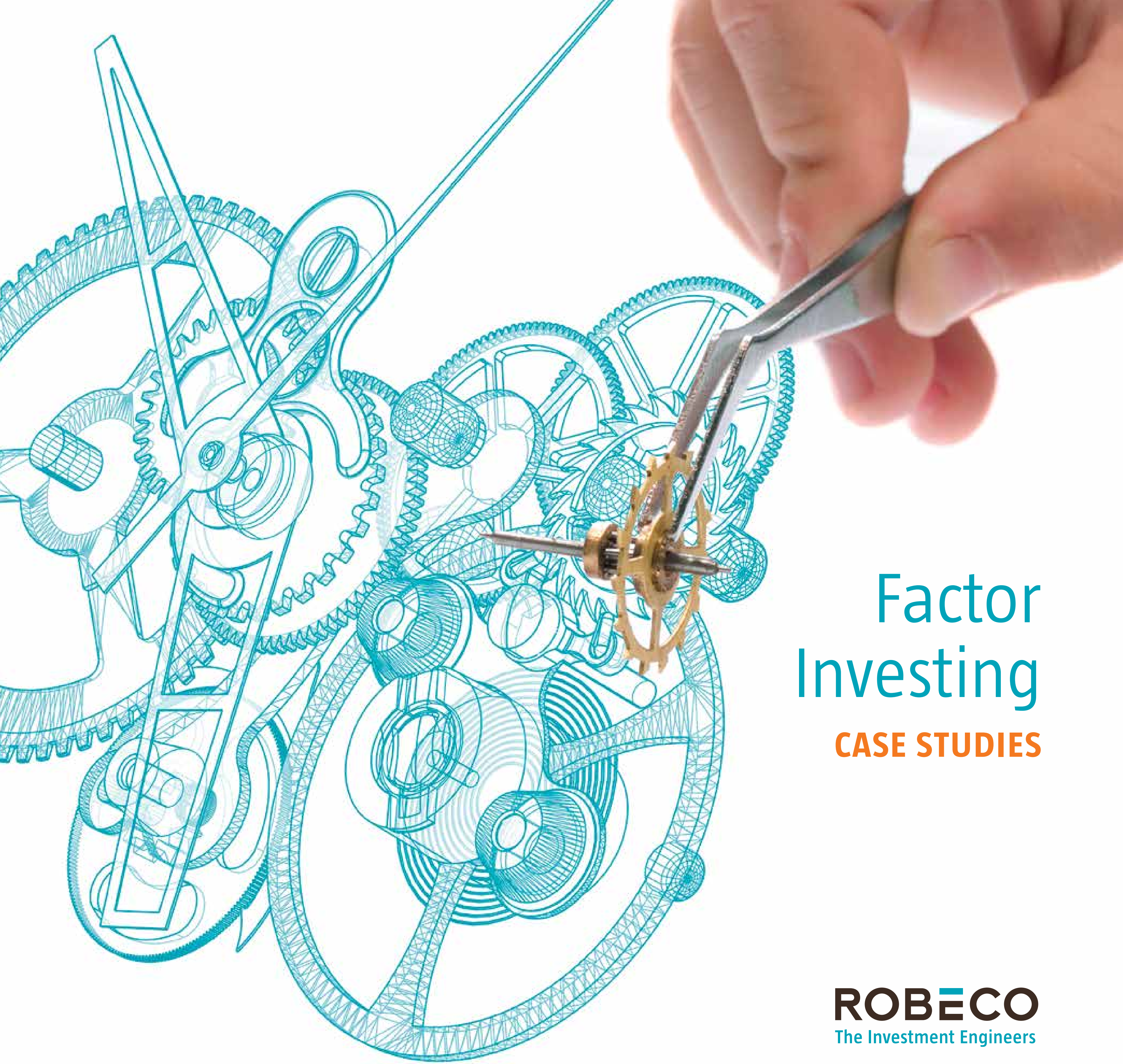

Factor Investing

CASE STUDIES

ROBECO
The Investment Engineers

Factor Investing

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The Investment Engineers

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JOOP HUIJ
Head of Factor Investing Research

Introduction

There is abundant empirical evidence that stocks with certain characteristics deliver superior risk-adjusted returns in the long-term. These characteristics, shared by groups of stocks, are referred to as factors. As a result of this, factor investing – the investment strategy that aims to capture certain factor premiums in a strategic and prudent way – is rapidly gaining in popularity among professional investors. At Robeco, we have long been strong proponents of the benefits of the evidence-based approach that factor investing involves. Based on this philosophy, we have already been offering our clients access to portfolios with systematic exposure to a range of factor premiums for well over a decade.

Although some investors are already actively using factor investing strategies, others are still investigating the merits of strategic allocation to multiple factors across all their portfolios. Their more wary approach is justified as factor investing is not a one-size-fits-all investment phenomenon. A strategic allocation to factor premiums is not only dependent on our evidence-based investment philosophy, but also on a careful assessment of a client's specific needs. In some cases, fund solutions or tailored mandates may not always be the best structures to fulfill these requirements.

In this paper, we address these challenges by looking at the lessons learned from our experiences with some major clients who have incorporated factor investing in their portfolio allocation strategies. After a brief outline on what factor investing actually is, we present three case studies of professional clients worldwide that are successfully implementing bespoke multi-factor solutions – a Dutch pension fund, a large sovereign wealth fund, and a retail bank. These clients' bespoke multi-factor solutions have all been developed in close partnership with Robeco.

Sharing this knowledge and experience will provide you with new insights into the world of factor investing and help with your own asset allocation and investment strategy decisions.

Joop Huij,
Head of Factor Investing Research

Factor investing: From concept to implementation

A large body of academic research supports the idea that a significant portion of a stock's long-term performance can be explained by its exposure to factors. There is abundant empirical support for four key factors. These are Value, Momentum, Low Volatility, and Quality. Factor investing uses a systematic and rules-based approach to screen and isolate stocks with these characteristics.

Understanding the factor investing phenomenon and strategically weighting portfolios accordingly can help investors capture the desired factor premiums and thus improve the risk-adjusted return of their portfolio strategies. Harvesting factor premiums typically requires a longer time horizon. Because of this, most proponents of factor investing advocate a strategic allocation to factors. At Robeco, we believe that an effective strategic allocation to factor premiums depends not only on our evidence-based investment philosophy, but also on a careful assessment of each client's specific needs. An efficient allocation to factor investing is, thus, a non-trivial investment process. In this section, we summarize the origins of factor investing and elaborate on some of the specifics and complexities involved with a strategic implementation of these strategies.

