THE EVOLUTION OF FACTOR INVESTING

Examining the emergence of factor investing strategies and their uses within an institutional portfolio

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SECTION 1

Examining the emergence of factor investing strategies and their uses within an institutional portfolio

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1.1 WHITE PAPER

The heritage of factor investing – where does it come from and where is it going?

Factor investing is growing in popularity. But how does it help investors manage their portfolios?

In this article we show how factors draw upon the substantial heritage of quantitative investing to produce a versatile tool for use in a variety of investment contexts.

A quant heritage

Investors have long followed rules-based approaches to put together investment portfolios.

In fact, quantitative asset management has a heritage of at least eight decades. The merits of a simple, rules-based approach—choosing "value" stocks on the basis of accounting metrics like price to book value or price to earnings ratios—were set out by Benjamin Graham and David Dodd in their seminal book "Security Analysis", published in 1934.

In the 1970s, particularly in the U.S., a new generation of investment analysts started to focus on techniques like momentum trading, statistical arbitrage and portfolio optimisation; led by advancements in computer processing, greater access to data and spurred by developments in financial theory. Even non-quantitative asset managers have long had preferences, spoken or unspoken, towards particular types of stock, whether value, growth or small-cap, in their portfolios.

So why has factor investing suddenly achieved renewed popularity?

As in so many other areas of the economy, computing power has played a major role. Whereas, the first portfolio optimisations, undertaken in the 1950s, may have taken several days to run on a mainframe computer, these days it's possible to run sophisticated back-tests in seconds.

Data mining in investment carries risks, of course. There's the apocryphal economist who claimed, "If I torture the data long enough, I can make it confess to anything." We can see patterns where they don't exist, in other words.

Understanding the sources of markets' returns

In finance theory, a factor is a common driver of securities' returns. The component of stocks' returns that is driven by factor exposure can be understood as resulting from a shared source of risk, called systematic risk, which carries an associated return premium. The remaining component of any individual stock's returns derives from its stock-specific (non-systematic) risk.

Classical investment theory assumed that there is a single type of systematic risk, called market risk. Under the Capital Asset Pricing Model (CAPM), introduced in the 1960s, a single market factor explains stocks' returns. The associated risk premium is called the equity risk premium.

However, more recent theories suggest the single factor model has limitations. There is empirical evidence to support theories that other characteristics, such as stocks' valuation and size, also help explain their performance over time. For example, empirically, stocks with lower price-to-earnings ratios have high returns over the long term, compared to those with higher price-to-earnings ratios, and similarly smaller-capitalisation stocks have produced high returns compared with the shares of larger companies.

In 1993, Eugene Fama and Kenneth French published a paper in which they examined three factors: a market factor, a size factor and a value
Section 1 - White Paper

The Evolution of Factor Investing

The authors concluded that this three-factor model is a better representation of stocks' real-life performance than the single-factor model.

Over time, other factors, such as momentum and volatility, have been identified empirically and rationalised theoretically, achieving acceptance amongst investment practitioners.

Factors via indexes

A factor index targets factor return premia in a transparent, rules-based and investable format. It can be used both as a benchmark for the performance of actively managed funds and as the underlying target for an index-replicating investment strategy.

Factor indexes draw upon the heritage of equity style indexes, which were first introduced by Russell in 1987 for the U.S. equity market. They offer market participants alternative tools for use in implementing their investment strategies. Interest in the factor approach now extends beyond equities and into other asset classes, such as fixed income, currencies and commodities.

FTSE Russell’s 2016 Smart Beta survey, which covered global asset owners with an estimated U.S. $2 trillion under management, revealed that 52% of European institutions and 28% of North American institutions now have an allocation to smart beta strategies, a category that includes factor indexes.

Amongst the largest investors—those with over $10 billion under management—seeking specific factor exposure was cited by almost half of survey respondents as their primary objective when evaluating smart beta strategies.

One or more factors?

FTSE Russell’s 2016 Smart Beta survey also revealed that investors are increasingly looking at multi-factor factor approaches, rather than examining individual factor strategies in isolation. Our clients tell us that they believe looking at factors in combination makes sense, since the behaviour of individual factors is cyclical. But herein lies a challenge.

Respondents told us that determining the best smart beta strategy (or combination of strategies) for their portfolio and how to manage unintended factor biases were their top two concerns when evaluating smart beta.

In fact, a lively debate has unfolded this year between those who advocate factor timing—seeking to move into and out of factors on the basis of valuations—and those who suggest that a more static allocation over time makes sense.

To see why combining factors can be a challenge, consider an example, involving the combination of four factor indexes: value, momentum, quality and size.

An obvious way to combine the four indexes would be to average them. This could be done, for example, by averaging the weights of each of the four factor indexes, or by averaging the scores of the four factors of interest to produce a single composite index.

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Source: “Smart beta: 2016 global survey findings from asset owners,” FTSE Russell. Investors were asked “What investment objective initiated the evaluation of smart beta strategies?”
However, either of these approaches often results in a diluted exposure to the factors of interest when compared with the factor exposure of the starting indexes. The dilution effect increases as more factors are combined and, particularly, when factors are negatively correlated. This is important because value, for example, has shown a negative historical correlation with both quality and momentum.

For this reason, FTSE Russell has designed an approach when combining factors within an index to tilt first towards one, then the other factor of interest. The chart below shows the difference between an averaging or composite index approach and a "tilt-tilt" approach for a four-factor combination. Each bar shows the factor exposure within the multi-factor index as a percentage of the single factor index's exposure to the same factor.

