A Special Report from

SAVVY INVESTOR

Factor Investing:

An Academic Source of Excess Returns
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Factor Investing

An academic source of excess returns

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ANDREW PERRINS
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MARCH 2018

Andrew Perrins is a former Actuary, Quant Manager and Director of Asset Allocation with Abbey Life and Chase Asset Management.

We are delighted to bring you our first Special Report on the subject of Factor Investing.

In the last 60 years, academic research has driven a gradual evolution in our understanding of the decomposition of equity market returns.

In the 1960s, the CAPM model[1] provided an explanation of portfolio return as:

Market return (beta) + Manager skill (alpha) + noise

Factor-based investing dives deeper into what was previously understood to be alpha, identifying common risk factors, which tend to drive the returns of individual securities. A factor-based analysis decomposes what was hitherto considered “alpha” into returns driven by common risk factors and a residual component which represents “true alpha.”

Today, it is widely accepted that equity portfolio returns are better expressed as:

Market return (beta) + Factor returns + Manager skill (true alpha) + noise

The groundwork for factor returns was set in 1992, when Eugene Fama & Kenneth French[2] demonstrated the existence of two factors, “value” and “size”, which historically have been significant drivers of equity market performance.

Since that time, the race has been on amongst quant researchers to identify other “style factors” associated with excess returns. In the last five years, progress has accelerated due to improving technology and availability of data.

[1] The Capital Asset Pricing Model: Theory and Evidence (Fama and French, 2004)
[2] The Cross-Section of Expected Stock Returns (Fama and French, 1992)

The Academic Underpinning to Factor Investing

ANDREW PERRINS
CHIEF EXECUTIVE,
SAVVY INVESTOR
MARCH 2018

THE SELECTION OF FACTORS

It is important that such quant work is robust and intellectually rigorous[3]. Quant researchers refer to a "factor zoo" of possible contenders for the next, bright new factor to follow. Not all back-testing is reliable, so it is important that factors: a) can prove themselves across different geographies, time spans and economic regimes, and b) have a credible explanation for why they work.

Claims for new factors have been researched and counter-tested by competing firms and academics, and over time, some kind of academic consensus is beginning to emerge.

There are perhaps five main equity market factors, which have gained widespread acceptance as long-term, sustainable drivers of excess returns. In most cases, the rationale for their efficacy lies in an understanding of behavioural finance.

But not all researchers agree on the selection of factors. And even where there is a consensus around the validity of an individual factor, there will be differing views on the best way of specifying that factor in order to extract value.

In the pages that follow, we aim to provide you with some of the best academic research and professional papers, so that you can make up your own mind about whether, and how, to best employ a factor investing strategy.

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NEXT CHAPTER:
TURNING ACADEMIC CONCEPTS INTO INVESTMENT STRATEGIES

[3] Quantifying Backtest Overfitting in Alternative Beta Strategies (Suhonen, Lennkh and Perez, 2016)

Turning Academic Concepts into Investment Strategies

The concept of factor investing dates back to the 1970s, but it has only been gaining traction over the past few years. Factor-based allocation has its roots in copious empirical findings, accumulated over many decades, that document the existence of factor premiums in financial markets. These premiums can be systematically harvested in order to achieve higher risk-adjusted returns and better diversification than traditional market capitalization-weighted indices.

Prominent institutional investors have publicly embraced more systematic approaches to portfolio allocation and securities selection, based on these insights, and the popularity of factor investing has grown rapidly among professional investors around the world. Meanwhile, asset managers and market index providers have also dived in and dramatically increased the breadth of their offering in this field.

A recent survey of international investors by Invesco illustrated the rise of factor investing worldwide. It reported a broad-based increase in allocations to factor-related products, with overall factor allocations increasing from 12% of assets under management in 2016, to 14% in 2017. All key institutional and retail segments and geographies experienced an increase. In terms of absolute figures, an article published in February 2018 by "The Economist" magazine estimated that more than USD 1 trillion is currently invested in an explicitly factor-based fashion.

