

A hand in a white shirt is writing a financial formula on a chalkboard. The formula is $(R_M - R_F) + \beta_2(SMB) +$. The chalkboard is light green and the background is a dark blue gradient.

$(R_M - R_F) + \beta_2(SMB) +$

The MJ Hudson Allenbridge Systematic Factor Market Review

A survey of smart and alternative beta strategies for institutional investors

NOVEMBER 2017

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Foreword

The 2017 Systematic Factor Market Review is a follow-up and update to our 2014 survey titled “Quantitative Investment Strategies: Beyond Fundamental Indexing”. That study was, to our knowledge, the first comprehensive review of the systematic factor investment landscape encompassing the offerings of both asset managers and investment banks. Our 2017 follow-up aims to be equally comprehensive.

In the past three years, factor strategies have moved from the fringes of the investment world to become one of the hottest current investment trends. Institutional investor adoption of the strategies has become widespread, and is increasingly being extended from equities to other asset classes. In an effort to update investors of the current products, trends and opportunities in this space, Allenbridge, decided to run this second edition of the survey in the summer of 2017, with 21 asset managers and 11 investment banks participating.

We believe that covering these two sets of providers provides a clear picture to investors and practitioners as to how the market is evolving, ultimately resulting in better decisions.

Our survey involved both a web-based questionnaire and numerous meetings in person. We are extremely grateful to the contributors for their data, time and insights.

We hope that you find the report useful and informative, and we welcome any questions and comments you may have.

Allenbridge



Odi Lahav
CEO
Allenbridge



Anthony Yadgaroff
Founder
Allenbridge

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Antti Suhonen
Director of Solutions
Allenbridge

Antti Suhonen has over twenty years' experience in banking, capital markets, investments, and derivatives, and has acted as an adviser to financial institutions, institutional investors, and family offices. He also holds a position as Professor of Practice in Finance at Aalto University School of Business in Helsinki, Finland. His teaching and research interests include alternative investments, financial institutions, and fixed income and credit markets. He previously held various derivatives structuring, product development, sales, and trading roles in investment banking, most recently as Managing Director at Barclays Capital, concentrating on alternative investments and quantitative investment strategies.

Antti holds a PhD in Finance and a MSc in Economics from Helsinki School of Economics and Business Administration.



Brendan Campbell
Specialist Adviser

Brendan Campbell is an alternative investments specialist with over 12 years' experience within the hedge fund industry, spanning all aspects of hedge fund analysis and investment. Most recently, he spent six years working in the Middle East for the Abu Dhabi Investment Authority as a Portfolio Manager covering one of the largest systematic strategies mandates in the world. Prior to this, he managed a fund of hedge funds business at Cheyne Capital, having joined the firm from Altedge Capital, which was acquired by Cheyne in 2009. He began his career at Allenbridge where he was initially Head of Quantitative Research prior to becoming Head of Hedge Fund Research.

Brendan holds a PhD in Physics and an MSci in Physics, both from King's College London. During his time at the university, he was a recipient of the George Randall Wilkensen Prize, the Leyton Science Research Award and the Wheatstone Prize for Physics.

I. Executive Summary

Size and scope of the market

- Around USD 1 trillion of assets is estimated to be invested in systematic factor strategies offered by asset managers and investment banks
- Assets in systematic strategies are estimated to have doubled since our previous survey in 2014
- The survey respondents offer in aggregate over 2,200 different systematic strategies, out of which just over 700 have assets in excess of USD 100 million
- The majority of the strategies are still in long-only “smart beta”, but we also see growth in long-short “alternative beta” strategies
- Long-short alternative beta strategies represent the majority of assets in strategies offered by investment banks, by our estimates
- Equities are still the asset class with the largest number of strategies, but multi-asset strategies have been at the forefront of recent product development
- Asset managers and investment banks differ in their approach to business development and strategy commercialisation, in that asset managers appear more focused on a smaller number of larger flagship products, whereas the banks offer a broader suite of portfolio building blocks
- Capacity is not seen as an impediment to future growth by most asset managers; by contrast, most investment banks set capacity limits on their strategies and have either reached a limit on some of their strategies, or expect to do so in the future. This can be explained in part by the banks’ lack of fiduciary capacity in adapting an existing strategy in changing market conditions

Investment format

- UCITS funds, followed by dedicated accounts are the most popular investment format offered by asset managers
- For investment banks, derivatives (swaps) and structured notes are the most popular investment structures

Fees

- We report an increasing scrutiny on fees from investors, and see signs of increased transparency to overall charges from the investment banks in particular
- For asset managers, average management fees are 0.47% for long-only smart beta strategies, and 0.77% for long/short alternative beta offerings
- For investment banks, average strategy fees are 0.51% for smart beta and 0.65% for alternative beta strategies
- Asset managers’ fees have remained reasonably constant since our 2014 survey, whereas there has been a 10-15 basis point reduction in the average investment bank strategy fees