**Combining Four Factors via Composite and Tilt Approaches**

The composite multi-factor index retains only 25-30% of the single factor index level exposures, while the multiple tilt index retains approximately the same level of exposure as the single factor indices.

**The applications and uses of factors**

For those concerned that smart beta and factor investing might be the latest buzzwords from the ever-eager marketers of financial product providers, we suggest that these concepts should be seen in a much larger context—the decadeslong history of model-based, data-driven approaches to investment.

Indexes are likely to play a central role, whether as benchmarks for the performance of active investment managers, tools to assess factor exposure or as the underlying performance target of index-tracking investment products, such as exchange-traded funds (ETFs).

For more information FTSE Russell’s approach and range of single and multifactor indexes please visit www.ftserussell.com

Peter Gunthorp is Managing Director, Research & Analytics at FTSE Russell
FTSE indexes are used by leading investors in every corner of the world and more U.S. institutional assets are benchmarked to Russell indexes than all other U.S. equity indexes combined. Together, FTSE Russell indexes offer you global breadth and comprehensive market coverage.

Find out more at ftserussell.com
1.2 INTERVIEW
Applicability of using factor indexes as part of an ETF product – the asset manager perspective

Interviewer
Zara Amer, Head of Content, Clear Path Analysis

Interviewee
Yazann Romahi, Managing Director, J.P. Morgan Asset Management

**SUMMARY**
- Diversification - the key attraction to using factors
- Major areas of growth for factor investing
- ETFs an ideal wrapper for asset allocators?
- Geographic client interest - Where is demand highest?
- Maximizing diversification of uncompensated risk factors

**Zara Amer**: What’s the attraction of factor investing for an asset manager and importantly from a client perspective?

**Yazann Romahi**: The key attraction to using factors is simple. Diversification. Factors provide access to risk premia, whose sources of return are diversifying to traditional sources of return. Therefore, building in factor exposures into one’s asset allocation significantly improves the risk adjusted return achievable.

**Zara**: How important is the methodology / index construction in determining your choice of ‘factor’ index provider?

**Yazann**: In selecting a provider, due diligence remains important. The growth of the space and the urge to differentiate one’s offering has resulted in what has been referred to as a factor zoo with providers defining broader and broader sets of “factors”. Indeed, a number of these factors are often variations on each other. The key is to find a provider that blends transparency, parsimony in design while efficiently capturing and delivering the risk premia.

Another aspect of efficient capture of factors that is often overlooked is the idea of maximizing diversification of uncompensated risk factors. Something like a sector exposure for example is merely a descriptor of risk rather than a compensated premium. Traditional market cap weighted indices do not correct for this and thus can be overexposed to a single sector. At the extremes, if we think of the S&P500 for example, the volatility contribution of the financial sector reached over 40% of the risk of the index at the peak of the financial crisis while technology formed an even higher percentage at the peak of the dot com bubble. Correcting for this by equal weighting the sectors is a very important aspect of index design.

**Zara**: What are your views on combining factors / which work together best, compliment from a risk /return POV?

**Yazann**: As we mentioned, the key is maximizing the diversification between the factors. In other words, each factor has to be uniquely capturing a different risk premium. There are some for example who would include Minimum Volatility and Quality as two separate factors when these are in fact highly correlated and as such should be considered the same factor. By focusing on factors that are uncorrelated to each other while at the same time, ensuring that each factor being included has a very strong economic basis for the source of the return, we can significantly improve the efficiency of the portfolio.

**Zara**: What’s the attraction of an ETF wrap for a factor index from an asset manager’s point of view?

**Yazann**: I think more important than the wrapper itself, is the increasing ability of investors to access factors. From a wrapper perspective, ETFs are an ideal wrapper because of their tax efficiency, the intraday liquidity and of course the transparency – making them a suitable vehicle for asset allocators.
Zara: How does client interest vary across the states and Europe?

Yazann: While there are lots of investors currently discussing and exploring the merits of factor based investing, we are still in the very early stages. In terms of geographic client interest, it is fair to say that it is the more sophisticated clients who have started to think of their portfolio in this way. The region that has been most advanced in this space is the Nordics generally, Australia and at the top end of the U.S. institutional market. It is however increasingly gaining more traction across Northern Europe more broadly and with a broader client base in the U.S. as well.

Zara: Which client segments are more/less engaged with smart beta and the factors story? How has this changed?

Yazann: As mentioned, up till now, it has largely been the preserve of the most sophisticated institutional clients but this has changed significantly in the last few years with a broadening out of the appeal of factor based indices. The proliferation of product in the space is both a benefit as well as a hindrance to its growth. It is a benefit because its prevalence increases clients’ exposure to the topic and therefore investors seek out education on why this can be a more efficient way of accessing risk premia. It can act as a hindrance also though because the market place can get crowded and it becomes more difficult to separate the wheat from the chaff, with the less sophisticated investors needing to rely on advisors for help.

Zara: What’s next for factors?

Yazann: While the focus has been very much on equity based factor investing, this topic is much broader than this. Factor based investing is fundamentally cross asset and therefore applies just as much to Fixed Income, Currency, Commodities and Alternatives. Fixed Income especially is likely to be a major growth area in the near term because traditional indices in this space have an adverse selection problem. In other words, market cap weighted fixed income indices, by definition, mean an increasing allocation to the most profligate debtors. Alternative weighting schemes in this space will become an increasing focus of fixed income investors. The other major area of growth for factor investing of course is long/short risk premia. Often referred to as alternative beta or hedge fund beta, the growth of this space will very much democratize access to hedge fund investing.

Zara: Thank you for sharing your views on this topic.