MORE THAN A TRILLION DOLLARS NOW FOLLOWING FACTOR-BASED STRATEGIES

ENHANCING RETURNS, REDUCING RISK

For investors, the obvious starting point is to ensure they understand the theory. It is important to understand the major empirical findings on which factor investing is based, before forming investment beliefs and goals. In the process, investors should explicitly determine the kinds of risks they are comfortable with. They should also make clear the role that factor investing should play in achieving their objectives, in accordance with their own investment policy.

The factor investing label encompasses a wide variety of investment products that can be put to work in many different ways. The possible solutions range from generic single-factor smart beta ETFs to more sophisticated offerings based on bespoke factor indices and actively managed multi-factor and multi-asset funds. This is important, as the needs and priorities related to factor exposures or flexibility with regard to a reference index can differ greatly from one investor to another.

Turning Academic Concepts into Investment Strategies

FACTORS CAN BE USED TO ENHANCE RETURNS OR TO REDUCE RISK

For example, while some asset owners may be willing to fully embrace factor investing, others may only be looking to reduce downside risk in their overall equity portfolio. And while some investors may already be considering risk from an absolute perspective, others may not be ready to abandon their benchmarked investment approach. Broadly speaking, products can be classified into two major categories: those designed to generate enhanced returns through explicit exposure to well-rewarded factor premiums, and those with a clear focus on risk reduction.

Within the enhanced returns category, investors will typically find diversified multi-factor solutions. These strategies are designed to build portfolios that generate higher long-term returns through a balanced exposure to several premiums. There are also single-factor strategies that focus on value or momentum premiums, for example. These offer investors greater leeway to manage individual factor exposures in their portfolios, frequently at a lower cost. Meanwhile, risk-oriented products aim to achieve higher risk-adjusted returns, usually through volatility or drawdown risk reduction.

EVIDENCE-BASED APPROACH

Factors represent different characteristics or attributes of a financial security – such as the size of its market capitalization, its valuation, or its price momentum and volatility – that are important determinants of its risk and return in the long run. Factor investing can therefore be described as an evidence-based investment approach, which identifies the factors that are rewarded with superior risk-adjusted performance and seeks exposure to them.

Harvesting factor premiums requires extensive empirical testing and verification over long periods of time and in different markets. It is also important to look beyond mere statistical patterns and aim to understand the economic drivers behind factor premiums. Risks that are not adequately rewarded with higher returns should be avoided.

THE DEBATE OVER WHY FACTORS EXIST IS ONGOING

The debate over why factors exist is still an ongoing one among academics. Generally speaking, there are three main types of explanations that are not mutually exclusive. First, factor premiums may simply be a compensation for taking on more risk. For example, prominent academics such as Nobel Prize winner Eugene Fama have argued that the value premium represents a compensation for being exposed to companies with higher distress risk.

Turning Academic Concepts into Investment Strategies

Another type of explanation relates to the structural features of financial markets. These include restrictions or limitations some investors may be bound to, for example due to financial regulation. Finally, investors have been proven to be subject to numerous behavioural biases that result in mispricing. They make mistakes, that don't pay attention, they frequently under-react or overreact, etc. Many empirical studies document these biases.

A "ZOO" OF FACTORS – OR JUST A HANDFUL?

In recent years, the combination of cheap computing power and greater market data availability for researchers in quantitative finance has led to a dramatic rise in the number of market anomalies reported in academic literature. Purported factors have become so numerous that a growing number of experts have warned about a so-called "zoo" of new factors. This term was coined by John Cochrane, of the University of Chicago, in his presidential address to the American Finance Association, back in 2011.

However, most of these reported factors tend to be related to one another. They frequently turn out to be simply different, maybe more exotic, ways to measure the same phenomenon. In fact, empirical research shows that it is possible to bring the number of anomalies included in the zoo down to a handful of relevant factors.