I. Executive Summary

Positioning

- Pension funds are the largest source of assets for both asset managers and banks
- Asset managers also list insurance companies and high-net worth investors / private banks / private wealth managers as important client groups
- For the investment banks, asset managers have become the second largest client segment, followed by insurance companies
- All respondents to the survey list low fees compared to active management as a key benefit of systematic strategies
- Asset managers considered concerns over factor crowding as the main impediment to investment for both prospective and existing investors, whereas the banks listed suspicion over future strategy performance and the difficulty of navigating the universe of product offerings as the main impediments for prospective investors
- Both groups of survey participants expect to see future growth in the market, and expect non-discretionary multi-strategy portfolios to be the fastest growing market segment in the near future

Concerns

- The participants considered future performance of systematic strategies to be their biggest concern regarding the future of the industry. More specifically, many respondents noted the wide dispersion of realised strategy returns, as well as investor expectations towards the strategies
- Possible crowding and front-running of transparent factor strategies were mentioned as concerns by several respondents
- There was a broad consensus that the industry still lacks a coherent, common terminology, and that investors' challenges in evaluating strategies are accentuated by the lack of recognised performance benchmarks

II. Introduction

History and development of factor investing

Factor investing has been around for decades, albeit in numerous different guises. An investment factor can be best described as an identifiable driver of return, and in a loose sense, any simple rules-based portfolio construction methodology can be regarded as a factor investment approach. By this definition, a market capital weighted index represents a basic factor investment approach, by providing investors with access to the original equity risk premium. The development of the Capital Asset Pricing Model (CAPM) in the early 1960's formalised the existence of a single equity market risk factor. This factor could be observed in US stocks via the S&P 500 index from 1957 onwards, but it took nearly another 20 years before it could be directly accessed by investors. When in 1976, Vanguard launched an investable version of the S&P 500 Index, and with it, factor investing was born.

During the 1970's, CAPM was expanded upon by the more generalised approach of Arbitrage Pricing Theory, which suggested that multiple additional factors might be responsible for driving returns. Empirical evidence on the ability of CAPM to explain equity returns suggested that factors other than the broad market return might be at play, and the first additional factors to CAPM – value and size – were formally proposed by Eugene Fama and Kenneth French in 1992¹.

The concept of value investing was itself first highlighted in 1934 in Benjamin Graham and David Dodd's book "Security Analysis"; which was written in the wake of the of the stock market crash of 1929. Periods of severe market turbulence have throughout history been a considerable driving force for financial innovation. In fact, most of the innovation that has occurred in the field of factor investment has been driven by two primary forces, firstly the desire to overcome some of the considerable inefficiencies associated with market capitalisation-weighted investment approaches and secondly, to systematically replicate the techniques used by "skilled" active/discretionary market participants.

Transition from Alpha to Beta

Common usage of the terms alpha and beta has extended beyond their original rigorous statistical definitions as they have become more synonymous with the concepts of active skill and passive market exposure. It would be more accurate to define alpha as the unknown source(s) of excess return, and beta as the known and systematically accessible source(s) of return. The unknown portion of return has historically been attributed to the skill of the active investor, for example, by picking the best stocks, or by trading their hedge fund strategy.

Unfortunately, the concepts of alpha and beta are largely unhelpful and are somewhat synonymous with comparisons made between science and magic. As stated best by Arthur C Clarke, "Any sufficiently advanced technology is indistinguishable from magic." In the same way, alpha only retains its magic until academic research finally pulls back the magician's curtain and reveals the underlying betas. Once the curtain is open, it can never be closed again and this strongly suggests that the future of investing sits firmly within the camp of systematic investment strategies.

This view is further supported by the simple fact that much of the information that used to be the sole preserve of discretionary managers has, over the course of time, gradually become digitised and accessible to systematic strategies. The evolution of the systematic investment universe has followed this growth in available data, with the first systematic trading strategies operating on the readily available econometric datasets used by trend followers. As fundamental data in equities became digitally available, numerous fundamental equity factor strategies sprung up. With the advent of text scraping and natural language processing, qualitative information has also transitioned into the systematic sphere and various machine learning techniques have made it possible to extract ever more complex tradable relationships from these ever-growing datasets. It is important to stress that this is a one-way transition. At no point in the future will digitised information ever return to its analogue origins. As this data revolution proceeds, there is little doubt that other asset classes, such as corporate credit, will follow the path set out by the now heavily systematically traded equity markets.

¹ Fama & French (1992): The cross-section of expected stock returns. The Journal of Finance

II. Introduction

The dot-com collapse of 2000-2002 and subsequently, the global financial crisis of 2008-09, both spurred demand for alternatives to the market cap-weighted paradigm. Initially these included investible equal weighted index products, which provided greater market breadth but also inherently benefited from a size factor bias. In the years after the dot-com collapse, Arnott, Hsu and Moore proposed alternatives to market capitalised indexing and in 2005 published their landmark paper, “Fundamental Indexation”, and with it launched the first index constructed using company fundamentals, the Research Affiliates Fundamental Index (RAFI).

As academic interest in equity factors grew over the subsequent years, there was an explosion in the number of factors identified by researchers and in the number of different factor implementations. A strong philosophical foundation for the factor-based investment approach was forged in the influential publications of Ang et al. (2009)², Ilmanen (2011)³ and Ang (2014)⁴, which discussed the theory, empirical evidence and practice of extracting premia across asset classes and investment styles.