“ETFS ARE AN IDEAL WRAPPER BECAUSE OF THEIR TAX EFFICIENCY, THE INTRADAY LIQUIDITY AND OF COURSE THE TRANSPARENCY – MAKING THEM A SUITABLE VEHICLE FOR ASSET ALLOCATORS.”
1.3 ROUNDTABLE DEBATE

UK perspective - assessing the key questions of adopting factor indexes into an institutional investment portfolio

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Neil Morgan, Senior Pension Trustee, Capita Asset Services

Max Townshend, Investment Manager, Local Pensions Partnership

Peter Gunthorp, Managing Director, Research & Analytics, FTSE Russell

Nizam Hamid, ETF Strategist, WisdomTree Europe

**POINTS OF DISCUSSION**

- Strong performance of low volatility over the past few years
- Emergence of ‘quality’ as a factor
- Taking different approaches to creating multi-factor outcomes
- Is smart beta or factor investing meeting client’s objectives
- Smart Beta factor investing versus active

**Noel Hillmann**: Neil, can you provide us with your background and what your experience has been of using single factor products?

**Neil Morgan**: There are around 50 Defined Benefit (“DB”) pension schemes that we work with, where we are the professional trustee either sitting alongside lay trustees, being the chair of trustees or the sole trustee.

Our schemes range in size from small, medium to some very large schemes, so we cover the whole range.

Before you start thinking about whether it is single or multi-factors, you have to consider the pension schemes objective, the investment beliefs of the trustees and the governance budget of the trustees as well.

If you are looking at a typical pension scheme’s objectives, it would be looking to be fully funded on a self-sufficiency basis within a certain time frame. This means you have a required rate of return on your portfolio and then you have to consider the risk.

Ideally, you want the highest risk adjusted return you can get, so some schemes are looking to dampen the volatility in their portfolio in terms of their growth assets. One way of doing this is to invest in a Diversified Growth Fund (“DGF”), as the mantra of DGFs is equity like returns with half to two thirds of the volatility of equities.

The second way would be through a low volatility, single factor smart beta strategy. Low volatility does what it says on the tin and by its construction it will reduce the volatility of your equity portfolio. This is an example of where a single factor, smart beta strategy might be appropriate.
Also if a trustee is looking at their investment beliefs and feel very strongly that, for example, value is the only factor that is rewarded over the longer term, they might decide to go for a single factor value strategy.

There are problems mixed in with all of this and trustees have to be very aware at the outset of what these issues are.

A single factor strategy can underperform for significant periods of time, maybe up to three years or more, so from the outset trustees have to be very comfortable with a single factor strategy that might underperform in the shorter term but outperform in the longer term. They have to be committed to it and can’t decide after three years of underperformance to bail out.

Another issue is the entry point of the strategy, as you could get into one that was highly priced which might be disadvantageous for returns in the future.

Noel: Peter, what are your thoughts on single factor products and their use?

Peter Gunthorp: Originally, objectives were around improved risk adjusted outcomes but they were approaching it from a risk perspective rather than a return perspective. Many of the early products were what we would classify as ‘alternatively weighted products’. They weren’t explicitly about factor outcomes but about reduction in risk and improved diversification.

The consequence of those constructs is that they do exhibit systematic factor exposures, whether it is size, value or low volatility, so that people then started to use them as explicit factor products.

Gradually we have seen more complex approaches take hold, where investors have looked across both passive and active allocations and their use of other smart beta products and look in aggregate at what their factor exposures are. They have their own opinions on what the outcome should be and look to apply a completion type portfolio, to take them to where those aggregate exposures should be.

Max Townshend: LPP manages the assets of two “LGPS” pension schemes, LPFA and Lancashire. My focus has been on the liquid side; while help with our equities and asset allocation. I am primarily responsible for managing our “Total Return” pool. This is a portfolio of investments that look to diversify our broad liquidity risk, which is concentrated in equity beta.

Broadly, we believe in not taking market cap passive, and one of our equity allocations is to low volatility smart beta mandate; low volatility is one of the items that was put in place by one of our two schemes a few years ago and has performed well, delivering on its objective at a relatively low fee rate. We as investors, however, are all concerned about the strong performance of low volatility over the past few years, what tail winds it has had and whether this presents risks going forward.

We also manage a long term equity mandate internally, which follows an approach that could be described as “quality”. However, this mandate is benchmark agnostic, including to any industry definitions of “quality”.

Within equities we have quite a succinct view on the widely known academic factors and we can make a direct, informed decision on why we are going to take exposure to equity factor X or Y. Outside of equities, we are looking for return drivers within the “Total Return” space that are complimentary to broad equity beta. From a completion
Section 1 - Roundtable

perspective, if we have an intended value, quality or momentum bias within our equities portfolio, it doesn’t make sense to double down on these diversifying exposures in our Total Return investments. Each investment should be looking to improve the expected flight path of our employers’ funding ratios, and the opportunity set extends beyond the traditional academic equity factors.

To that end, we made a significant allocation to trend following strategies across asset classes earlier this year, which consists of a mix of “alpha” mandates and the emerging class of trend following beta products. One of these managers runs at a low fee rate, has a very transparent implementation methodology and benefits from a very good execution platform. Factor investing outside of equities is helping rationalise the hedge fund industry, bringing down costs and shining a light on managers charging alpha fees for “closet beta”.

Nizam Hamid: We speak to a number of pension funds here in the UK but also across Europe. In the institutional space we speak to clients who are doing multi-asset portfolios, family offices and also insurance companies who are looking to manage their assets and liabilities.

One of the most interesting changes we’ve witnessed, is that investment committees across all those types of clients, are acting on their desire to allocate to particular factors, themes or strategies within the multi-factor space.