Investors should therefore be selective and focus on a small number of well-established factors. To qualify as relevant, a factor should (1) show a strong premium over long periods of time and across different markets and asset classes. And (2) it should have survived rigorous falsification attempts, both in academia and in-house. There should also (3) be an economic rationale with strong academic underpinnings for each factor. Finally, a relevant factor should be (4) implementable in practice, that is generate superior risk-adjusted returns in real life conditions – after trading costs.

Turning Academic Concepts into Investment Strategies

This is why asset managers and index providers usually consider only a limited number of factors in their product offering. Factors such as value, size, momentum, income or dividend yield, low volatility and quality, for example, are typically among the most commonly selected factors. These are well-rewarded risk premiums, persistent over time, that have been documented in many different markets and across multiple asset classes.

RISK FACTORS DEPLOYED BY PROVIDERS

The table below gives an overview of the equity factors considered by some of the key players in the factor investing arena:

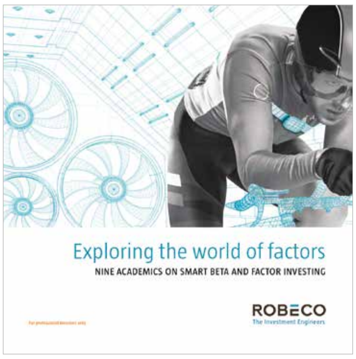
BlackRock	FTSE Russell	Invesco	Research Affiliates
Value Size Momentum Quality Low Volatility	Value Size Momentum Quality Low Volatility Dividend Yield	Value Size Momentum Quality Low Volatility Dividend Yield	Value Size Momentum Quality Low Volatility Income
Robeco	**S&P Dow Jones Indices**	**SSGA**	**Vanguard**
Value Momentum Quality Low Volatility	Enhanced Value Momentum Quality Low Volatility Dividend Yield Equal Weight	Value Size Momentum Quality Low Volatility	Value Momentum Quality Min volatility Liquidity

NEXT CHAPTER:
THE APPEAL OF FACTOR INVESTING

Featured Paper:

Exploring the world of factors

Nine academics, nine interviews on smart beta and factor investing



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"A great read, packed with wisdom from leading academics with decades of experience in researching the science and art of factor investing"

Robeco brings together nine of the top academics from business schools, prominent research institutions, and investment groups across Europe and Asia to discuss the theory and implementation of factor investing and smart beta.

Stephen Schaefer, an LBS professor and co-author of a seminal 2009 report on factor tilts within Norway's sovereign wealth fund, suggests that institutional investors should build intentional factor exposures into their benchmarks in order to properly assess investment returns. In his words, "...factor-based approaches are likely to become an increasingly important part of the investment landscape going forward, just because they enable investors to make more deliberate choices about the kind of risks that they are prepared to take."

One of the themes that is introduced early on and developed throughout the paper is the recommendation of caution in the face of a mounting volume of academic literature on new factors. In recent years, over 300 new factors have been identified, and due to the sheer number of regression studies taking place on the same data sets, it is likely that many of them suffer from false positives, or p-hacking. As a result, many experts recommend sticking with a more simplistic subset, consisting of the 5 – 10 factors that have been most rigorously validated in multiple markets and over multiple research periods.

Professor Thorsten Hens of the University of Zurich discusses the behavioural perspective and how factor premiums vary over time. He also believes that factor premiums exist due to the interaction between the rational biases of fundamentally-focused market participants, and the behavioural biases of trend followers.

Jason Hsu of Rayliant Global Advisors makes several pertinent observations. He recommends diversifying across asset classes and factors as a part of the same asset allocation process, paying special attention to picking the asset class that allows exposure to a given factor at the lowest cost. He also explains the present opportunity set for factor investing within the Chinese A-shares market, given that little research has so far been conducted on it, and that around 90% of the trading that takes place in this market is done by retail / unsophisticated investors, who are more likely to exhibit behavioural biases.