Origins of factor investing

Although factor investing is a relatively new approach to portfolio management, its origins are old. Back in the 1970s, several academics recognized that assets have a number of inherent risk and reward 'attributes' or 'factors', in addition to their traditional asset-class labels.

The advent of increased computing power and availability of data in the 1990s allowed factors to be tested and researched in far greater detail. Research into factors includes factor investing performance analysis in multiple regions (e.g. US, Europe, global, and emerging markets) and asset classes (equities, fixed income) over a range of time frames.

The breakthrough came after the publication of a research report in 2009 by professors Ang, Goetzmann, and Schaefer, advising the Norwegian government to strategically allocate to factors. Analyzing the performance of one of the world's largest sovereign wealth funds which invests Norwegian oil revenues, the authors' analysis shows that the real value of the fund's active management does not reflect true skill (alpha), but can in fact be explained by implicit exposures to systematic factors (betas). They also go on to show that these factor exposures arise from bottom-up manager selection, and thus, recommend the adoption of a factor investing strategy, i.e. an explicit top-down allocation to proven factors because of the long investment horizons of factor premiums.

The idea of factor investing then rapidly gained popularity among professional investors around the world who were faced with similar portfolio-diversification issues and who sought an efficient and prudent way to capture factor premiums. Since then, growing numbers of leading professional investors have started to strategically allocate a part of their portfolio to factor investing.

Pioneering European institutions began integrating factor investing via a top-down approach for significant parts of their equity portfolios from the late 2000s. While these factor investing strategies focused on equity markets only, recent advances in the field show that significant factor premiums exist in other asset classes, such as bonds and commodities. While this book offers insights on factor investing in equity markets only, at Robeco, we offer a wide range of products that allow investors to also capture factor premiums in other markets.

Factor investing – a blend between active and passive management

Factor investing is a strategic and systematic approach to weighting indexes – one that does not look at market capitalization – to capture characteristics that have been well-documented in the literature. As such, factor investing combines aspects of passive and active management to deliver a new method of portfolio construction, while avoiding the drawbacks of both approaches.

Passive market-cap weighted portfolios do not discriminate between attractive and unattractive assets. The literature provides extensive evidence that the expected performance of securities with certain factor characteristics is very poor, while other characteristics are rewarded with higher returns. Because passive investors simply stick to a capitalization-weighted market portfolio, which contains all securities, they basically choose to ignore such evidence. As a result, their investments deliver lower risk-adjusted returns.

Active management also has its drawbacks such as a lack of transparency and higher fees. In many cases, most of the value it adds does not reflect true skill, but can be explained by implicit exposures to systematic factors. The literature on mutual fund performance evaluation shows that most of the alpha generated by top performing funds can be explained by the same factor premiums that have emerged from asset pricing studies.

In this respect, factor investing is really a third way of investing that incorporates both features of passive investing, such as investing systematically using transparent rules and at low cost, and active investing, such as generating superior returns to market-cap weighted indexes using proprietary models and processes. At Robeco, we offer both types, solutions that are fully transparent to the client, as well as highly proprietary factor investing models.

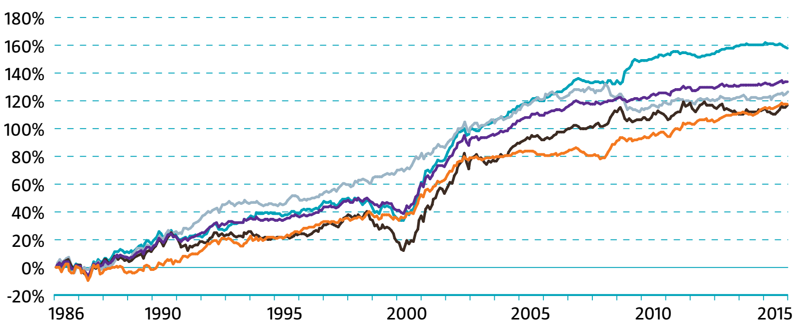
The importance of diversification and discipline

Like asset classes, factors are subject to long performance cycles. While key single factors have been shown to outperform over long periods, they have all experienced extended periods of underperformance relative to a cap-weighted benchmark. By diversifying across multiple factors in a portfolio, investors can achieve more stable performance with substantially shorter drawdown periods than by pursuing a single factor approach. This can be seen in figure 1.

Since the beginning of our sample in 1986, every year at least one factor (Value, Momentum, Quality, or Low Volatility) has outperformed the relevant benchmark (see figure 2). This is not surprising given the underlying correlation between the factor premiums. For example, as Momentum has a negative correlation with Value and Low Volatility an investor would always benefit from having exposure to a winning factor when other factors underperform. While some factors do outperform the benchmark more often than others, this is no guarantee for the future, so a well diversified portfolio across factors is the key to more stable future performance.

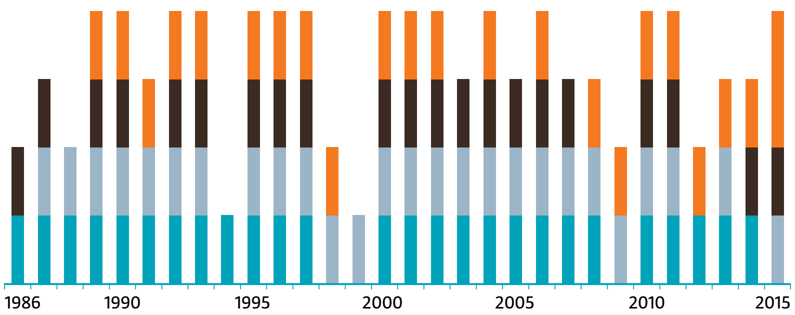
As efficiently extracting factor premiums is a long-term phenomenon, investors who engage in factor investing need sufficient discipline to maintain a long-term perspective to ride out periods of underperformance. Our research shows that these periods can range from two to six years – which is too long for many investors. As their time horizons have been shrinking as a result of lower trading costs and easy access to performance information, patience has become an increasingly rare commodity. The increased role of benchmarks in the asset management industry has also contributed to more focus on relative performance and shorter time horizons.