It can be quite difficult to create truly single factor strategies. People often want to hedge and focus on single factors but creating the purity of single factor exposures can be quite difficult.

There is also the question of what is a relevant factor, because seemingly you have this almost exponential growth in factors that some people feel are relevant, but there is also a set of core academic factors that most people would agree are relevant. It is therefore becoming more about factors within multi-asset portfolios which is a very interesting proposition.

Neil: Perhaps one of the arguments for a multi-factor approach is this ability to do market timing. As Max suggested, there has been great performance in low volatility, the price has gone up a lot and now may be the right time to switch to another factor.

Noel: Max, how do you go about making that decision of when to switch?

Max: Our view on desirable long term company characteristics has been influenced by the body of academic work pre-dating Miller-Modigliani. Going through public research, we have seen more recently the emergence of ‘quality’ as a factor. People worry about a quality factor being over bid, but for me owning high quality businesses is a core long term position from which you might start thinking about whether you diversify into other factors.

Of course this may depend on your factor definition - we are going through an exercise now of rationalizing our definitions of factors, thinking of what ‘value’, ‘quality’ really are. From this point we can start thinking time varying risk premia, and potentially switching factors.

The world is very different to how it was 50 years ago. Capital equipment used to generate a healthy return on investment; now people are looking for “asset light” businesses, and competitive advantages which are intangible, so just because book value spreads have historically been a good starting point to increase your value allocation doesn’t mean that they will be going forward. We are trying to be cautiously balanced in our outlook for factor returns.

Noel: Have you reviewed and/or adopted multi-factor indexes? If so, what were the reasons for that decision?

Neil: As a professional trustee, we take advice from our investment consultants and although as trustees we decide, the consultants do advise us. They have been giving us some advice on multi-factor versus single factor strategies.
Multi-factor strategies have become more popular in the last year or two and one of the reasons for that is diversification.

With a single factor strategy, you have the probability of having a large drawdown at some point in the future and so the trustees need nerves of steel to go through that period.

If you feel that there are four or five reasonably clear factors out there, why wouldn’t you diversify across those factors and so avoid the pain of suffering large drawdowns?

There is also the governance aspect. For trustees to pick out one single factor, like value, and decide that it is the best one for the future, is a brave decision to make. You do have to do much more research into the individual factors as well and given the time constraints of trustees, they may not have the time to look at them in such detail.

Multi-factor is an easier option as although there will be drawdowns in multi-factor strategies, they are going to be less than for a single factor approach.

**Max:** There is an agency element to whether multi or single factor portfolios are a good or bad thing. It may come down to whether you want to perform on a relative or absolute basis.

The definition of risk is an interesting one, people might look at our quality bias as a relative risk, but if a given equity factor were negatively correlated with equity beta then there would be hard to take on an amount of that factor that doesn’t improve aggregate risk adjusted returns.

If you are an asset manager then undoubtedly multi-factor is a great framework because it gives you the most stable path to outperforming a benchmark. If you are an asset allocator, you have to think about the interaction of the factors with the underlying beta. Multiple factors may diversify your relative risk, but certain individual factors may be better structural diversifiers of your absolute risk.

Quality might come into it, although it isn’t a very pure factor, with low volatility or a value dividend type of structure. There are lots of elements that can end up in that single quality space.

Even though you might underperform in terms of absolute performance, if you are also delivering much lower risk, then there is also the question of what value you ascribe to having low risk in these strategies. It isn’t all about absolute performance, especially at an institutional or pension fund level where you are not necessarily judged on every quarter’s performance.

With multi-factors, you will find some product issuers just adding together a bunch of factors, but actually strategies that combine factors come at it from a different view point.

This is the interesting way that we are going to see multi-factor indices evolving, as we are much more focused now on what the strategy is that we want.

**Peter:** The design element is important as is deciding what a relevant factor is. To my mind, you can put beliefs about a factor to one side and in terms of how you might construct a product, do it in exactly the same way.

Many stock characteristics can be measured in the same way; it’s just that my beliefs about what I am trying to do are different. I may not believe that long run exposure to domestically focused companies will be rewarded, but I might have a view about the domestic economy and the currency in the short term. There is no reason I shouldn’t approach the product design in the same way. The other consideration is around definitions; the consensus goes that there are five or six academically verified factors that are rewarded to you in the long run. I am not trying to do anything that is skillful or add any alpha, all I am doing is capturing the return premium to these pretty common attributes.

It then becomes important how you put these elements together.

**Nizam:** This is more of a design question, in terms of how you either build single factor models or combine them into multi-factor indices, which is what we are seeing more of today or even switching between factors at a more macro level.

Depending on the clients we speak to, it also is a question of where they want to position themselves long term because these aren’t very short term solutions.

You may want to do that because they have different drivers, which might be structural, behavioral or risk based. The downside risks are large and diversifying across factors is a very sensible thing to do, particularly in light of how difficult successful timing is.

Factors are multi-dimensional, so quality does have a value perspective and low volatility has a momentum perspective. I might then want to look at quality stocks that look relatively inexpensive and that seems to be a sensible way to go about constructing a portfolio.

**With multi-factors, you will find some product issuers just adding together a bunch of factors but actually strategies that combine factors come at it from a different view point.**
Noel: What is your perspective on the different approaches to creating multi-factor outcomes?

Nizam: We have seen some issuers create relatively naive approaches by just combining various factor indices and saying that in aggregate they will get somewhere. I am not sure that this approach has paid off.

Having a clear idea of the strategy that you want to follow by combining factors is the way to focus and that is the challenge that we try and meet. It is a difficult challenge and that is why we see some relatively simple approaches being implemented today but this is the holy grail of creating the solution.