The Appeal of Factor Investing

FACTOR INVESTING FOR ACTIVE AND PASSIVE INVESTORS

Factor Investing stands at the intersection of active and index investing, and therefore has appeal to both active and passive investors.

For active investors who are disillusioned and wish to reduce costs, factor investing offers a lower-cost, evidence-based approach to adding value.

For passive investors who are not fully convinced by the Efficient Markets Hypothesis[4 5], factor investing offers a highly disciplined and low-cost way of improving equity returns.

In a truly efficient market, of course, all factors would generate a long-term return of zero (neither positive or negative) before trading costs. But even for passive investors who believe ardently in the efficient market hypothesis, there are questions over whether a cap-weighted index is the most efficacious approach to generating returns.

SMART BETA STRATEGIES FOR PORTFOLIO MANAGERS

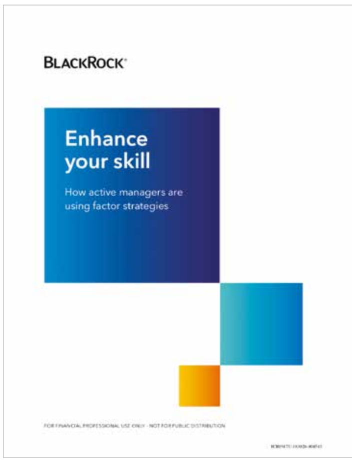
Smart Beta is a term given to strategies which passively follow an index strategy based on something other than stock market capitalisation. For instance, this could include fundamental-weighted indices, or some other type of factor-based index.

Smart beta ETFs allow active managers to pursue alpha as part of a strategy that complements their current investment process. For instance, a manager who is skilled at selecting value stocks may find that this leaves them with an unintended under-exposure to the momentum factor, or to the quality factor.

[Paper] How active managers are using factor strategies (BlackRock, 2017)

Factor investing continues to grow rapidly, with over $50bn globally flowing into smart beta ETFs each year since 2016. Many asset managers are using factors to enhance the investment process.

Through the lens of three case studies, this BlackRock paper explains how adding factors to existing strategies can potentially result in higher returns, reduced risk, or superior diversification.



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[4] Market Efficiency, Long-Term Returns, and Behavioural Finance (Eugene Fama, 1997)
[5] Efficient Markets Hypothesis (Andrew Lo, 2007)

The Five Equity Market Style Factors

VALUE INVESTING

What it means: Tilting towards under-valued companies. The value factor identifies companies which are relatively cheap, based on metrics such as price/earnings, price / cash flow, price/sales or price/book value.

Why it may work: Investors have a tendency to fall in love with certain companies and overprice them. Investors require an unreasonably high incentive in order to hold vulnerable companies or unfashionable companies, so less attractive companies become too cheap. "Value" and "size" were the first two factors identified by Eugene Fama and Kenneth French in their seminal 1992 paper.[6]

SMALL SIZE INVESTING

What it means: Favouring companies with smaller stock market capitalisations.

Why is may work: Investors may systematically under-price smaller companies because they are less liquid and have higher transaction costs. A higher risk premium may also be demanded by investors because smaller companies tend to carry higher business risk and are under-researched – and therefore less well understood.

MOMENTUM INVESTING

What it means: Selecting stocks with upward trends in their prices, typically based on returns over the last 12 months.

Why it may work: Investors feel good when they take profits but have an aversion to taking losses. This dampens the size of the price trend, so that the direction is sustained for longer.


IQ INSIGHTS

Why Invest in Momentum as a Factor?

STATE STREET
GLOBAL ADVISORS

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[Paper] Why invest in Momentum as a Factor? (SSGA, 2017)

SSGA's overview of momentum investing presents optimization to enhance the diversification potential with other exposures like value and size, while also taming the higher turnover and the risk of episodic drawdowns that are inherent to this factor.

