risk controls to mitigate the above.

Furthermore, smart beta portfolios rely on active management to maintain the portfolios. Not surprisingly, the process of actively rebalancing to maintain exposure to the desired factors can introduce problems associated with active trading, including liquidity, turnover, transaction costs and perhaps the most egregious: front-running.

As currently defined, smart beta's inherent limitations should be understood and monitored by prospective investors. To mitigate these shortcomings, there is another alternative: smart alpha.

From smarter beta to smart alpha: Exploiting the rebalancing premium

What most smart beta strategies have in common is that they are formulaic weighting strategies. This means that some algorithm is periodically used to determine the weight of each stock in the portfolio. The general objective is to tap into various risk premia that cap-weighting overlooks and that are responsible for improved performance.

This explanation neglects to take into account the unexpectedly crucial fact that smart beta strategies are not buy-and-hold: they require rebalancing to maintain their respective exposures. This can have a surprising impact on long-term performance, and may also provide cause for concern in the shorter term.

How might systematic rebalancing contribute to returns? The key is to recognize that much of the short-term price movement of stocks is dominated by natural volatility, not fundamental data or events. Rebalancing has the potential to add return to portfolios by capturing this natural volatility in a beneficial fashion by consistently 'buying low' and 'selling high' across hundreds of securities.

For example, a strategy which looks to exploit the 'size effect' by investing in smaller-cap names has to sell stocks when they be come too large. The strategy will also purchase formerly large-cap securities that have become small-cap. Even if only rebalanced infrequently, this 'buy-low, sell-high' trading can explain all of the long-term outperformance of small-cap indexes versus large-cap indexes. Of course, not all strategies that require rebalancing consistently buy low and sell high: a large-cap index generally sells stocks that have gone down in value and buys stocks that have increased in value, leading to detrimental rebalancing. Momentum strategies may also suffer from this, but can make it up by exploiting trend-following behavior often present in equity markets.

If rebalancing is the principal source of extra return for many smart beta strategies, then trading efficiency becomes important. Very few indexes include a transaction cost component in their returns to cover the trading required to reconstitute or rebalance the index, so it is up to managers to try to replicate the index as cheaply as possible. Not surprisingly, trading costs are higher for strategies with greater turnover. However, even if the turnover is relatively low, overcrowding can still adversely affect performance. For well-subscribed smart beta strategies, the magnitude of the trading necessary to rebalance can be so large as to seriously impact performance. A more insidious consideration is front-running. As most smart

beta strategies are defined by their transparent construction process, this makes them potentially subject to the predatory practices of front-runners. Ironically, rules-based portfolio construction practices may be playing into the hands of opportunistic traders. While overcrowding and front-running may not necessarily lead to underperformance, they could potentially lessen the return premium of the smart beta index itself.

Even with the above caveats, smart beta strategies provide relatively cheap exposures to various risk factors in the market, and can be used to complement active managers. More difficult is the prospect of building a portfolio of smart beta strategies. A naïve reliance on historical correlations may be ill-advised. If many factors turn sour at the same time, underperformance versus a cap-weighted index could be severe and prolonged. It may be sensible to adjust exposures to different smart beta strategies over time, but this is probably no easier than determining when individual stock prices are likely to rise or fall.

So perhaps smart beta isn't smart enough, but how can investors be smarter about it? The answer is *smart alpha*.

We have identified the common thread linking various non-cap-weighted strategies: the necessity to rebalance. It can further be demonstrated that rebalancing itself is actually the principal driver of the return enhancement. Most smart beta strategies tap into this rebalancing premium accidentally, while pursuing their own particular factor exposure objective.

But if rebalancing is the true underlying alpha source, shouldn't it follow that the truly 'smart' approach would be to pursue this alpha source directly?

Smart alpha means:

- Understanding when and why reweighting away from cap weighting leads to a more efficient portfolio.
- Using this understanding, and risk controls, to increase efficiency further.
- Effective trading tailored to the strategy with an eye to resistance to overcrowding and front-running effects.
- The ability to customize portfolio solutions based on clients' specific risk budgets, return targets or funding status.

Smart beta can generate long-term returns above cap-weighted indexes without picking stocks or forecasting stock returns, but suffers from inadequate risk controls relative to the market benchmark, overcrowding/capacity issues and sub-optimal implementation.