We need to put together multi-factors that deliver a solution rather than having three or four factors, aggregating them in a relatively naive way. It is important to understand the solution that works for your own clients, as you can take the three or four factors and combine them in different solutions for each of your clients.

Peter: We shouldn’t push from our minds that the only thing we can control is the exposure. I don’t know whether these strategies are going to be paid on a one to three year horizon, but I can make sure that I have the target exposures in my product.

Whatever one’s design principles are, it should be about getting target exposure objectives into your fund. There are lots of ways to do this; some are simpler than others and some may be more beneficial in terms of implementation so there are tradeoffs.

So, whilst building block type products are efficient to create and implement, they result in pretty weak factor exposure outcomes which is fine, if that is your objective.

Peter: In the limit you’ll end up at the back of the market. There are some subtleties around how you put multi-factor products together and there is a tradeoff of in terms of complexity in achieving those multi-factor objectives.

What makes this more difficult is that there is limited freedom. If you push in one direction in terms of aggregate exposures, you are creating more concentrated outcomes and pushing up turnover.

I have less concerns around tracking error because if the factors are important drivers of risk and return, I would expect increased exposure to be reflected in higher tracking error and if it wasn’t I would worried.

Noel: Max what are your perspectives on the approach to multi-factor?

Max: As a fiduciary for DB pension schemes we are a multi-factor investment manager. We are trying to manage our exposure to broad equity beta, to various underlying macro-economic risks, to investment risks and styles, to asset classes.

Our first port of call is thinking about the single factors that we believe are compensated. Building these factors into portfolios is then the challenge.

Within the Total Return portfolio, we are trying to be mindful of time varying risk premia and “timing”. FX carry is a good example where we start with an economic intuition, that returns are explained by real interest rate differentials. If real interest rate differentials are close to zero, then you might not expect carry to be compensated and might wish to allocate capital to other return drivers that have a better outlook.

There are quite a few different premia across different asset classes where there is a very intuitive reason why you might want to allocate more or less to those different factors through time, and academic frameworks for doing so relatively conservatively.

Neil: It is a construction issue in terms of whether you mix or integrate. By mix, I mean that you have a series of standalone factor portfolios value, quality, momentum etc. and integrate means that you have one combined portfolio.

If you are operating on a mix basis, then you can do factor timing more easily. Intuitively however integrating approaches makes more sense.

A stock may have a very high value score, so that would go in the standalone value portfolio, but at the same time that stock might have a very poor momentum score so it doesn’t feel as though it is quite the right balance.

However, if you adopt the integrated approach the score for that stock might be on average quite low so might not even get into the integrated portfolio.

To do a standalone portfolio requires a tradeoff and you are incorporating other significant negative factor exposures into some of the high factor standalone portfolios that you might want to use.

Also, in terms of turnover it does make sense to have an integrated approach because with the momentum portfolio it might mean buying a particular stock because it has gone up in price. However, in the value portfolio, this same stock has become too expensive because it has gone up in price and so is being sold in the standalone value portfolio so the two cancel out and you are incurring transaction costs.

Max: The transaction costs are interesting when you look across different asset classes. A lot of people are offering risk premia products which are essentially investing in factors across asset classes. They are fantastic products, particularly for smaller schemes, as they give you a lot of bang for your buck, can be low cost to implement and give you very broad exposure.

If you were looking to implement a solution that was customised to your needs, thinking about whether you want to go with different
managers for different premia, then the costs and the concentration of factor exposures become more important.

Clearly within commodities, FX or equities, there are lots of synergies from having a multi-factor approach managed by one manager, as they can do netting and re-balancing in an efficient way across the given asset class they manage.

Noel: In terms of the enhancement of investment offerings, what role have factor indexes both single and multiple played?

Neil: From a trustee’s perspective the question would be, is smart beta or factor investing meeting client’s objectives? The answer is, by and large they are but only if they are simple, transparent and cheap. This is one of the issues with the industry at the moment because you have got such a proliferation of new ETFs and indices based on smart beta, that there is a danger that everything is becoming a bit too complex, opaque and expensive.

A lot of this is based on data mining and testing. So many of the ETF providers are looking to effectively change their active quant desk into a smart beta desk and rebrand as a smart beta fund manager.

This is bumping up prices and so they are looking at back tests on 10 years’ worth of back data and are either looking for new factors or new definitions.

If you look at the academic world, price to book is a fairly standard definition of value. There are other alternatives and people have been exploring those but the more you move away from fairly simple definitions of factors, the more you get into the realm of data mining.

There are many products out there where the back tests have been done and look great but when it is run with real money there will be underperformance because the only reason it did well in the back test was purely by chance.

In terms of explaining factors to trustees, there has to be an economic rationale and the simpler and more transparent, the more likely it is that trustees will be able to take them on board and incorporate them into their portfolios.

At the beginning, smart beta was seen as a nice, cheap and transparent way of getting exposure to these well-known factors that we knew about, which were previously delivered by active management.

The money that you are seeing going into smart beta is partly from traditional market cap passive as well as from active management, because the active management community is under pressure.

Max: The biggest trend is that it is breaking down a lot of barriers, providing people with a lot more information and letting them make more informed choices about the risks they are running in their portfolios, as well as providing access to areas that were previously only available at high fees.

This will be a bad thing for the weaker players in the industry but for others, it will be a tremendous boon, as they will be able to communicate the factors they are running and demonstrate how they are adding value.

Within the equity space the industry is fortunate to have fairly good consensus on some of these factor definitions. Value is an example where you can broadly construct a factor which enables you to benchmark a value manager on performance.