[6] The Cross-Section of Expected Stock Returns (Fama and French, 1992)

The Five Equity Market Style Factors

LOW VOLATILITY INVESTING

What it means: Biasing a portfolio towards securities with historically lower price fluctuations, or low market beta.

Why it may work: For portfolio managers tasked with outperforming an equity index, low beta stocks may be seen as "risky" stocks to hold in a rising market. For that reason, a higher risk premium may ironically be required, in order to hold them.

QUALITY INVESTING

What it means: Investing in companies with steady earnings, low leverage and solid balance sheets.

Why it may work: The Quality Factor is perhaps the most intuitive factor. High quality companies may be better at allocating capital and generating shareholder returns. Equally, it may be that investors systematically under-price quality companies because they are perceived as dull and unexciting.

S&P Dow Jones Indices
A Division of S&P Global

EDUCATION
Smart Beta 101

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Quality: A Practitioner's Guide

WHAT IS QUALITY?

Quality may seem like a relatively new concept for market participants that are already familiar with factors such as market risk, momentum, value, size, and growth. However, the idea of applying quality to investment decisions can be found in the philosophy of Benjamin Graham—nowadays considered the father of value investing. Indeed, five of the seven quality and quantity measures Graham advocated using when assessing a firm concerned the quality of the firm in question.[1]

The quality dimension of value provides a lens through which it may be possible to identify undervalued stocks.

Some may find this surprising, especially because many value strategies today focus on valuations exclusively. Intuitively, though, the quality dimension of value provides a lens through which it may be possible to identify undervalued stocks—rather than simply the cheapest—by assessing underlying business characteristics, such as financing requirements and profitability. For this reason, quality is often considered an alternative to growth investing, focusing on companies that exhibit signs of above-average growth, even if those companies may be more expensive than some of their counterparts.

The S&P Quality Indices Methodology uses three metrics to capture quality.

1) The return on equity (ROE), which is calculated as a company's trailing 12-month earnings per share divided by its latest book value, gives an indication of a firm's profitability. Companies that provide a greater return using market participants' capital may be more likely to achieve above-average growth.
2) The financial leverage ratio, which is computed by dividing a firm's latest total debt by its book value, assesses the ability of a company to meet its financing obligations. Companies with less leverage should have more capital to invest in the underlying business, which could increase the growth rate.
3) The accruals ratio, which is the change in a company's net operating assets over the past year divided by the average net operating assets over the past two years, provides an assessment of the operating performance of the firm, excluding impacts from financing decisions. Firms with lower accruals ratios are likely to be more profitable and may achieve higher-than-average returns.

[1] The Intelligent Investor, Graham, Benjamin, 1973

CLICK TO DOWNLOAD

[Paper] Quality: A Practitioner's Guide (S&P Dow Jones Indices, 2017)

Quality may seem like a relatively new concept for market participants that are already familiar with factors such as market risk, momentum, value, size, and growth.

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NEXT CHAPTER:
FEATURED PAPER: "EXPLORING THE WORLD OF FACTORS"

Ask the Expert

Q&A with Joop Huij of Robeco

JOOP HUIJ
EXECUTIVE DIRECTOR HEAD OF FACTOR INVESTING EQUITIES AND HEAD OF FACTOR INDEX RESEARCH

In addition to his work at Robeco, Joop Huij holds a part-time position as Associate Professor of Finance at the Rotterdam School of Management. He has published papers in the Journal of Portfolio Management, the Journal of Banking and Finance, the Journal of Empirical Finance, the Journal of Financial Markets and the Financial Analyst Journal.

MOST OF YOUR EMPIRICAL RESEARCH OF THE PAST FEW YEARS HAS HAD TO DO WITH VERY PRACTICAL IMPLEMENTATION ASPECTS OF FACTOR INVESTING STRATEGIES. ARE THERE ANY MAJOR TRENDS YOU COULD PINPOINT?