Figure 1: Cumulative excess returns of Robeco factors, January 1986-December 2015



Source: MSCI/Robeco. Excess returns are measured relative to the MSCI World Index from January 1986 to December 2015. Returns are measured in EUR. The Robeco factor strategies are based on portfolio simulation, net of transaction costs of 75 bps. The value of your investments may fluctuate. Results obtained in the past are no guarantee for the future

Figure 2: Years when Robeco factor strategies outperformed, January 1986-December 2015



Source: MSCI/Robeco. Excess returns are measured relative to the MSCI World Index from January 1986 to December 2015. Returns are measured in EUR. The Robeco factor strategies are based on portfolio simulation, and are net of transaction costs of 75 bps. The value of your investments may fluctuate. Results obtained in the past are no guarantee for the future

Optimal allocation to factors

Optimal allocation to factors is a key consideration for investors. Their approach should focus on diversification and be determined strategically to avoid the tendency to chase styles that have been recent winners. A long-term investment horizon is a prerequisite if investors are to optimally benefit from factor premiums. The decision to implement factor investing cannot be made for the short-term, but should be the result of a strategic and systematic long-term allocation.

At Robeco, we believe in those factor premiums for which there is sufficient academic and empirical support. In this respect, while historical and expected performance is critical in our factor allocation decisions, we also enhance our optimal portfolio allocation recommendations by taking the investor's preferences for risk and return into account. As we build solutions for clients, we start with a diversified allocation and customize this in the initial stages to ensure that the harvested factor premiums can help achieve specific investment goals or fulfill certain requirements.

A balanced portfolio offering exposure to proven factors provides a strong basis for a factor investing solution, but investors can, and in many cases must, deviate from this according to their specific requirements. Here are two examples of how different investor preferences can lead to different allocations:

– A pension fund, where funding-ratio stability is the primary concern, would benefit most from a tilt towards defensive factors like Low Volatility and Quality.
– An investor with a long time horizon and higher growth objectives may favor a tilt towards factors with higher expected returns like Value and Momentum.

Factor timing

The differences in the short-term performance of factors, might tempt some investors to deviate from their optimal factor allocation in favor of the winning factor, and, as such, effectively 'time' factors. While factor timing strategies might enhance returns, Robeco in-house research shows that they are quite weak historically, and might, in fact, have a significant negative impact on returns. Although there are studies that demonstrate the role of the business cycle on factor returns, and its impact on the Momentum factor, there are two important obstacles to successfully timing factors.

First, timing factors typically leads to higher transaction costs as a result of increased portfolio turnover. These costs can have a large impact on total returns. Second, there are only a limited number of investment choices to be made. The problem with timing then is that there are only a handful of factors to choose from so if investors attempt to time these, there are only a limited number of decisions they can make. But their choices can have a relatively large impact on performance. Factor timing therefore introduces a further layer of significant risk, which is not attractive from a risk-reward perspective.

Avoiding the pitfall of passive factor investing

One way to capture factor premiums is to follow an index which is either explicitly or implicitly designed to benefit from factor premiums. Index providers such as MSCI and FTSE have introduced alternative weighting schemes such as value-weighted indices, equal-weighted indices, and risk-weighted indices. This has led passive managers to introduce index funds and exchange-traded funds that follow the alternatively weighted indexes. This approach is known as the passive approach, sometimes also referred to as the 'factor beta' or 'smart beta' approach, and is, as we argue below, largely inefficient. While the passive approach has proven it is possible to benefit from factor premiums, investors still need to be aware of exposure to unintentional and unrewarded risks that may accompany such strategies. Contrary to widely held beliefs, Robeco in-house research shows that these risks are not necessarily the source of the factor premiums. As such, generic factor strategies can be significantly improved upon by eliminating unrewarded risks and unnecessary implementation costs.

Robeco's enhanced factor strategies

In their bid to harvest factor premiums, investors might follow generic factor strategies that, as already discussed, result in undesired exposure to unrewarded risks or to competing factors and hence deliver inferior performance. Since 2005, the Robeco Quantitative Research team has concentrated on analyzing, evaluating, and designing factor strategies that deliver more stable and consistent performance in the long run.

There are three advantages to the way Robeco constructs its factor strategies. First, our philosophy and in-house research ensure we remove unrewarded risks from our factor portfolio strategies. For example, some authors claim that the Value factor can result in buying stocks with high distress risk – the risk of a company not meeting its liabilities. Our research shows, however, that the value premium is not concentrated in distressed stocks and that a prudent value strategy will disregard distress stocks which ultimately improves its risk-reward tradeoff.

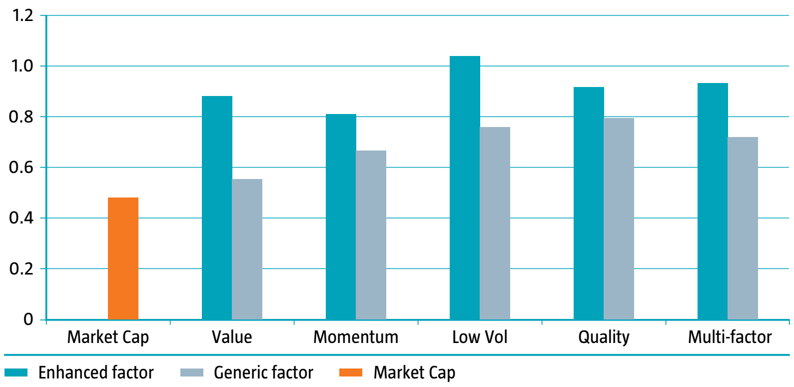
Second, we focus on achieving more exposure to factor premiums through a higher concentration and active share: the percentage of stock holdings that differs from the index. Better strategies also involve limiting unnecessary turnover to avoid costs. Last but not least, we efficiently combine factor premiums to avoid missing on the positive effects of harvesting one factor premium that could otherwise be canceled out by the negative effects of other premiums.

In this respect, the risk of individual factor exposure creating a negative exposure to other factors is another form of unrewarded risk that affects generic factor strategies. Efficient approaches to obtaining factor premium exposure should therefore be designed in such a way as to avoid factor exposures cancelling each other out. Negative factor exposures are highly undesirable, because they lower expected returns.