Market practitioners had quickly identified the value of constructing market neutral or hedged versions of equity factor strategies as cheaper systematic substitutes for equity long/short hedge funds and equity market neutral hedge funds. At the same time, parallel lines of research were being undertaken into the drivers of other hedge fund strategy returns. Trend following CTAs had been systematically exploiting momentum within commodity markets since the 1970's and had since extended their techniques to currencies, equity indices, sovereign bonds and rates. Academic research soon identified that most hedge fund strategies were predominantly composed of exposures to a combination of what are now termed alternative risk premia, along with long exposures to less traditional asset classes, such as convertible bonds and high yield debt.

With this knowledge in place, asset managers began to provide cheaper passive alternatives to active hedge fund strategies, and with each new factor that was discovered, what had previously been perceived as active manager “alpha”, became instead regarded as passively obtainable alternative beta.

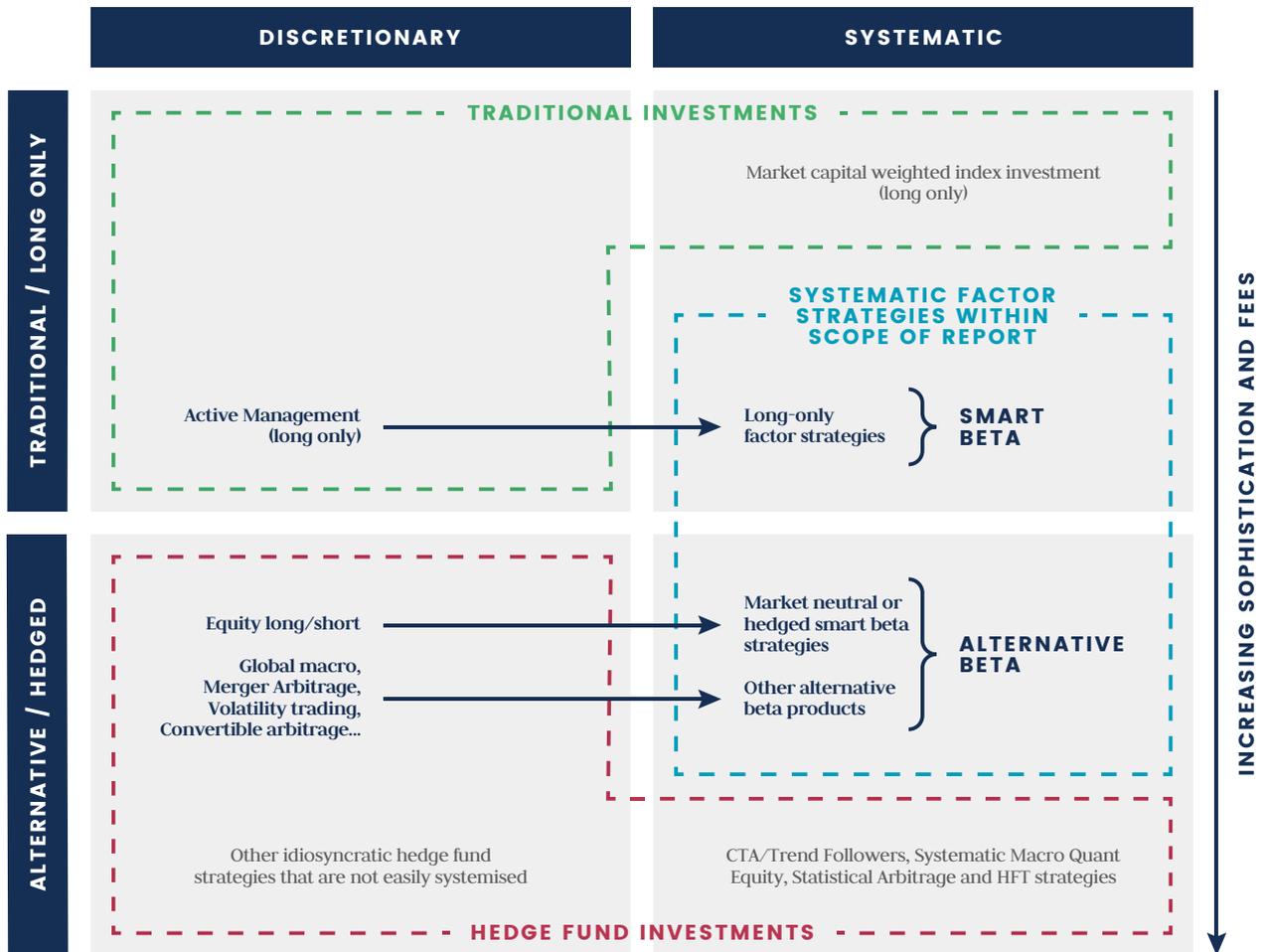
As systematic strategies, both the long-only smart beta and long-short alternative beta products can be viewed as passive forms of investment. However, unlike a market capital weighted index, some of these strategies can be extremely sophisticated in their construction and they are often highly representative of the active strategies that they were in many ways designed to mimic. For these reasons, these strategies sit somewhere in-between passive and active investment styles.