“The first trend I would mention is that investors increasingly want to incorporate factor investing into their portfolio, but may not necessarily be interested in the more traditional active strategies. Implementing factor investing through index-based products is becoming extremely popular.”

“The second trend I see at the moment is the rise of multifactor strategies. While initially investors tended to allocate to one particular factor, say value or low volatility, they are increasingly demanding solutions providing exposure to multiple premiums. This is a way for them to reduce stress in years when one particular factor delivers below-average performance.”

“The third trend I see is the growing demand for an implementation of factor investing strategies across multiple types of asset class at the same time. And I can only support this of course, because it adds to the diversification benefits that you can achieve with factor investing.”

FOR INVESTORS INTERESTED IN FACTOR INVESTING, WHERE SHOULD THEY START? WHAT KEY CONSIDERATIONS SHOULD THEY FOCUS ON?

“The first important choice they will face is to determine the factors they should strategically allocate to. Prominent academics are still debating this issue. Some experts argue that there are only two relevant factors, others argue that there are six factors, and others that there are 400 factors. So, for an investor, the related question is of course: when is a factor relevant?”

“At Robeco, we have actually conducted a lot of research on this topic. We have basically tested the more exotic factors and their effectiveness,

Ask the Expert

comparing them to the effectiveness of a handful of more traditional factors. What our research[7] indicates is that the only factors that work – taking into account trading costs, taxes and all kinds of practical implementation restrictions – are those that have been thoroughly falsified in the academic literature."

ANY OTHER IMPORTANT ASPECT YOU WOULD HIGHLIGHT?

"Yes. The second major element investors will need to decide on is the weight they wish to give to each factor in their strategic allocation mix. I believe diversification is certainly one of the most important things when it comes to factor investing, and I would always recommend a factor mix that is well diversified across the factors. In this respect, my default recommendation would be to give equal weight to all the relevant factors on a risk basis."

"The third crucial step for investors opting for factor investing will be to make sure the solutions they choose efficiently harvest factor premiums. This is why it is very important to develop tools that will help to identify unrewarded risks and take them out."

"Turnover is also a characteristic to critically look at. Investors should be careful with turnover, as the costs associated with additional trading could easily wipe out any kind of advantage factor investing may have compared with purely passive strategies. In fact, this is one of the most important gaps identified between studies carried out in the academic literature and actual implementation."

YOU MENTIONED THAT ONLY THE MORE TRADITIONAL, THOROUGHLY RESEARCHED FACTORS ARE WORTH BEING CONSIDERED. WHAT CRITERIA EXACTLY WOULD YOU APPLY TO DETERMINE IF A FACTOR IS RELEVANT OR NOT?

"The main criterion is that there needs to be ample empirical evidence that the factor exists over time, over the cross-section and across asset classes. There also needs to be robust economic intuition, or at least some kind of understanding of why the effect exists. At Robeco, we consider that the only factors that fulfil these requirements are value, momentum, low volatility and quality."

[7] E. van Gelderen and J. Huij, 'Academic Knowledge Dissemination in the Mutual Fund Industry: Can Mutual Funds Successfully Adopt Factor Investing Strategies?', The Journal of Portfolio Management, 2014.

Ask the Expert

NUMEROUS ACADEMIC WORKS, STARTING WITH FAMA AND FRENCH'S MULTI-FACTOR MODELS, CONSIDER MARKET CAPITALIZATION SIZE A KEY DETERMINANT OF EXPECTED STOCK RETURNS. BUT YOU SEEM MUCH MORE CAUTIOUS. WHY?

"To me, size – the finding that smaller capitalization stocks tend to outperform larger capitalization stocks over long periods of time – is not a reliable factor. And the reason is that it is not consistent over time and it is not consistent over the cross-section. For example, there is no convincing evidence of a potential size effect in the UK equity market. However, what I do acknowledge is that other factor premiums such as value, quality or momentum, do manifest themselves more strongly in the small capitalization segment."