Outside of equities there is still a lot of work to be done but this is why it is so exciting. As these factor products become more prevalent, benchmarking will improve and this will allow better risk measurement for schemes and more efficient portfolio construction. This will help hold a lot of these products to account and may bring down expenses.
Trend following is a good example; broadly speaking CTAs correlate about 0.7 with each other. It is widely accepted that there is a common driver of the returns from CTAs that you can proxy that with a very simple, rules base strategy.

Yet many trend following products don’t acknowledge this, and charge a performance fee against cash. It is hard to talk to people about constructing a representative benchmark for their underlying mandate as it impacts their business model, but ultimately it would be good for asset owners and investment managers alike.

With trend as an example, if the underlying “trend beta” is up 10% and you are at 5% you have underperformed and shouldn’t be rewarded; similarly if trend beta is down 10% and you’re down 5%, you have done well and should be rewarded. And yet the under the current model, not only are you not rewarded for your “alpha”, you’re also penalized as you’re higher from your high watermark.

Nizam: Neil made a good point about smart beta factor investing versus active. People realize that they have historically allocated to active managers and some issuers can point to a live track record of over 10 years, which is very important from a client perspective. The key is to have strategies available in a transparent, index based rules methodology.

From a fund selection perspective, a lot of the clients I speak to are somewhere in the middle between those who look at active mandates and to a limited extent, the passive side.

Now you can buy all of the factors that you were getting exposure to but without having the active manager risk as well as possessing a greater understanding of what is in multi-factor products.

The real value that we have seen evolve over the past 2-3 years is from a client perspective, in that this can be a low cost and reliable replacement for active management strategies and that is a very important turn of events.

Peter: The risk of multi-factors have forced us to think about the objectives that we are trying to achieve and in a sense reinforces the point that Neil was making in that there is always a danger that we will start to over complicate and lose the benefits of transparency and simplicity.

We’ve argued against having different methodologies for different factors, single factors or factor combinations. We want to use something that is general and robust enough to work across different objectives.

This allows us to answer questions analytically; if we are asked to stress a particular factor combination we can do it in the same way and know that it is the factor piece that is driving outcomes rather than some insidious detail in the construction.

The direction is interesting and we have certainly had requirements for factor benchmarks for active managers and discussions around the extent to which one can replicate certain active outcomes within a factor framework. Ultimately, this comes back to issues of cost and beliefs around active management.

There is a view that money will flow out of the passive products, the active side as well and into factor based products. What this creates is a bigger opportunity for those active managers who have genuine skill; it’s just that the definition of skill has moved on. It’s not alpha relative to market cap anymore but alpha relative to some value, quality, momentum low volatility construct.

Noel: Thank you all for sharing your views on this topic.
1.4 ROUNDTABLE DEBATE

U.S. perspective – differences between UK and U.S. participants

**Moderator**

**Rolf Agather**, Managing Director, Research and Development, FTSE Russell

**Panelists**

**Alexander Davey**, Director of Alternative Beta Strategies, HSBC Global Asset Management

**Luciano Siracusano**, Chief Investment Strategist, Wisdom Tree

**Jerry Davis**, Former Chief Investment Officer, New Orleans Retirement System

**Paul Johnson**, Trustee, State University Retirement System

**POINTS OF DISCUSSION**

- *Smart Beta adoption rates and growing interest*
- *Foreign market opportunities*
- *Low fees and active managers*
- *Analyzing and combining the best possible factor exposures*
- *Drawbacks of some multifactor approaches*

**Rolf Agather**: The 2016 FTSE Russell Asset Owner Smart beta survey showed greater adoption rates of smart beta in Europe than the U.S., but with a growing interest in factors – does this reflect your experience?

**Alexander Davey**: There are a number of universally held truths in the world - one of them seems to be that no one likes the name smart beta. We spend a lot of time explaining to people what it actually is, given the diverse range of strategies it now covers – in 2010 there were perhaps 1000-2000 smart beta indices, latest numbers suggest this figure is 6000!

When we have drilled down and started considering how factors adjust and change a portfolio outcome, you get a far more proactive engagement from asset owners.

This may have a knock on effect as we saw in Europe where there were two streams of interest - there was quite a strong take up of fundamental indices initially and then we gradually started to see this take up of factors and multi-factor strategies.

What I have seen in engaging the institutional world in Europe and the U.S. is that 2 years ago when we spoke to larger institutional clients and consultants in the U.S. there was a feeling that there wasn’t much substance to the dialogue, it was more general fact finding but this has changed noticeably and we are now seeing institutional asset owners and consultants engaging much more proactively.

As we have seen interest in the use of factors grow, we have seen this become more meaningful to investors and that accounts for the very strong catch up in the U.S.

In Europe, we also had what I would identify as very big investors who put meaningful asset flows into smart beta strategies early and this, depending on where you cut the data, can slightly skew
that European angle. Equally we have had some consultants earlier on putting out buy-ratings on fundamental indices and undoubtedly this helped drive some of that interest.

Europe is also skewing a lot more towards the factor and multi-factor discussion and any gap that was there between Europe and the U.S. has narrowed demonstrably over the last 18 months.

You are seeing the same dialogue in other mature markets such as Australia and New Zealand where they have those very large superannuation funds.

Jerry Davis: The widespread instances of pension plan underperformance, high management fees, and the various fraud convictions within the investment industry, have driven many investors into the cheaper and more passive field of indexes. While politically defensible, such investments simply can't pay the bills for most pension plans; volatile markets soon produce reports of irresistible returns, and investors are then driven to enhance their passive portfolios.