Naïve and generic multi-factor strategies can result in this type of unbalanced, unwanted factor exposures. For example, if a factor index aims to harvest the Momentum premium, but has a negative exposure to the Value premium, the expected return will be lower. In this particular case, the factor portfolio return is a function not only of the Momentum premium, but also the Value premium. Since the expected return of the Value premium is positive, the factor index's negative exposure to Value is likely to hurt its performance.

Figure 3 shows the Sharpe ratios of the market, as well as for both, a generic approach and a more efficient approach for Value, Momentum, Quality, Low Volatility, and Multi-factor strategies. A generic approach to factor strategies does increase Sharpe ratios relative to the market but not to the extent that efficient factor strategies can.

Figure 3: Generic and enhanced Sharpe ratios per factor (June 1988-December 2015)



Source: Blitz, Huij, Lansdorp & van Vliet (2016), "Efficient factor investing strategies", Robeco white paper. The sample covers the period June 1988 to December 2015. Returns are in USD. Robeco factor strategies are based on portfolio simulation and net of conservatively estimated transaction costs.

Robeco Factor Exposure Monitor

The phenomenon of unwanted factor biases is not limited to factor indexes. Many portfolios that are diversified in terms of sector and asset class exposure contain material factor biases. Investors are often not aware of these biases, even though they know that factor exposures influence risk and reward.

Part of this lack of awareness is the result of how reporting systems are set up. While investors typically have very well-defined asset class and sector reporting, it is less common to have a clear understanding of a portfolio's factor exposure.

More insight into factor exposures leads to better-informed investment decisions. We have therefore developed software to measure a portfolio's factor exposure versus the market-cap weighted index: the Robeco Factor Exposure Monitor. This tool provides transparency and a solid basis on which to effectively manage factor exposures.

Implementing factor exposures

Investors have a range of options at their disposal to actively implement factor exposure. These options include:

- Using stand-alone factor strategies (Low Vol, Momentum, Value, or Quality)
- Using a multi-factor strategy or fund
- Developing entirely bespoke factor-driven strategies

The focus of this publication is on multi-factor driven strategies. These are tailor-made to fit clients' needs. This offers certain advantages. Transparency in terms of stock selection is restricted to the client alone, which helps to avoid the risk of arbitrage and overcrowding. These strategies also allow for high capacity, because rebalancing occurs for this one client's portfolio only. And finally, the factor mix is chosen to fit one particular client's specific needs.

	Issues with a naïve factor approach	**Robeco's research highlights**	**Key supporting evidence**
Value	Generic Value strategies are typically tilted towards stocks with high unrewarded and distress risk	The real Value premium is not concentrated in high-risk firms, Value strategies can be improved by avoiding unrewarded and distress risk	Is the Value Premium Really a Compensation for Distress Risk?, SSRN Working Paper Series, 2011, Wilma de Groot and Joop Huij
Momentum	Naïve Momentum strategies exhibit large dynamic risks e.g. bias towards high-beta (low-beta) stocks in rising (falling) markets	Dynamic exposure to systematic risk factors involves a significant degree of risk, but does not enhance returns	Residual Momentum (Robeco) – Journal of Empirical Finance (Blitz, Huij, Martens 2009)
	These exposures make Momentum strategies highly vulnerable to market reversals	Proprietary risk management techniques to eliminate these unrewarded risks	
Low Volatility	Single statistical risk measure	Combination of statistical risk factors	Volatility Effect (Robeco) - the Journal of Portfolio Management (Blitz & Van Vliet, 2007)
	Low conviction, large number of stocks	Proprietary distress factors	
		Integration of valuation and Momentum factors	
		High conviction, higher active share	
Quality	Inconsistent definitions	Robeco Quality accounts for stock valuation and avoids buying the most expensive stocks	SSRN Working paper 2016
	Overvaluation: generic Quality strategies have a persistent negative exposure to the value factor as high quality stocks tend to be relatively expensive	Robeco approach is designed to isolate highly profitable stocks with sound earnings power	
	Earnings manipulation: generic Quality strategies are predisposed to being tilted towards companies with aggressive accounting	Our Quality definitions are designed to ensure optimal exposure to the Quality factor	

1

FACTOR INVESTING FOR PENSION FUNDS

Factors as building blocks for a pension portfolio

According to Johan Zonneveld, Senior Sales Manager Institutional Client Relations, Netherlands and Nordics at Robeco, extensive experience with one type of style investing should make it easier for a pension fund to add other factors to its portfolio. However, it is the implementation process that often remains a serious challenge.

Zonneveld talks regularly with pension funds that use passive investing, or often have exposure to just one single factor, for instance Value. "We then ask why they only invest in a single factor or style. Value, for instance, has certain advantages, of course, but at the same time you're more vulnerable than you would be if you combined it with other factors, such as Low Volatility, Quality, and Momentum. In such cases, we also often opt to carry out a factor scan of the portfolio's actual factor exposures. This might reveal that adding Low Volatility, Quality, and/or Momentum, for instance, would improve the portfolio's risk-return profile."

'Pension funds that have opted for a multi-factor solution are now enjoying the fruits of that decision'

Combining factors

"We generally advise diversification across multiple factor premiums, since individual factors may exhibit long drawdown periods and the drawdown period of a diversified factor portfolio is substantially shorter. Moreover, we would also advise weighting those factors for which there is more academic evidence more heavily," explains Zonneveld.

"For many years, the Robeco Investment Research team has concentrated on analyzing, evaluating, and designing various factor strategies. We found it is of crucial importance to understand the source of a factor premium and then use this information to implement factor strategies efficiently. Key issues in terms of efficient implementation are to remove unrewarded risk and limit unnecessary turnover."

Building blocks

Robeco has developed an excellent way to rebalance the portfolio to benefit most from the momentum of a particular factor. At the same time we keep transaction costs as low as possible. A lot of brainstorming has taken place to arrive at a solution. Clients don't need to worry about the details and see only the building blocks they can use in a portfolio. "I like to compare it to a car. Almost everyone can get in and drive safely, but a great deal of research and construction has been carried out beforehand."

"Implementation processes for factor portfolios cost a great deal of time," says Zonneveld. "After initial discussions with clients, it can take one or two years before an implementation project is completed."

Talks with clients often moved up a gear after the portfolio has been subject to the Robeco Factor Exposure Monitor. "With some clients, the scan revealed that they had a major exposure to the Value factor," says Zonneveld. "And that is often a conscious, strategic decision. But in other cases, it corresponds to an exposure to high-risk stocks, while the Momentum factor is underrepresented. We have used these results to submit proposals to a number of these parties to put together a multi-factor portfolio, with a combination of Value, Momentum, Quality, and Low Volatility."