Smart alpha allows investors to tap directly into the common return source of most popular smart beta strategies in a risk-controlled and targeted framework.

INTECH has been specializing in the theory and practice of equity portfolio construction techniques for three decades, and currently applies its 'smart alpha' approach on behalf of institutional equity investors worldwide.

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Vincent van Gogh
(Dutch, 1853 - 1890)

Irises, 1889, Oil on canvas
Unframed: 74.3 x 94.3 cm
(29 1/4 x 37 1/8 in.)
Framed: 94.9 x 114.9 x 11.4 cm
(37 3/8 x 45 1/4 x 4 1/2 in.)
The J. Paul Getty Museum,
Los Angeles

The drivers behind the growth in smart beta strategies

By Ben Horsell, head of product development, Lombard Odier Investment Managers

Despite ongoing debate on the merits and accuracy of the term 'smart beta', it's now largely accepted as an umbrella definition for a range of strategies which systematically deviate from market-capitalisation usually targeting higher risk-adjusted returns. Sub-categories give investors greater clarity, ranging from fundamentally-based and risk factor-based through to more simplistic approaches such as equal or GDP weighting.

Smart beta is a topical subject right now, but a number of these underlying strategies have been embedded into some active managers' investment processes for many years. At Lombard Odier Investment Managers, we pioneered smart beta fixed income in 2009 and have continued to make significant investments in people and technology to develop customised smart beta solutions.

We believe the relatively recent buzz about smart-beta can be attributed to some of these trends:

- Investors closely examining the value-add from traditional index-hugging active managers, many of whom had failed to out-perform market-capitalisation benchmarks net of fees
- Growth in market-capitalisation passive investing – with much larger pools of assets exposed to the inherent risks embedded in a market-capitalisation approach
- The failure of the "diversification" mantra to protect investors in 2008 led to a fundamental reassessment of asset allocation. There is a growing appreciation that investors need to capture the rewarded risks or risk premia which underpin investment returns (equities, credit, etc) in a transparent way
- The low-yield environment has magnified the need for cost-efficient investment solutions. Investors have increasingly recognised that incorporating a smart beta component offers lower costs whilst mitigating the inherent risks embedded in a passive market-cap approach

Fundamental based fixed income

While most of the smart beta discussion focuses on equities one could argue the flaws inherent in market-cap fixed income benchmarks are more evident. A market-cap approach effectively lends more to those issuing the most debt and can be likened to giving a man in a hole another shovel to help him climb out.

Given the fixed income bull market of the last 30 years or so, many investors have lacked an incentive to question a market-cap approach, but the onset of the European debt crisis in 2008 was a wake-up call. Today, we are in unchartered waters with the US likely to hike rates this year and the ECB's QE programme. And waters could get choppier given regulatory changes which have vastly reduced investment banks ability or appetite to hold inventories, impacting their ability to make markets in fixed income to provide liquidity and absorb price volatility. Dispersion between countries and corporate fundamentals has significantly increased post 2011.

Our fundamental approach to fixed income is based on an issuer's ability to repay rather than their ability to borrow – an approach we think is simply common sense. After extensive research we have constructed our smart beta fixed income indices around the fundamental factors that we believe are long-term drivers of bond returns and, in particular, reduce the risk of credit impairment.

Economic factors	**Indebtedness**: Investing in healthier issuers **Revenues**: Favouring countries with stronger revenues **Social imbalances**: Looking for social stability
Adjustments	**Liquidity:** Favouring the most liquid countries **Yield:** Favouring countries with attractive yields

We see this as a portfolio improvement that provides greater diversification and exposure to stronger economies which is illustrated in this example in Global Government Bonds

More information available via Bloomberg tickers:

Global Govt:
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Euro Govt:
LOFEURG <Index>