"So, I see size just as an interaction variable. And this is why I prefer to implement factor strategies in the small and mid-capitalization segment. But that is very different from saying that there is a standalone size premium that can be harvested."

GIVEN THE CURRENT APPETITE FOR FACTOR INVESTING, ISN'T THERE A RISK OF MASSIVE DISAPPOINTMENT, IN PARTICULAR IF FACTOR STRATEGIES SUDDENLY HAVE TO GO THROUGH TOUGHER TIMES IN TERMS OF PERFORMANCE?

"My perception is that most investors realize that when they make a strategic allocation to a factor, just like when they make a strategic allocation to equities, for example, they can't expect returns to be positive each and every year. Factor-based strategies must be evaluated over a full business cycle."

STILL, GIVEN THE SIGNIFICANCE OF CURRENT INFLOWS INTO FACTOR INDEX STRATEGIES, DO YOU FEAR THIS TREND MIGHT BACKFIRE?

"Yes. I have a serious concern, related to the flurry of generic, index-based products, often marketed as 'smart beta'."

"Here is why: when you ask investors why they have invested in those index-based products, you typically get two answers. The first one is 'low fees', which is difficult to disagree with. The second answer you get is 'transparency', which is also difficult to disagree with."

Ask the Expert

"But what most people do not realize is that the transparency provided by these indices is not exclusive to them. It is public transparency and this means that other investors, including proprietary trading firms and hedge funds, can identify in advance which trades are going to be executed and can opportunistically take advantage of this."

AND THIS MIGHT END UP WEIGHING ON THE PERFORMANCE OF THOSE WHO INVEST BASED ON THESE INDICES, RIGHT?

"Exactly. My colleague Georgy Kyosev and I published an article[8] on this topic that was presented to the American Finance Association in Philadelphia early 2018."

"Our conclusion is that there is strong empirical evidence that front running is going on. We showed that many market participants anticipate upcoming trades in these public factor-based indices, at the cost of those who invest based on these indices, either via ETFs or index-funds. In particular, we focused on the US stock market, estimating the cost of transparency for public factor indices to be 16.5 basis points per year for investors."

"At the same time, we also found clear signs of overcrowding in these public factor indices, which partly explains why products based on these indices are so cheap. The reason why fees are so low is because they are a highly scalable business. Unlike active funds that aim for out performance, indices have been created for a different purpose: to serve as a benchmark. So you can sell your index to investor A, B, C and so on and so forth. There is almost no constraint. This can't be good for investors."

SO MUCH FOR GENERIC FACTOR INDICES. BUT WHAT ABOUT CAPACITY ISSUES FOR FACTOR INVESTING AS A WHOLE?

"While the capacity of factor premiums is much smaller than the capacity of fully passive market-cap-weighted strategies, it is many times larger than the capacity that you can find with traditional fundamental managers. So there is still a lot of capacity left for factor investing as a whole, despite the fact that generic index-based products already show that they are suffering from capacity issues."

[8] J. Huij and G. Kyosev, 'Price Response to Factor Index Additions and Deletions', 2016.

Best “Smart Beta” Papers 2017

CLICK ON THE PAPERS TO DOWNLOAD

In December each year, the Savvy Investor Awards recognise the best papers of the last 12 months, across fifteen categories. Here are the award-winners in the “Smart Beta” category.

WINNER

How active managers are using factor strategies by BlackRock

This BlackRock report explores how adding factors to existing strategies can potentially result in higher returns, reduced risk, or superior diversification.

HIGHLY COMMENDED

Factor Investing and Asset Allocation by CFA Institute Research Foundation

Exploring the widespread adoption of factor investing in the fund management industry.

Ten things you should know about factor investing by Robeco

Helping institutional investors to sharpen up their implementation of factor investing strategies and to deepen their knowledge around empirical research findings.

Contrarian Factor Timing is Deceptively Difficult by AQR Capital Management

The popularity of factor-based investing raises issues around the valuation of the underlying risk factors. This AQR paper argues that the main factors are not significantly over-valued.