Multi-factor approach requires some changes

The first hurdle in terms of implementation often was this pension fund's specific regional approach and allocation. This does not coincide with the way in which factor investing is set up at Robeco, says Zonneveld. To apply the solution properly, with low-fee funds, the pension funds needed to be prepared to abandon their regional approach for the segment of the portfolio that was invested on the basis of style factors.

"In 2015 we saw how the option of investing in multiple factors came at a good moment," says Zonneveld, looking back. "The Value factor did not do well that year, while styles like Momentum and Low Volatility have clearly shown their worth. Pension funds that have opted for a multi-factor solution are now enjoying the fruits of that decision."

Some parties needed to be convinced not only to abandon their regional approach to some extent, but also to switch from a passive to an active way of implementing factor investing. "In various stages of discussions we have demonstrated that our investment policy is based on systematic rules. This approach prevents emotions from gaining the upper hand and it can mitigate undesirable and unjustifiable shocks from occurring in the portfolios," explains Zonneveld.

JOHAN ZONNEVELD
Senior Sales Manager
Institutional Client Relations,
Netherlands & Nordics

"In talks with pension funds, we also state clearly that it is an active decision to opt for a certain passive solution. Many indices compiled using factors are inefficient in our opinion. Investors might end up with uncompensated risks, high turnover or going against other factor premiums. But we have solved this in our systematic investment approach. We found it is of crucial importance to understand the source of a factor premium and then use this information to implement factor strategies efficiently. This combination of arguments convinced pension funds to look for an alternative for their existing, passive solutions."

Depth of research

The essence of what distinguishes Robeco's approach lies in understanding the economic rationale underlying factor premiums. Although many studies have been carried out that prove the existence of factor premiums, there are only a handful of studies that examine why these premiums exist.

This gap in the literature was the reason for Robeco to examine if there really is a relationship between factor premiums and risks.

Interestingly, we have found substantial evidence that financial markets in many cases do not reward investors who take high risks. We believe these findings are not only interesting from an academic point of view, but also have significant implications for investors who wish to implement a factor-investing approach.

Focus on costs

When assessing alternative solutions, costs too are of course a very important focus point for a pension fund. "So we have also opted for a solution that is as efficient as possible in terms of costs," says Zonneveld. "In the Dutch market, that is an institutional fund solution. The four pooled vehicles for each factor strategy are designed as Dutch fiscally transparent funds, enabling the most tax-efficient way of treating dividend taxes. Investing in pooled funds also means that no VAT (21%) needs to be paid over the management fee. Our management fee is not as low as passive management fees, but it is significantly lower than that of most active solutions. And it covers management of the mandate, combining the four sub funds, regular smart rebalancing, integrated reporting, regular review meetings with the portfolio management team and a dedicated account management team."

Another benefit is that this means pension funds can invest in separate funds for each of the different factors. And this allows them to place a greater focus on one factor. The factor profile of a portfolio might reveal that a certain factor already dominates a part of the portfolio that is not set up using a factor solution. The modular structure offers a great deal of flexibility and can help prevent concentration risks of factor exposures.

Most solutions are applied using a combination of the Low Volatility, Value, Momentum, and Quality factors. "You're not likely to see us leading the way in promoting all sorts of new factors," says Zonneveld. "At Robeco we are all about evidence-based investing. We have an impressive track record in factor investing since 2002. We want to understand thoroughly how a certain factor works, where the extra return comes from and how that can best be translated into an investment approach. That research costs a great deal of time, but it does give us a rock-solid story when we are talking to clients and there are few players who can support their investment policies with research as effectively as Robeco does."