EM Local:
LOFEMLU <Index>

Global Corp (USD Hedged):
LOFGUIGH <Index>

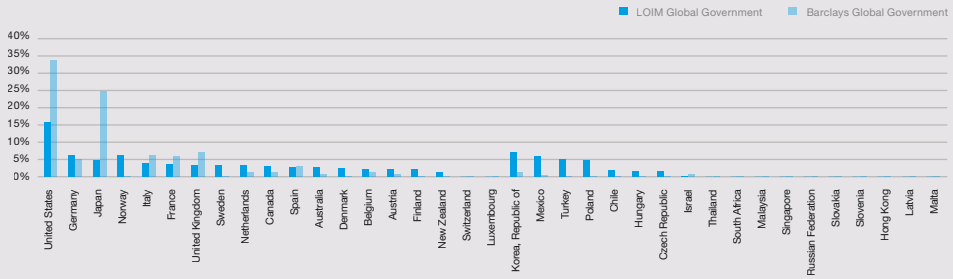
Euro Corp:
LOFEUCP <Index>

Euro BBB-BB:
LOFE5B <Index>

Global BBB-BB (USD Hedged):
LOFGU5BH <Index>

Fig. 2 Global government bond indices: country allocation

Source: LOIM, November 2014, OECD countries. Holdings and/or allocations are subject to change.



Smart beta equities – combining factors

In equities, the traditional market cap approach expects bigger companies to outperform smaller ones which we believe is not only illogical but, over time, has not generated the best returns for the risks taken.

The smart beta equity space is rather crowded with several approaches including equally weighted, equal risk contribution, minimum variance, etc. However, more recently, a common language has emerged around factor-based strategies and the following five factors.

Value	**Size**	**Momentum**	**Low risk**	**Small size**
Cheap stocks	'Sound' companies	'Fashionable' names	Stocks with the lowest market risk	Leaders of tomorrow

The general industry approach has been to create individual factor portfolios but it's important to remember that individually these factors can expose investors to drawdowns in specific conditions. Therefore, the key questions for investors are how can these factors be combined? And does timing play a part?

When combining factors, our objective is to maximise diversifcation. We do not want sector weights to be the result of a bottom-up selection process and hence we enhance the factor exposure by selecting the top securities in each sector. This avoids comparing stocks across sectors that exhibit different characteristics. Our methodology enhances diversification by equaling the risk contribution from each sector. It is widely recognised that certain factors outperform at different points in the economic cycle, therefore adding a dynamic factor allocation has the potential to improve returns.

Alternative risk premia - new sources of return beyond traditional asset classes

Alternative risk premia are risk factors that give access to complementary sources of return, beyond traditional asset classes. They aim for limited correlation with core asset classes, hence providing an attractive source of diversification and return enhancement. They can also increasingly be accessed via rule-based long-short strategies that we believe also offer transparency and cost efficiency while ensuring high liquidity.

As with equity factor exposure, we believe that the real value add comes not just from identifying risk premia, but in the way they are captured and combined.

We categorise alternative risk premia into two distinct sources of return: income and trend. These are then combined in order to provide robustness across economic cycles.

- Income can deliver a regular yield flow that works well under normal and improving market conditions. It is generally achieved by offsetting two positions, one of which creates an incoming cash flow that is greater than the obligation of the other
- Trend is achieved by following the general direction of the market. As it has the ability to go against the market, it can provide some protection in market crash events.

Fig 4. Examples of alternative risk premia

INCOME	Carry 10 year Bonds	Long the steepest curves / short the flattest curves
	Carry FX G10	Long the highest yielding / short the lowest yielding currencies
	Carry Credit	Long high yield / short investment grade risk adjusted
	L/S Equity Factors	Exploit equity-based risk premia such as Value, Quality, Momentum and Low Risk
	Equity Volatility Curve Arbitrage	Arbitrage between VIX and S&P 500 driven by curve structure (contango/backwardation)
TREND	Commodity Backwardation	Arbitrage between global commodities driven by curve structure (contango/backwardation)
	Cross-Asset Trend	Exploit persistence of directional moves cross-asset

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Smart beta – a multi-asset perspective

By Peter Weidner, head of multi-asset advanced equity beta, Schroders

If you are part of the global investment community these days it's almost impossible to ignore what might seem like a deluge of information about strategies that fall under the broad title of 'Smart Beta'. Smart beta strategies can play an important role in an investor's portfolio – they provide a means of accessing exposure to investment styles that can aid diversification, enhance return potential and increase portfolio efficiency. To that end, smart beta can be a useful addition to an investors' armoury. When considering allocations to smart beta, however, it is important for investors to carefully consider their overall portfolio structure and take a holistic approach to managing the exposures within their portfolio.