Why should investors consider credit factors in fixed income? by Invesco

Invesco examines how factor strategies differ in the fixed income space vs the equity space.

The Merits and Methods of Multi-Factor Investing by S&P Dow Jones Indices

Is it wise for market participants to rely on the performance of one factor only? Or should multi-factor approaches be preferred? S&P Dow Jones Indices addresses the key issues.

Smart beta: 2017 global survey findings from asset owners by FTSE Russell

In its fourth year, this detailed survey of global institutional investors examines the key themes and rationales behind smart beta adoption, evaluation, and implementation.

NEXT CHAPTER:
TEN THINGS YOU SHOULD KNOW ABOUT FACTOR INVESTING

Ten Things you should know about Factor Investing

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Factor-based investing has gained considerable traction over the past decade. Concepts such as 'factor premiums' or 'smart beta' have become popular buzzwords, and now appear frequently in mainstream financial media. Prominent institutional investors have also publicly embraced allocation to well-known factors, like value, momentum or low volatility.

In this booklet, Robeco addresses ten recurring challenges asset owners tend to be faced with when considering an explicit allocation to one or more factors. The different questions answered in this booklet were determined based on the concerns raised by respondents to an annual survey of asset owners carried out by index provider FTSE Russell regarding smart beta, as well as feedback from our clients.

The concept of factor investing is based on the existence of various academically documented premiums, which can be systematically harvested in order to achieve higher risk-adjusted returns and better diversification than traditional market cap-weighted indexes. Factors represent different characteristics or attributes of a financial security – such as the size of its market capitalization, its valuation, or its price momentum and volatility – that are important determinants of its risk and return in the long run.

But despite a growing awareness as to the potential benefits of factor-based investing, ensuring proper implementation often remains a puzzle for newcomers. Indeed, asset owners frequently lack precise knowledge about some of the underlying empirical findings, not to mention the vast amount of empirical insight on practical aspects that has been accumulated over the years and helps make a difference between efficient and inefficient factor strategies.

While most of these issues may be rather consensual among academics and practitioners, some are still hotly debated. This booklet is intended to help investors form their own opinion on these issues.

NEXT CHAPTER:
REFERENCES AND
FURTHER READING

Important information This publication is intended for professional investors. Robeco Institutional Asset Management B.V. has a license as manager of UCITS and AIFs of the Netherlands Authority for the Financial Markets in Amsterdam.

ROBECO
The Investment Engineers

References and Further Reading

CLICK ON THE LINKS FOR MORE INFORMATION

Below, we provide links to key papers, both academic and commercial, which cover key topics within the world of factor investing. In many sections, we begin by citing some of the seminal academic works, before moving into more recent, more practical white papers from asset managers.

AN INTRODUCTION TO FACTOR INVESTING AND SMART BETA

Factor Investing: Made Simple Guide (PLSA, 2017)

Complete Guide to Smart Beta: Beyond Active and Passive (SSGA)

Enhance your skill: how active managers are using factor strategies (BlackRock, 2017)

SELECTION OF FACTORS

A Five-Factor Asset Pricing Model (Fama & French, 2014)

Concerns regarding the new Fama-French 5-factor model (Robeco)

Choosing Factors (Eugene Fama & Kenneth French, 2017)

Factor Investing: Lucky Factors (Harvey & Liu, June 2017)

Factors – Theory, Statistics, and Practice (Stephen A. Ross, 2017)

Quantifying Backtest Overfitting in Alternative Beta Strategies (2017)

A Framework for Assessing Factors and Implementing Smart Beta Strategies (2015)

Pseudo-Mathematics: Effects of Backtest Overfitting on Out-of-Sample Performance (2014)

THE VALUE FACTOR

Investment Performance of Common Stocks in Relation to their PE Ratios: A Test of the Efficient Market Hypothesis (S. Basu, 1977)

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