Whenever market activity turns irregular, the “sell-side” community offers solutions, often laced with jargon. ‘Smart Beta’ emerged after the 2008/09 debacle; we are now presented with the concept of factor investing. The term is not yet well understood by the “buy side” (investors) due to the multiple definitions of the term ‘factor’.

Factor investing, as I define it, requires determination of the ultimate market for a particular investment’s products, then matching this investment with another which reveals a contrary return profile. ‘Factors’ involved in the research might consist of a granular look at relevant economic cycles; actual or potential disruptive events which affect the investment’s return stream; challenges from competitors’ products. I have labelled this application of factors as customer-based investing. Properly constructed, the resulting portfolio can be the Holy Grail for investors.

Rolf: Expanding on some of Alexandar’s comments, I think that the UK was a particularly early adopter of the Fundamental indexes, largely due to the fact that the original series was based on the FTSE family of indices, and you had at least one prominent consultant who was extolling the virtues of these new alternatively weighted indexes.

It seems as though most investors in the U.S. have always had to deal with investing out of their home country, they are multi-currency and multi-country. Do you think this creates more of an appetite to look outside the traditional domestic equity type strategies?

Alexander: I am a bit of a cynic in that it took people a while to see through the nomenclature to see exactly what they were doing and realise that they have already been investing in factors and multi-factors for decades and all that is being asked is for them to now look at it in a different way.

Jerry: Foreign-market opportunities have been obvious since at least the advent of the Dutch East India Company in 1602. While political constraints have often interfered with public funds’ abilities to make overseas investments, domestic-only investments have clearly underperformed global portfolios over time. International investing requires addition of several data elements to a factor-analysis model, but the results are very much worth the effort.
**Section 1 - Roundtable**

**Rolf:** Luciano are the results of this survey consistent with what you experience in terms of seeing greater interest and adoption in Europe than the U.S?

**Luciano Siracusano:** It depends on the time period, between 2000-2010 you could make the argument that Europe was just behind the U.S. in ETF adoption and so it missed most of the movement towards simple, passive ETF indexing.

It is not as if the U.S. isn’t enamoured in smart beta but now there are likely 600 ETFs that could be classed as so called smart beta representing $300 billion to $400 billion of assets. The difference is that the U.S. has 2 trillion in ETF assets and the main reason for that was the adoption of pure beta in the first decade.

What you are seeing is the adoption of smart beta in Europe and in the U.S. over the last 5 years but it may feel as though it is representing a bigger portion of the European ETF market only because this market took longer to take off and didn’t get that ramp up in the beta assets during that first decade of 2000-2010.

**Rolf:** Paul, representing a large asset owner yourself, were the results of the survey surprising to you or consistent with what you would have expected?

**Paul Johnson:** Not really one way or the other, they have just adapted a few areas. It depends on the circles you are in as Canada is a little more progressive with their asset management than many of the U.S pension systems.

**Alexander:** The one part that your survey picks up on effectively is that there are a number of large clients who don’t participate in pooled funds or ETFs where data is more readily available. Trying to get a feel for how big that asset size is in Europe or the U.S. can be very difficult.

I can think of a single asset owner in Europe who has in excess of 20 billion in smart beta and if you put a few of those together then you can understand that there is a bit invested but it is very difficult unless you know where they are to be able to quantify that. This is the most difficult aspect with smart beta.

**Paul:** The fact that there are people of that size doing it is one of the reasons why we are starting to get a bit more usage here.

Also, many people are not satisfied with active managers and are trying to reduce fees. Many trustees that join boards can barely understand how investments work but the one thing they do understand is if they have to pay money and feel they can lower fees then they have done something good.

They also see that these products are making money so lower fees make money but active manager aren’t and so the conversations around this are growing especially in Illinois where we are so poorly funded in the state and city pensions that it has been the big mantra to bring fees down.

Some people would rather pay 1% and make 1% than pay 5% and make 30% which strikes me as strange but that is what they understand and smart beta helps people get there.

**Rolf:** Have you reviewed and/or adopted multi-factor indexes, if so, what were the reasons for that decision?

**Paul:** There is a move by us and a conversation being had by more people to move in a different direction using option products, ETFs or different factor investing especially if the results are good and the fees are down. It just makes everyone happier.

It is easier for a CIO to sell it sometimes to a board when they hear all the right buzzwords. The conversation is growing, we are moving in that direction, people are more comfortable with it and it is easier to understand.

If you change a few factors and the results are good they are more readily accepting of that than they might be for some strangles.
We see factor combinations as a core part of delivering effective client outcomes and it forms an integral part of our multi-factor equity strategy.

It is an asset class that is going to grow and will do well over the next few years.

Rolf: Clearly interest on your part but there is a process and it does sound like you have some other exotic things going on that might be getting attention. Luciano, where are you at with providing multi-factor products?

Luciano: In one sense we have already been doing it for 10 years. Much of the discussion over the past few years has shifted to creating indexes that tap into these risk premiums of size, value, quality, momentum and to some extent low volatility. These are typically the risk premiums that are associated with excess returns over time, lower volatility or a combination of the two.

WisdomTree invented a dividend-weighted approach more than a decade ago -- and when you weight by dividends you are tapping into multiple risk premiums simultaneously.

What we have found over the past 10 years is that when you weight equity markets by cash dividends rather than market value, in many cases you capture the value premium and the quality premium more efficiently than cap weighted indexes, and more efficiently than cap weighted value or cap weighted growth indexes do.

We don't talk about it that much as “factor investing”, as much as we do accessing premiums that generate the excess returns, we feel that you can access value with dividend yield, book yield or earnings yield. There are many different factors you can use to access a premium, the question is how efficiently over time do you access the premium and what we have shown is that you can use a dividend-weighted approach around the world and consistently access value, quality, size and in many instances lower the volatility of your exposure, relative to beta.