² Ang, Goetzmann and Schaefer (2009): Evaluation of active management at Norwegian Government Pension Fund – Global

³ Ilmanen (2011): Expected returns: An investor's guide to harvesting market rewards

⁴ Ang (2014): Asset Management. A systematic approach to factor investing

II. Introduction



Despite a growing number of early adopters, such as sophisticated North American, Nordic and Dutch pension funds, factor investment techniques failed to capture the interest of most large institutional investors until several years after the 2008-09 crisis. With index investment approaches nursing huge losses post-crisis, large institutional investors such as national pension schemes and sovereign wealth funds began actively investigating factor-based strategies as an alternative to their existing index investments. In recent years, investor dissatisfaction with hedge fund performance, especially in relation to the strong performance exhibited by traditional assets, has placed considerable focus on the high level of hedge fund fees. As progress has been made in systematically replicating many of the core hedge fund risk exposures, the popularity of low fee charging alternative beta products has accelerated. In addition to this replacement driven growth, a small number of investors have gone beyond simply complementing their existing portfolios with factor based products, and have instead transitioned to an entirely factor-based investment approach.

II. Introduction

Definitions

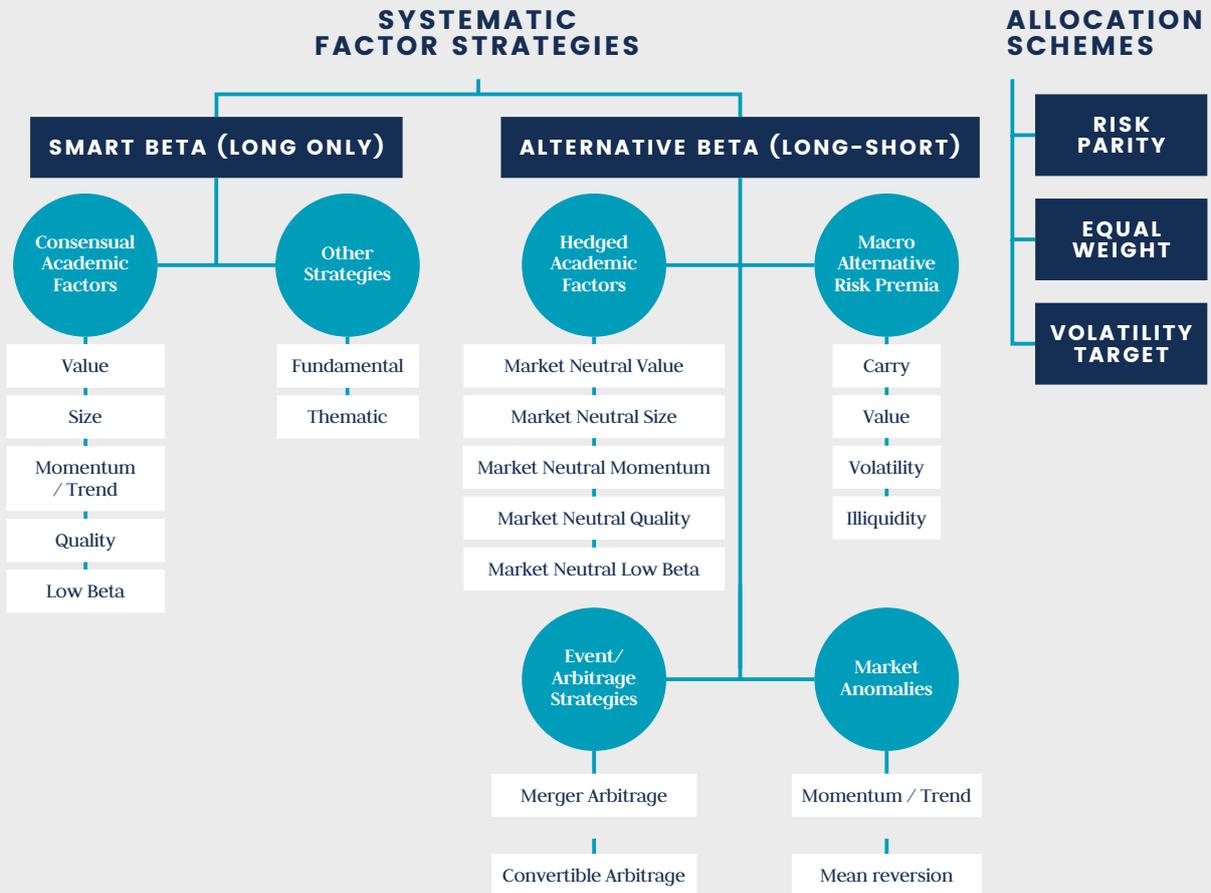
Despite the rapid growth of the market, and the ever-broadening institutional adoption of factor-based systematic strategies, there is little common framework or terminology in the industry. This lack of a common language was raised as a concern and possible source of confusion amongst investors by several participants to our survey. In the following section, we discuss the framework and the naming conventions that are used elsewhere in this survey.



SYSTEMATIC FACTOR STRATEGIES

We use the term “systematic (factor) strategies” to capture the broad universe of investment strategies that includes both “smart beta” (long-only) and “alternative beta” (long-short) strategies. These strategies seek to extract risk premia other than that of market capitalization-weighted benchmarks, or benefit from market anomalies using a predominantly systematic, non-discretionary process whilst providing a high degree of transparency on the investment rationale and the drivers of return.