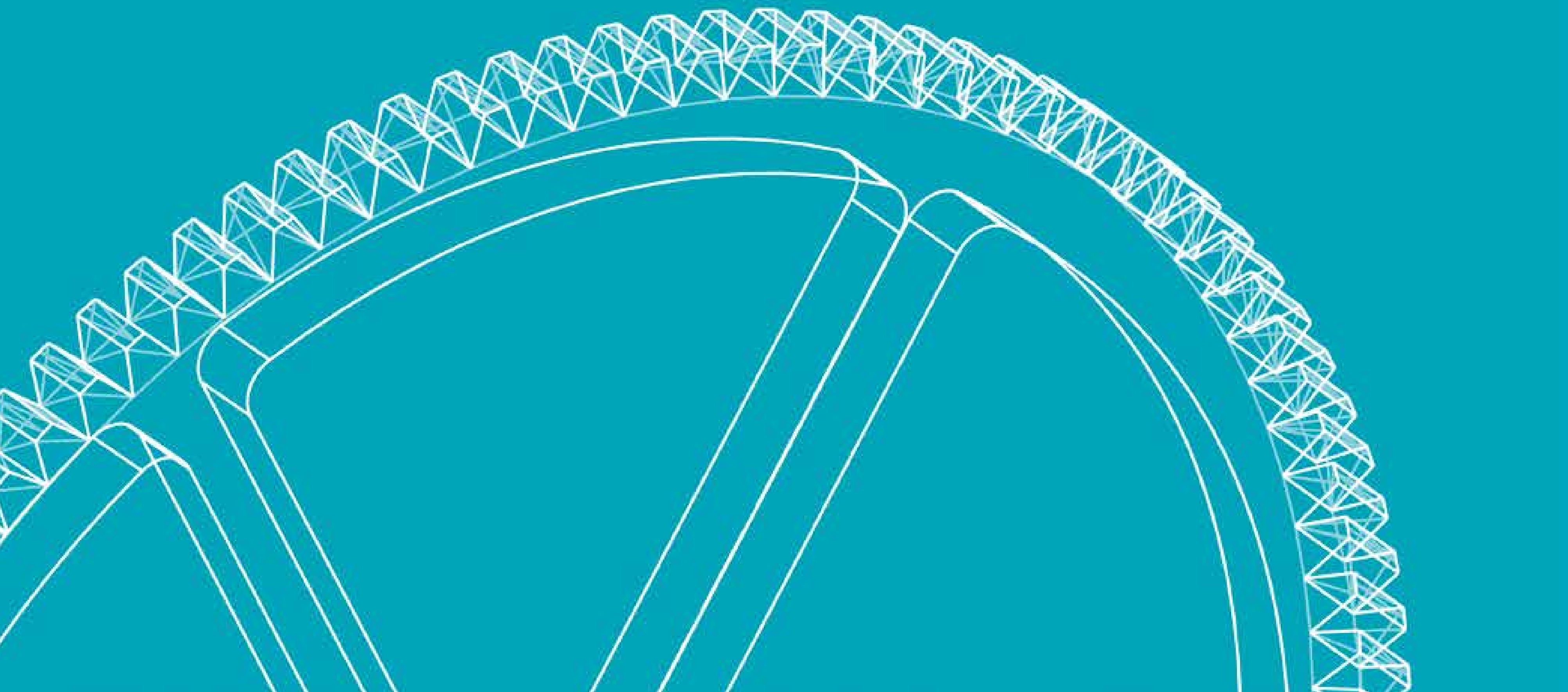
What we can do for clients

Strategic factor allocation	Low Volatility, Value, Momentum and Quality
Region	Global developed markets
Objective	Add factor diversification to client's existing value tilt in order to reduce expected drawdowns
Portfolio characteristics	Invested in 350 stocks for a 2-factor solution; tracking error of around 6%
Vehicle	Examples are: Dutch fiscally transparent pooled funds for Dutch pension funds to gain from tax benefits; ERISA compliant solution for U.S. retirement and health benefit plans

2

FACTOR INVESTING FOR

OFFICIAL INSTITUTIONS



Research and flexibility – key criteria for a large SWF

How do you fit factor investing into the overall investment strategy of a sovereign wealth fund (SWF)? It's complicated – as the client makes a clear distinction between market-cap index investing and active strategies and factor investing doesn't naturally fit into either, but could also qualify as both. The question for Robeco was how to develop a multi-factor strategy to complement the client's existing passive investments.

"The starting point was obvious," says Graham Elliot, Managing Director Official Institutions. "As a long term strategic investor, the client was already attracted to the idea of factor investing: the concept of strategically tilting their portfolio to ensure systematic exposure to factor premiums made a lot of sense to them as way of generating consistent excess return over the longer term."

‘The concept of strategically tilting their portfolio to ensure systematic exposure to factor premiums made a lot of sense to them’

“They had a significant allocation to equities, managed to a large extent on a market-cap index basis. So their first priority was to find an efficient implementation strategy that fitted within their existing internal governance structure, and which would allow them to deploy large pools of assets, efficiently and cost effectively. Given the governance and operational complexities of a large SWF, one of the biggest challenges for us, was how to navigate our way through this.”

Implementation biggest hurdle

Elliot says the fact that the client quickly took on board the concept of factor investing made the start of the process relatively straightforward, the only real investment-related issue was the choice of factors. Apart from that, the biggest issue by far was the implementation structure.

“The journey with the client got off to a good start, because they had already embraced the rationale of factor investing, he says. “From the outset, there was a mutual desire to implement something which made sense from both an economic and investment perspective, and which was capable of being applied in an efficient and scalable manner. This kept both parties fully motivated and focused throughout what was a complex implementation process.“

One of the initial hurdles we had to get over was the credibility of Robeco as a research partner. “We got through that pretty quickly, he says, “partly because of the quality of the research we brought to the table, and our ability to engage with the client very actively and creatively on implementation structures. Robeco researchers have published in leading publications such as the Journal of Banking and Finance, the Journal of Empirical Finance and the Journal of Financial Markets, and we have every confidence in our ability to bring thought leadership on this topic to the table in our discussions with clients.”

Factor strategies in an index equity department

The operational complexity was the second hurdle. “It became clear that the client wanted to implement the investment process as an index like strategy, i.e. in a systematic, and transparent manner, and in a structure which afforded them high capacity with low transaction costs, in other words — as if it was an index!,“ says Elliot.

This department also had restrictive operational guidelines. “We identified these restrictions together with the client and worked with them through a series of iterations of factor solutions to arrive at a specific customized solution that fully met their investment, operational and governance requirements.”

“In going through this process with them, it also became very clear to both parties that the optimal implementation structure was to deliver this solution to them via a fully bespoke customized multi-factor index,” he says.

“This approach would effectively enable them to use this customized index as their reference benchmark for these strategies, against which they could deploy assets either internally or via third party index managers. This ‘separation’ of research and data fulfillment from operational portfolio management allowed them to fully optimize the manner in which they allocated assets to these strategies.”

“Their request was of course very different to the traditional solutions typically on offer in the asset-management industry. But it was an approach which was very quickly recognized by both the SWF and us, as being a highly innovative and extremely effective means of delivering an optimal solution for large asset owners looking to implement factor strategies for a large volume of AuM,” he concludes.

GRAHAM ELLIOT
Managing Director Official Institutions

The key issues relating to the investment strategy were capacity, trading liquidity and portfolio turnover. "Other areas requiring attention were of course the operational structuring of our service, the pricing and a range of legal, operational and compliance issues."

Factor mix: Value, Momentum and Quality

The client had a preference for the factors Value, Momentum and Quality and was attracted by the high premiums of Value and Momentum. The client also selected the Quality factor, despite the fact that at the time, we did not offer it as a stand-alone solution, although we were using it in multi-factor strategies.

"We had carried out extensive research on this factor. As part of our cooperation with this client over a two-year period, we embarked on a dedicated research program on the Quality factor to give us sufficient conviction to adopt it on a standalone basis within the solution we developed for them. Their choice for Value, Momentum and Quality is an excellent example of how the optimal factor mix depends on the type of client. These three factors are return based, and therefore resonate well with a long term strategic investor such as an SWF."

Rebalancing the portfolio

What made this collaboration with the client unique was that Robeco cooperated with index providers to construct a multi-factor index. "The rebalancing process we set up was index-based, which made the approach slightly different to the one we would more typically take as an active manager."

"It was also very clear that not many companies could provide the level of flexibility we offered in terms of implementation, says Elliot. "What made us different is that we spent a lot of time with the client to ensure we understood their requirements at an early stage. Working with them to find an optimal bespoke solution remained the overriding focus of our conversations with them rather than trying to fix them up with our more mainstream strategies."

Drawbacks of public factor indexes

Having identified two inherent flaws that make public factor indices less attractive for institutional investors, the client dismissed the idea of using these early on in the process, he says.