What is smart beta and why the interest?

There are many strategies that fall under the broad umbrella of smart beta but broadly speaking they have a few common characteristics. They are rules-based, style-driven, transparent, and cost effective. One reason for increased investor interest in smart beta is the claim that much of what active managers have described as alpha (or excess return) is in fact 'explainable' in some sense by a combination of systematic style-based characteristics. The apparent simplicity and transparency of some smart beta strategies may also appeal to investors.

Whether smart beta can genuinely replicate the benefits of active management is certainly controversial and we will not attempt to address this question in this article. However, the targeted use of certain smart beta strategies provides benefits to investors looking to efficiently implement a particular theme or factor.

In implementing an investment strategy containing exposure to smart beta we believe it is prudent for investors to take a step back and attempt to understand some of the drivers of the performance of smart beta strategies in order to attempt to fully understand what they might be exposing their portfolio strategy to. These kinds of 'collateral exposure' can take the form of both endogenous and exogenous influences upon the performance of smart beta strategies and also vary through time.

Endogenous exposure

Several observers of smart beta strategies have noted that the relative performance of alternative weighting scheme strategies to capitalisation weighted indices can be explained by their exposure to well - known style factors such as Value and Size. For example, a simple strategy of allocating weightings equally across stocks in an investment universe results in a portfolio that has an inherent exposure to small or mid-cap stocks relative to market capitalisation based indices. Investors in such a strategy need to be cognisant of this (admittedly fairly obvious) bias to the returns of the strategy and potential overlap in risk exposure.

Something else to consider is the exposure of the strategies to overall market movements – in other words the beta of the strategy relative to a market capitalisation weighted index. Some strategies, such as minimum volatility for instance, tend to have a permanent exposure to low beta stocks since lower volatility companies tend to be lower beta on average. Investors in these strategies need to be aware of this persistent bias. Investors in value strategies, however, may find that the beta characteristics of these kinds of companies vary through time.

Depending upon the smart beta strategy under consideration, individual strategies may give unwanted consequences in terms of their exposure to broad market movements and careful consideration will need to be given to their place in an overall portfolio.

Exogenous exposure

Another important consideration is ‘outside influences’ on the performance of smart beta strategies. By this we mean how these kinds of portfolios may be driven by (or at least correlate with) other asset class returns or macroeconomic variables. This analysis is important for investors at the total portfolio level to consider when pondering allocations to smart beta strategies.

An example of this again relates to minimum volatility investing. Recently, these kinds of strategies have become extremely popular as a way of implementing a defensive equity exposure and their excess returns have become highly correlated with movements in long term bond returns. In some ways they are viewed by investors as ‘bond substitutes’ and these correlations have reached extreme levels over recent years. If the interest rate cycle turns (as many are expecting, at least in the US) and if this correla-

tion persists, this could prove a headwind for minimum volatility strategies, depending on which market is under consideration. These kinds of observations and analysis are important for investors to consider and may influence the allocation of strategies within a strategic asset allocation framework, depending upon the exposure of the overall portfolio to macro influences.

Portfolios of smart beta

Investors need to consider the risks when considering allocations to smart beta strategies, but they must be weighed against the benefits. It is clear why smart beta has become an interesting proposition to investors. The performance characteristics and the simplicity of the strategies make them attractive as building blocks for portfolio construction. To this extent, portfolio allocators can select smart beta exposures from a widening menu of choices in order to construct portfolios with desired risk and return characteristics. This puts the control of factor exposure into the hands of the asset allocator. The idea can and has been extended to asset classes outside of equities in order to provide a total portfolio solution, and the rise of vehicles that provide access to smart beta exposure also enables active asset allocation between the different factors to be effected efficiently.

On an individual basis there are risks and exposures embedded within certain smart beta strategies that need to be taken into account and managed. Diversifying exposure across these risks can provide a better answer for investors. This can be done by allocating to a range of smart beta factors that would be expected to deliver outperformance in different environments. Efficiently structuring a portfolio of smart beta strategies requires an understanding of their performance characteristics and in-depth analysis of their investment characteristics. With the right tools and understanding, smart beta strategies can be efficient vehicles for gaining targeted exposures within a portfolio.