For completeness, the concept of factor investing also includes traditional investment factors, such as exposure to the equity market, credit and bond risk premia.



II. Introduction



SMART BETA

Long-only factor strategies are commonly known as “smart beta”. Smart beta can be seen as the strategic mechanism by which factor returns are harvested. In other words, smart beta is simply a conceptual framework for explaining some of the systematically achievable sources of return that previously resided within the realm of alpha – most commonly based on “consensual” academic factors such as value, size and momentum. These strategies are long-only portfolios of securities selected on the basis of their sensitivity to specific factors, or “factor tilt” portfolios investing in the components of benchmark indices with weights based on factor exposures rather than market capitalisation. In the equity space these strategies display high correlation to the underlying equity market risk factor and they can be seen as an evolution of standard market capitalisation based index investment. Such strategies may therefore be an appropriate alternative to traditional passive investments (e.g. market capital weighted index investments) and investments in active long-only managers.

In practical contexts, the term smart beta often also encompasses fundamental strategies that use heuristic but systematic investment rules, or exogenous economic inputs in the investment process, as well as thematic strategies that may be backed by research findings or expert opinion but aren’t strictly aligned with consensual academic factors or styles.

Other names for smart beta include: strategic beta, long-only factor investing and factor-tilt strategies

ALTERNATIVE BETA

Alternative beta products are long-short factor strategies that can be seen as systematic alternatives to certain hedge fund investments. These strategies include:

- Alternative risk premia strategies, such as:
 - Market neutral versions of smart beta strategies - these may be used as replacements for equity long/short hedge fund investments
 - Alternative Risk Premia strategies operating on markets usually traded by global macro hedge funds, such as - equity indices, currencies, sovereign bonds and commodity markets. These strategies include:
 - Carry
 - Value
 - Volatility
- Market anomaly strategies – strategies such as trend following
- Strategies aiming to profit from structural market imbalances
- Systematic versions of other hedge fund strategies, including event-based strategies and certain arbitrage strategies (e.g. merger arbitrage)

The name alternative beta is often used interchangeably with “alternative risk premia” and “liquid alternatives”. At the risk of sounding pedantic, we take some issue with the “alternative risk premia” definition, as not all alternative beta strategies derive their expected returns from risk sharing (see discussion below). The question is not purely semantic, as the strategies may exhibit different patterns and persistence of performance depending on their underlying economic logic.

II. Introduction



RISK PREMIA

A risk premium is the reward received in return for accepting a risk. As such, risk premia strategies should generally produce positive returns as investors are expected to be compensated for taking systematic risk that cannot be diversified away – such risk being likely to materialize at economic “hard times” when all asset values are depressed. As this suggests, risk premia arise from the transfer of risk(s) from one market participant to another. By this definition, momentum, which exhibits positive skew, is not strictly a factor earning a risk premium. It is instead more accurately classified as a behavioural market anomaly, despite its popularity in risk premia product offerings. Different risk factors provide a different premium and not all provide a premium at all. Genuine risk premia strategies have parallels with insurance contracts, and are therefore best used by investors systematically over reasonably long horizons. This immediately highlights the potential danger in aggressively timing such factors.

ALLOCATION SCHEMES

The wider universe of quantitative / systematic investment also includes a number of portfolio allocation or weighting schemes based on measures such as equal-weighting, volatility, or risk parity. These weighting schemes are often used in the construction of diversified factor strategy portfolios, as well as in traditional asset allocation. Whilst these methodologies are quantitative in nature, they are not factor strategies in the sense that they would target a specific factor exposure as an outcome. As an example, an equal-weighted (as opposed to market cap-weighted) equity portfolio will result in a size factor bias, but such bias is not the primary objective for using the weighting scheme.

STRATEGY CLASSIFICATION

Over the years, academics and practitioners have identified hundreds of potential factors, each exhibiting different levels of explanatory power in relation to security returns. While the robustness of many of these factors continues to be debated, some broad categories of systematic strategies are reasonably consensual and have been broadly adopted within investment portfolios. For the purposes of this survey, we asked the participants to categorise the strategies they offer as follows:

MARKET ACCESS covers the range of strategies that provide investors simple access to a portfolio that differs from common market benchmarks. It would cover for instance a systematic strategy rolling commodity futures (other than a benchmark commodity index), or a systematic volatility strategy rolling from first to second month futures on a daily basis.

CARRY/CURVE Carry strategies invest in high-yielding assets and underweight or short low-yielding ones. A classic example is investing in high-yielding currencies and financing the investment by a borrowing in low-yielding ones. Curve strategies seek to earn a premium by going long and short different maturities on a yield/futures curve. A common strategy would be a long position in the long end of the interest rate curve, combined with a short position in the short end.

II. Introduction



STRATEGY CLASSIFICATION CONTINUED

EVENT DRIVEN strategies exploit moves/convergence of asset prices following specific events. A common example would be merger arbitrage, which involves purchasing shares in a merger target company and shorting shares of the acquirer.

HEDGING covers strategies designed to act as a hedge against large drawdowns or gap risk in a specific asset class (or as a “macro hedge”). These strategies would be expected to show flat or negative performance during benign market conditions.