"First, the public nature of these indexes means they are exposed to overcrowding and front running by arbitrageurs. Second, these indexes are based on very generic definitions of factor premiums and are not as effective as other more sophisticated factor strategies. That said, we fully expect the client to still keep an eye on MSCI factor indexes as a proxy for performance benchmarking, so these still have a role to play."

Research partnership will evolve

"The solution we have constructed is the first stage in an evolving research partnership with the client, he says. "The primary concern was to build a solution that meets all of their current requirements."

"But there was a very important second one: they fully expect their requirements for these solutions to evolve and mature, so they wanted to establish a long-term partnership with an asset manager who could work with them on continuing to explore and develop the best ways to capture factor premiums.” This research partnership currently looks at allocations in three developed equity markets, but is expected to be extended to include more country specific equity coverage, including emerging markets, and perhaps other asset classes such as credits.

“We also further developed a number of our internal processes as a result of this cooperation with the client. Our own research capability has grown, which has further strengthened our position as a credible research partner, but at the same time we remain nimble and flexible enough to handle client-specific requirements. There is no one-hat-fits-all approach here, and recognizing this, Robeco now has a very good balance between its research capabilities, portfolio-management expertise, and ability to offer client solutions.”

From innovation to implementation

“This case is a prime example of what you can achieve when you apply an innovative approach to implementing factor investing, says Elliot. “Standard approaches do not typically work for these large, sophisticated asset owners.”

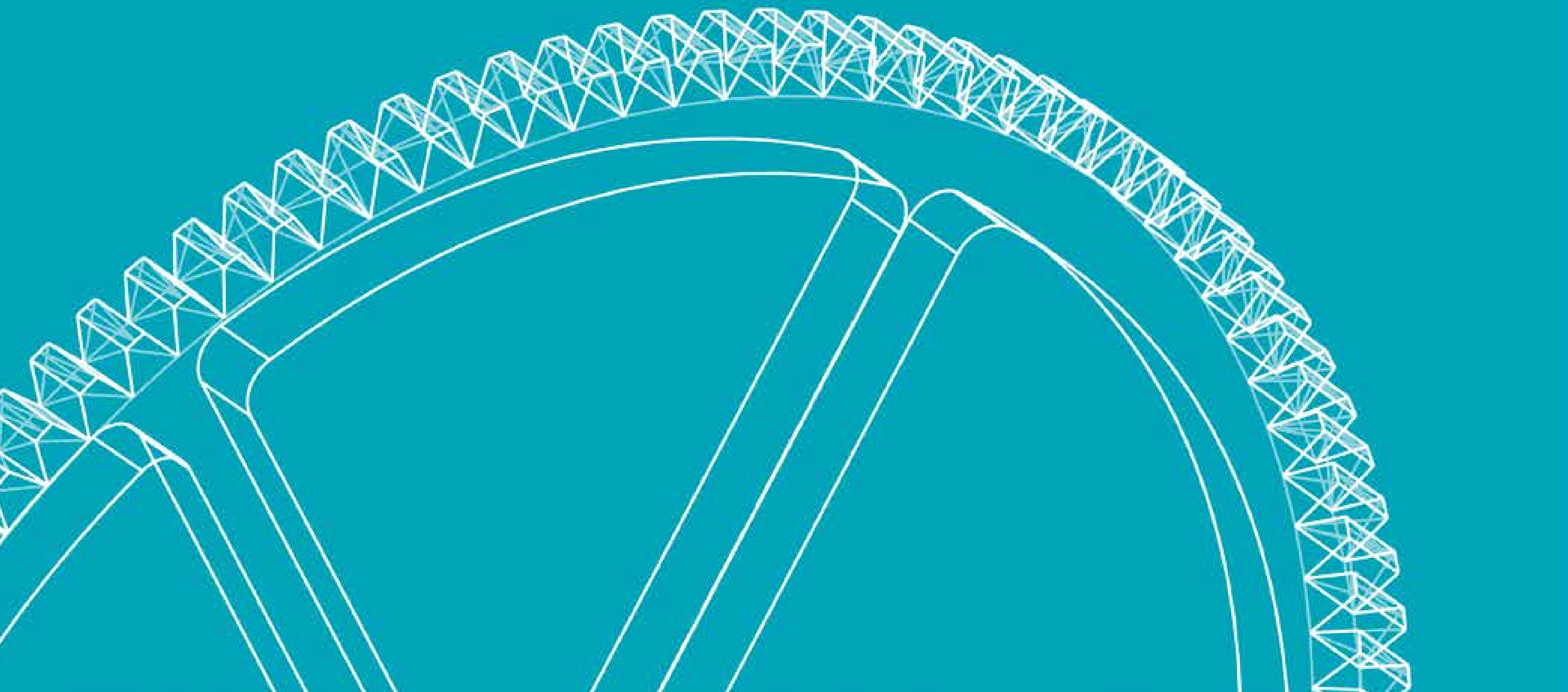
Flexibility during this part of the process was paramount. “You need to have a range of permutations of the solutions you can offer clients, concludes Elliot, “from active strategies to a more passive index-like execution.”

“The client got a tailor-made index that fitted their specific preferences – one in which they could invest directly themselves by buying the underlying stocks, allocate to third party index managers, or take as a fully-fledged asset management solution from Robeco. Like an index, the solution offered them low costs, transparency and plenty of potential investments, but without the drawbacks of front running and overcrowding, and with the imbedded benefit of Robeco’ s award winning factor investing research.”

What we can do for clients	
Factor(s)	Single factor or a combination of multiple factors
Region	Regional or global
Objective	Factor solution tailored to specific client needs like specific factor definition, liquidity requirements or other
Portfolio characteristics	Index solution in cooperation with global index provider providing full transparency to client only

3

FACTOR INVESTING FOR PRIVATE BANKS



Private bank embraces ‘third way of investing’

Although factor investing had already been broadly embraced by institutional investors, many private banks were still cautiously investigating the opportunities presented by this style of investing. Chris Suiker managing director responsible for Robeco’s Wholesale Distribution Benelux explains that it is not so simple for these parties to implement a new approach. For private banks, some of this retincence is communication-related. “The decision to take a new approach must be clearly explained to clients so they know what to expect.”