To discuss the themes in this article further, please contact Rosalind Keenan, Consultant Relationships at Schroders, on +44 (0)20 7658 6297 or email: rosalind.keenan@schroders.com I www.schroders.com/ukpensions

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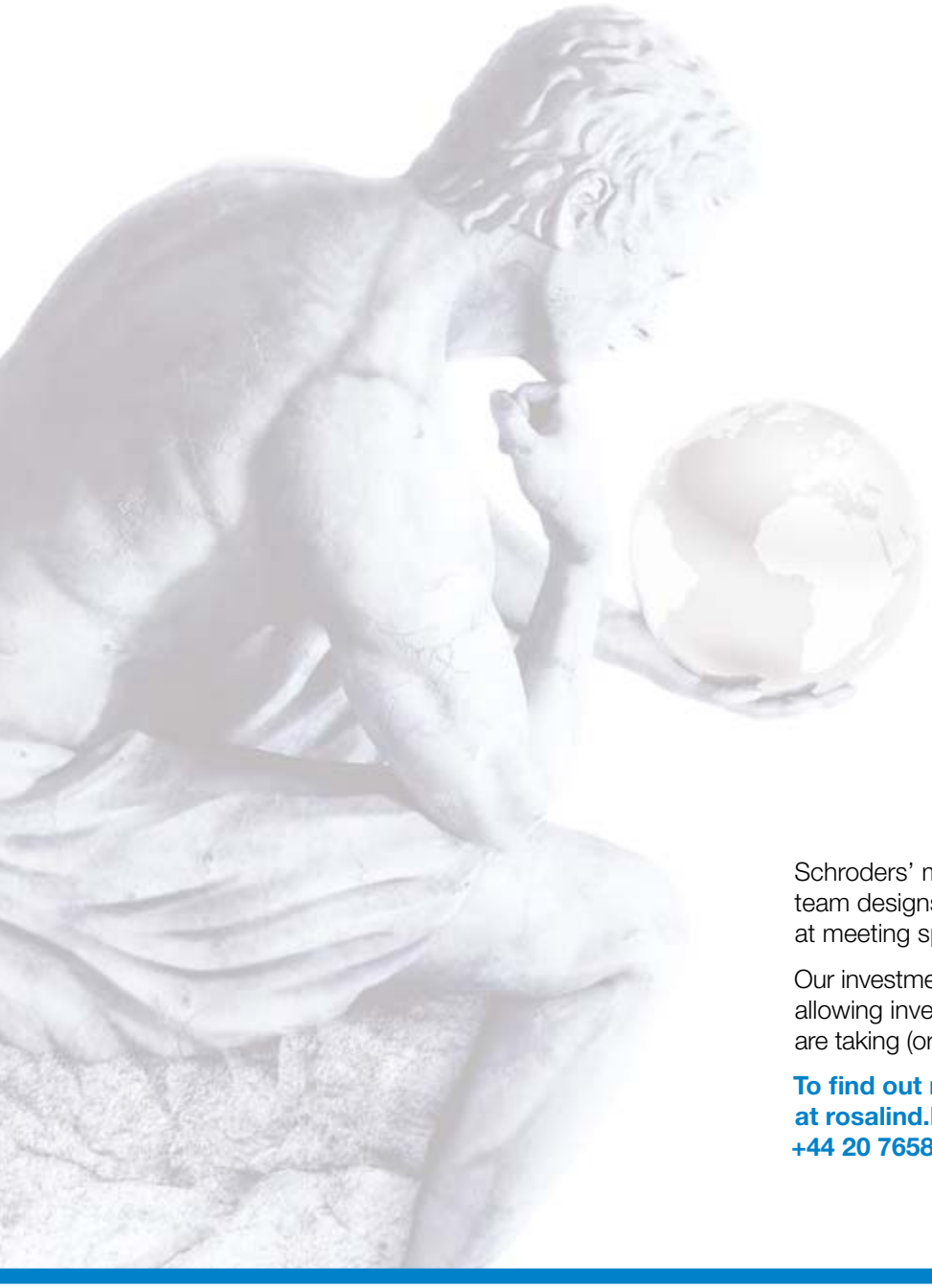

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