LIQUIDITY strategies seek to extract a premium from investing in less liquid instruments vs. more liquid ones, or by providing liquidity to the market at times of elevated demand. An example would be investing in small cap stocks.

LOW BETA/LOW VOL strategies invest in assets with lower market beta or volatility compared to the broad investment universe, and seek to extract superior risk adjusted returns.

MOMENTUM/TREND strategies aim to exploit either cross-sectional momentum or time series trends in asset prices. A common implementation in various asset classes is going long recent “winners” and short “losers”.

QUALITY strategies invest in assets with high quality characteristics. An example would be an equity strategy selecting stocks based on accounting measures such as return on equity, stability of earnings, or low financial leverage.

VALUE strategies seek premia from investing in undervalued assets and underweighting or shorting overvalued assets. The category includes e.g. low P/E or P/B strategies in equities or PPP value strategies in FX.

We made the decision to define **Volatility** as an asset class, capturing strategies linked to implied volatility across all asset classes. An alternative interpretation would be to treat systematic trades in implied volatility as a strategy group to be applied across the asset classes.

In questions discussing the number and range of individual strategies, we asked the respondents to only count strategies that have a unique investment rationale, universe, or process from one another. For example, the different currency classes of a particular strategy only count as one strategy. Similarly, an unlevered and 2x levered version of the same strategy would count as one. On the other hand, two equity value strategies investing in the U.S. and European markets, respectively, would be recorded as two unique strategies.

There is no easy and consistent way of calculating the aggregate Assets under Management (“AuM”) (or outstanding notional amount) of quantitative investment strategies across different providers. A number of the investment bank respondents were reluctant to provide a dollar figure and the unfunded nature of many of their products is a complicating feature with most banks considering the size of their businesses in terms of risk capital, not dollar assets. The hedged nature of most alternative beta products is also a complicating feature as it creates a disconnect between notional exposures and risk exposures. Furthermore, notional exposures cannot be sensibly summed across different asset classes, with very different risk profiles. Many of the products in the space are highly capital efficient and can be traded as overlays again confusing ideas of assets under management. Even in cases with clearly defined fund structures, the calculation of total AuM is complicated by products operating at different volatility targets. This has created somewhat subjective assessments of AuM within the investment management industry, with some managers calculating their AuM using a multiplier in relation to a low volatility reference vehicle that they also manage.

II. Introduction

Methodology

We initially invited 23 asset managers and 13 investment banks to participate in the survey. Only a small number of invitees declined to participate, citing either a lack of current offering relevant to the survey, or timing and resourcing constraints. The participating 21 asset managers and 11 banks are listed below.

ASSET MANAGERS	INVESTMENT BANKS
Aberdeen Asset Management	Bank of America Merrill Lynch
Agenda Invest	Barclays
Amundi	BNP Paribas
AQR	Commerzbank
AXA Investment Managers	Credit Suisse
Bainbridge Partners	Deutsche Bank
CFM	Goldman Sachs
Deutsche Asset Management	HSBC
Dimensional Fund Advisors	JP Morgan
GAM	Nomura
Goldman Sachs Asset Management	Société Générale
JP Morgan Asset Management	
La Française	
LGT Capital Partners	
Lombard Odier Investment Managers	
LUMX	
Man Group	
Neuberger Berman	
Quoniam Asset Management	
Robeco	
UBS Asset Management	

Our understanding based on discussions with other industry practitioners is that our coverage of the investment bank market in this survey is fairly comprehensive. On the asset manager side, there are two notable exclusions. First, we focussed on managers that have an active marketing presence in the U.K., and as such we are cognisant that a number of managers with no local presence have not been included. Second, we did not include ETF platforms whose main activity is the wrapping of external index products into exchange traded funds.

The survey was conducted from July to September 2017. The first part of survey was a web-based questionnaire relating to the participants' AuM, strategy coverage, investment terms, as well as observed investor trends and perceptions of factor strategies. The second part consisted of face-to-face meetings with most respondents, where we had the opportunity to discuss the responses in more detail and also address wider industry issues and topical themes.

III. Size and Scope of the Market

The systematic factor strategy market has experienced rapid growth since our 2014 study. The fact that these strategies are becoming mainstream is very clearly visible amongst asset managers, where we find a broadening spectrum of solutions offered. The interest in factor-based and other non-market-capitalisation weighted benchmarks has been growing steadily on the long-only side and especially in equities, but the last years have also seen a number of new entrants offering portfolios of diversified multi-asset strategies with long and short exposures. The new providers come from a variety of backgrounds, including traditional asset management, quantitative hedge funds and CTA's, as well as funds of hedge funds.

Many of the managers we met highlighted that they have employed systematic strategies for many years in their “alpha” products (whether in long-only active funds, or in hedge funds employing short positions, derivatives and leverage), so the concept itself is not new to them. The new development is rather that the strategies are offered in a purer form via a more transparent and liquid format, and typically with lower fees than in a traditional active fund.

On the investment banking side, most of the providers we met in our previous study are still active in the market, and there have been few new entrants. Having said that, we get the sense that the past years have witnessed some significant strategic choices in the banking community. Several of the banks have moved from “asset class silos” towards an integrated, cross-asset business model. Such transitions have often coincided with further investment in governance, processes and technology supporting the business line. At the same time, some of the banks have taken the decision to focus on specific niches either in terms of the product offering, or the type of clients served.