You end up getting the outcome that ‘multi-factor’ indexes are trying to achieve but you do it holistically with very broad, representative exposure to the market, and with ample investment capacity.

One of the drawbacks with some of the multi-factor approaches that have been created and back tested recently is that they don't necessarily take liquidity into consideration or the turnover that is generated in the portfolio to access the premium.

This is one of the remaining puzzles that needs to be looked at as the real-time results come in at the fund level.

Rolf: In our institutional asset owner survey we saw a strong, emerging interest in products that combined factors. While the most commonly used strategies are fundamental, value and low volatility, it appears that there is quite a bit of energy focused on evaluating these new strategies. When you think about combining factors, do you have a preferred method that you use?

Alexander: We see factor combinations as a core part of delivering effective client outcomes and it forms an integral part of our multi-factor equity strategy which we have been running for over 10 years. We optimise the individual factors to make sure that they are delivering the risks they should and then we tilt based on recent volatility and performance history to get slightly better exposure to those that we feel are performing reasonably well versus those that have slight performance challenges. Technically speaking, we use the information coefficient.

Rolf: Luciano based on your previous comments do you have any particular methods that you espouse that you believe are superior for combining factors? Your comments would indicate that you feel in many cases factor combinations are implicit for an outcome of your particular methodology.

Luciano: Investors and institutions have a choice as to which path they take. One way is for them to do their own analysis of the best possible factor exposures and then to figure out when to combine those factors and when to tilt based on a variety of inputs.

This is very difficult to do as you really need to have a good model to figure out when to be tilting towards which factor and what are the most important inputs.

People who are doing multi-factor rotation are analogous to active managers who are trying to beat the cap weighted index. They have a certain approach that they think can extract value from the market and they are going to put the burden on themselves to figure out when to tilt, towards which factor and how to optimise it efficiently. This is one approach and I would view this as a very active approach to smart beta.

The other approach is just to own the entire market, not to try and out-guess it, but simply choose not to own the market cap weighted. Once you shift away from owning the market cap weighted, the data says that you are going to be able to add excess return either because cap weighted is flawed or you are more efficiently accessing these return premiums once you move away from market value indexes.
The Evolution of Factor Investing

Section 1 - Roundtable

If you cap weight something, you are going to tilt towards large caps over small, over time you will tilt towards growth over value and during extended market movements you will tilt towards momentum and in some case junk over quality.

Ideally if you can shift away from cap weighting you may be better able to access these size factors with quality, value and others.

The question then becomes how broad is your index and what is the rebalancing mechanism that allows you to tap into these size, value or quality factors. We feel that if you want to take that approach the ideal way to do it is to own all the companies who have exposure to that factor.

At least in this way you have a very broad universe to work with, particularly if you own all the companies that are profitable, at least you have a broad universe to work with.

We are trying to start at the broadest possible point, re balance once a year based on relative value and then let the indexes internal logic make the bet in terms of how to tilt towards certain stocks and sectors to extract the best value.

Overtime, we have been able to regress pretty highly against value and quality by both dividend weighting and earnings weighting the U.S. equity market. We have been able to capture the size premium in many instances more efficiently than the cap weighted indexes.

If you do those three things better than cap weighted indexes do, over time you should be able to generate excess return.

Rolf: At FTSE Russell, we have developed a unique method for combining factors that we call "tilt on tilt". For a desired factor combination, it basically identifies a group of stocks that have relatively high exposures to all of the factors. This is distinct from the traditional approach of simply creating a weighted average of individual factor series. Our analysis shows that the tilt-on-tilt approach preserves more of the desired factor exposures than the alternative approach.

How have factor indexes, single or multiple enhanced your investment offering?

Paul: We need to be a bit more progressive and proactive in the way we handle things and factor investing is a way to get away from a standard 60/40 portfolio that works for so long until it doesn't.

We are in a period now where there are enough fears and hiccups that imply that you need to have a little alternative in your world.

Our past results are indicative of what happens when you don't invest beyond just long equities. We returned 2% this year and just under 3% last year and we were close to what most others were doing, people who were not using smart beta efficiently.

It is easy to understand some of the strategies and the poor results that we and others have had, helps to drive that market place a little bit more every day.

Luciano: We are on the provider side so we advance our business by helping our clients generate higher risk-adjusted returns. That is where we feel the value is.

People need time to generate higher returns with lower volatility and ideally be able to achieve both simultaneously.

Alexander: The industry is bifurcating and we are getting a set of strategies that group more around ‘passive’, though this could be traditional market cap or factor strategies which will use tracking error. In theory, we are also getting a group of strategies that group more around higher tracking error, making the capability to deliver across that spectrum fundamentally more important.

From the perspective of providing solutions to clients and being asset managers, it is important to us that we are able to offer solutions across a range of ‘smart beta’ options and also use our experience and knowledge to help clients effectively customise these solutions to their requirements where necessary around factors and also elements such as tracking error and volatility targets or ESG constraints.

More broadly, as we go into an environment where there is a high focus on cost as well, understanding that dynamic and being able to work with clients to deliver what they want in a cost effective manager is hugely important and that is key to us in making sure that we have a robust investment offering not just now but in the future as well.

Rolf: The interest in single and multi-factor index based products has created a wide variety of opportunities for us with a number of ETF product providers. In some cases we have large institutional asset owners who have asked us to develop factor combination strategies that then become the basis of ETFs. Investors are now able to have more control over the types of investment outcomes that they desire.

Rolf: Thank you all for sharing your thoughts on this topic.