Up to 2010, it was still really hard to effectively communicate the potential offered by factor investing at all. In 2008 and 2009, many clients were very preoccupied with limiting the damage caused by the credit crisis. But that gradually started to change in the following year. "At that point, Robeco had already built up a live track record with its Conservative Equities strategy, which harvests the factor premium of low-volatility stocks that show above-average risk-corrected returns over the long term. Various major parties started working with us at that time. Since then the interest has just continued to grow as factor investing has gone from niche market to mianstream investment trend."

Lower costs also a key factor

In addition to comprehensibility and transparency, cost also plays an important role. "The phasing-out of distribution fees in the Netherlands has led to both greater transparency and generally lower costs," says Suiker. "Private banks are increasingly opting for passive investments in combination with active asset managers who are able to comfortably cover their costs in the form of higher returns. That includes multi-factor solutions, which represent 'a third way of investing'. These are slightly closer to passive investing, because the tracking error is lower and the costs are also slightly lower than those of 'normal' active funds."

"The story of factor investing is so extensive that it is difficult to communicate the message properly in one go," says Suiker. "But a general recognition of Robeco's expertise in the field of quantitative investing certainly gives us a strong case."

Thorough groundwork

"In the first phase we put a great deal of energy into explaining how investing using the Low Volatility factor works and how this style can best be implemented. In 2012 we went a step further: CIOs or fund selectors from private banks that distribute our funds were offered full access to our researchers to get the latest insights and were given presentations to familiarize their clients with the subject," Suiker says.

"Six months later, we were given the opportunity to give an in depth presentation of our expertise in the field of factor investing to a team from another leading private bank. This party commissioned a major Dutch university to research all the different factors in our presentation. They came to the same conclusions as us."

In September 2015, the first bank took the decision to dedicate a strategic part of their portfolio to factor investing. The bank decided to divide its equity portfolio into three different parts. One part is made up of passive solutions, another part comprises factor investing and the last part is a satellite solution, which can incorporate mostly high conviction tilts to regions and/or themes. The bank has received many different proposals on managing the different parts. The Robeco Multi-Factor Equities fund was eventually selected for the factor part.

Working together

"The fact that we had involved the bank in our research into factor investing for many years was the decisive element," explains Suiker. "We had a short live track record in multi-factor investing, but the strategy was based on extensive portfolio simulation, going back 30 years. And, of course, at that point we did have plenty of experience with stand-alone factor strategies, including Conservative Equities,

CHRIS SUIKER

Managing Director Robeco Wholesale Distribution Benelux

'Robeco focuses very consciously on sharing knowledge a strategy that has more than paid off'

and the bank also had had extensive access to the inner workings of our company. They knew how we built on our expertise in factor investing to develop new ideas."

An important aspect to take into account for banks is when selecting funds is the structure of the vehicle. Taxes can have a large impact on net performance. "We set up a special Dutch fund for the bank. This provides tax benefits compared to the Luxembourg-based funds, as the regime there creates certain tax obligations that can now be avoided. Another benefit is that the dividend tax on US equities can be reclaimed."

The multi-factor fund was launched in September 2015. In the first three months, assets grew to over EUR 600 million. That is the fastest pace of inflow into a new equity fund in Robeco's history since 1929, but that is not the fund's only first. "We have sold an institutional solution to the private banking retail market," says Suiker. "And that really is unique."

In the run-up to launch, he had plenty of contact with the bank's CIO. "He spoke at an investment forum, for example, where he gave a presentation on factor investing in practice. He did this together with Joop Huij, Head of Factor Investing Research at Robeco who focused his presentation more on the theory."
"At another presentation, the bank's CIO explained that a third of the investment portfolio is allocated to factor investing. He did however add that he expects factor investing to account for at least half the portfolio within five years."

Sharing knowledge – also an investment

The factor investing expertise and experience that private banks build up by working together with Robeco gives them a competitive advantage in Suiker's opinion. He admits that initially it took him some time to get used to this new way of working. "In the past it was often a question of highlighting the fact that products that had distinguished themselves with above-average returns. And that's still the case with many of our competitors. However, Robeco focuses very consciously on sharing knowledge – client papers, seminars, answering questions, presentations to advisors and end clients – a strategy that has more than paid off. Satisfied clients have now also become very loyal partners, who develop tailored investment solutions together with us."

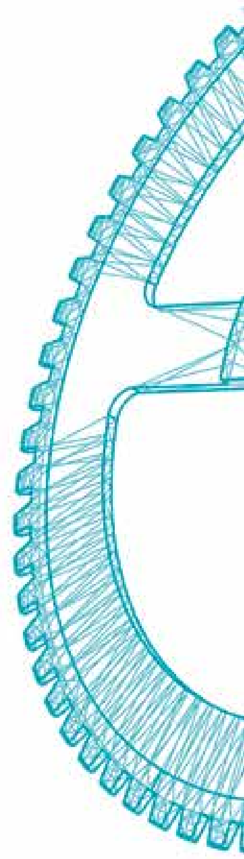
This shift is largely thanks to the way Robeco involves its partners in researching factor investing, but the partnership often goes much further. "We have developed a tool so investors can see the impact that factors like Low Volatility, Value, Momentum and Quality have on an existing portfolio," says Suiker. "This often reveals that the factors that dominate are not actually that clients originally aimed for."

Another private bank, which started a factor-investing portfolio in late 2014, has asked Robeco to manage the Low Volatility and Momentum factors. These two single factor strategies can be used as building blocks to construct a multi-factor portfolio. "We are delighted that they eventually chose us to manage such strategic portfolio positions, but we like to go a step further than just effectively managing the assets entrusted to us," explains Suiker. "For example, we have helped the bank concerned to explain the philosophy and methodology of factor investing in a straightforward way to both the advisers and clients of the bank. This includes jointly organizing internal workshops and meetings where presentations are given to clients."

What we can do for clients	
Strategic factor allocation	Equal allocation towards Robeco's Value, Momentum and Quality factor strategies
Region	Global developed and emerging markets
Objective	Applying academic insights in the investment portfolio. Total factor solution within the global equity market
Potential add-on	Include a multi-factor credits portfolio to capture the similar factor premiums within the corporate bond markets
Portfolio characteristics	550 stocks with a tracking error of around 5% and a volatility reduction of 10%

Important Information

ROBECO
The Investment Engineers



Contact

For further information about factor investing solutions, please ask your contact person or get in touch via

www.robeco.com/contact

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