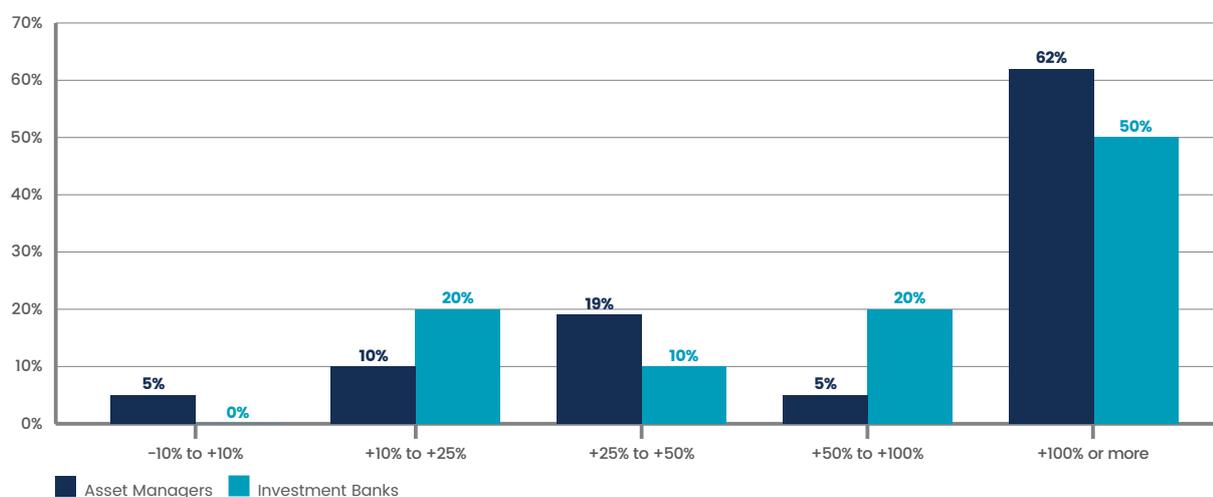
It is easy to see the attraction of a systematic strategy business to a bank from the perspective of its low balance sheet and capital usage, limited market risk exposure, and recurring fee income. Furthermore, these businesses draw on the banks' pre-existing expertise in trade execution, market access and financial risk management. These benefits need to be balanced against the commitment in terms of resourcing, technology, and governance processes, which may be significant especially for new entrants.

III. Size and Scope of the Market

Assets under Management

The growth of the market is evidenced by the increase in AuM reported by our survey respondents. Almost two thirds of the asset managers, and half of the investment banks had witnessed asset growth in excess of 100% since 2014 (the time of our previous survey). None of the respondents had experienced significant declines in AuM (i.e. -10% or greater) over the period.

CHART 1: GROWTH IN AUM 2013-2017



Based on the current AuM numbers of the survey participants, we would estimate the size of the overall systematic strategy market to be in excess of USD 1 trillion⁵, out of which investment banks represent around USD 300 billion. We would again treat the number with caution given the different definitions of what qualifies as a factor strategy, and given the varying models of accounting for AuM, especially between the asset managers and the investment banks.

We also asked the respondents themselves to give us their best estimate of the size of the overall market. The median estimate from the asset managers was USD 800 billion, and from the investment banks USD 500 billion. There was significant dispersion in the responses, with the largest estimates being greater than a trillion dollars.

We note that our bottom-up estimate of the market size is broadly consistent with the reported asset growth numbers since 2014, when our previous survey indicated global AuM in excess of USD 500 billion.

The vast majority of the overall assets are invested in long-only strategies. Whilst we did not get a precise breakdown between long-only and long-short products from all the respondents, our analysis suggests that over 80% of asset manager AuM is in long-only strategies, and if ETFs were included the proportion would be even higher. The majority of the managers participating in the survey are exclusively offering either long-only or long-short strategies, however we did hear that several of them were considering new products crossing over to either side of the divide. We also saw wide variation in the proportion of long-only vs. long-short strategies among the investment banks, ranging from 10% up to 75% in long-only. Our overall estimate is that around 60% of the notional exposure to investment bank strategies is in long-short alternative beta.

⁵ Note that the number is based on the information provided by the respondents to the survey and as such excludes, among others, parts of the ETF universe and U.S. managers without U.K. presence. For reference, Morningstar (2017) reports collective assets of USD 707 billion in "strategic beta" exchange-traded products worldwide. There is, however, overlap in the numbers as many of the participants to our survey offer their strategies as Exchange Traded Products ("ETPs"), basically synthetic ETFs.

III. Size and Scope of the Market

Strategies

Our next questions deal with the range of strategies available in the asset managers' and banks' product offerings. As tables 1A and 1B illustrate, the respondents to our survey offer in aggregate over 2,200 individual systematic strategies across six asset classes and ten strategy groups⁶. Even if we exclude the simplest Market Access strategies that form an important part of the investment banks' strategy universe, the number is still over 1,600. Hence, the universe offers plenty of opportunities, but may be challenging for an investor to navigate.

1A: NUMBER OF UNIQUE STRATEGIES OFFERED: ASSET MANAGERS								
STRATEGY TYPE	COMMODITY	CREDIT	EQUITY	FX	RATES	VOLATILITY	MULTI-ASSET	TOTAL
Market Access	1		23	1	1	2	3	31
Carry/Curve	2	76	6	6	7	4	3	104
Event Driven			3		1			4
Hedging	2		3	3	3	1	1	13
Liquidity	1		4				1	6
Low Beta/Low Vol	1	1	54	1	1	1	3	62
Momentum/Trend	7		12	7	7		7	40
Quality		2	21		9		2	34
Value	1	3	133	4	6		2	149
Multi-strategy	7	3	126	1	1	1	33	172
	22	85	385	23	36	9	55	615

⁶ We have added three new strategy classifications since the 2014 survey: Low Beta/Low Vol, Quality and Multi-Strategy.

III. Size and Scope of the Market

1B: NUMBER OF UNIQUE STRATEGIES OFFERED: INVESTMENT BANKS								
STRATEGY TYPE	COMMODITY	CREDIT	EQUITY	FX	RATES	VOLATILITY	MULTI-ASSET	TOTAL
Market Access	71	13	167	90	94	18	100	553
Carry/Curve	50	11	24	26	36	105	22	274
Event Driven			20					20
Hedging	4	1	27	1	2	43	11	89
Liquidity	19	4	10	2	3		5	43
Low Beta/Low Vol	19		54	3		2	21	99
Momentum/Trend	36	23	75	18	21	7	85	265
Quality			30	1	1		5	37
Value	9		47	14	7	3	8	88
Multi-strategy	6		53	2	8	6	55	130
	214	52	507	157	172	184	312	1598

For the asset managers, equity Value and Multi-Strategy, credit Carry and equity Low Beta/Low Vol are the largest offerings by number. For the investment banks, following various Market Access products, volatility Carry, and multi-asset and equity Momentum/Trend represent the most significant strategies.

Conscious of the fact that the simple number of strategies may reflect a large number of products by a small group of dominant providers, we present an alternative view of the universe in tables 2A and 2B. Here, we report the proportion of the asset manager and investment bank respondents, respectively, that have a current offering in each of the strategy groups. For the asset managers, multi-asset/Multi-Strategy and equity Value are the most common strategies by this measure, followed by equity Multi-Strategy, Low Beta/Low Vol, and Momentum/Trend. For the banks, FX, rates and volatility Carry/Curve, as well as equity, FX and multi-asset Momentum/Trend are offered by most of the respondents.

There appears to be more specialisation amongst the asset managers, whereas most of the banks seek to offer a broad universe of strategy building blocks across different asset classes. Also, our results show that the asset managers active in systematic factor strategies are still predominantly focused on equity as an asset class. In line with our 2014 survey, we recognise that there are a number of asset managers investing in the other asset classes, but that their approach is discretionary and active in nature – possibly reflecting greater remaining opportunities for alpha generation, or the practical difficulties of implementing purely quantitative or systematic techniques to cash bonds and credit in particular. The case of factor-based investment strategies in cash credit is a good example of this.

III. Size and Scope of the Market

2A: PERCENTAGE OFFERING A STRATEGY: ASSET MANAGERS							
STRATEGY TYPE	COMMODITY	CREDIT	EQUITY	FX	RATES	VOLATILITY	MULTI-ASSET
Market Access	5%		14%	5%	5%	10%	10%
Carry/Curve	10%	24%	10%	29%	29%	19%	14%
Event Driven			14%				
Hedging	10%		10%	10%	10%	5%	5%
Liquidity	5%		19%				5%
Low Beta/Low Vol	5%	5%	43%	5%	5%	5%	14%
Momentum/Trend	19%		43%	19%	19%		33%
Quality		5%	48%				10%
Value	5%	10%	62%	19%	19%		10%
Multi-strategy	10%	5%	48%	5%	5%	5%	67%

2B: PERCENTAGE OFFERING A STRATEGY: INVESTMENT BANKS							
STRATEGY TYPE	COMMODITY	CREDIT	EQUITY	FX	RATES	VOLATILITY	MULTI-ASSET
Market Access	56%	22%	67%	44%	44%	22%	44%
Carry/Curve	78%	67%	44%	89%	89%	89%	22%
Event Driven			56%				
Hedging	11%	11%	44%	11%	22%	56%	11%
Liquidity	67%	22%	56%	22%	22%		22%
Low Beta/Low Vol	11%		78%	11%		11%	22%
Momentum/Trend	78%	78%	89%	89%	78%	33%	89%
Quality			67%	11%	11%		11%
Value	33%		78%	78%	44%	11%	33%
Multi-strategy	33%	5%	56%	22%	56%	11%	78%

III. Size and Scope of the Market

We further explore the scope of the offering by looking at which strategies have been most successful in attracting investments. Tables 3A and 3B show the number of strategies in each category that are open for investment and have currently more than USD 100 million of assets.

3A: NUMBER OF UNIQUE STRATEGIES OFFERED, WITH ASSETS GREATER THAN \$100M: ASSET MANAGERS								
STRATEGY TYPE	COMMODITY	CREDIT	EQUITY	FX	RATES	VOLATILITY	MULTI-ASSET	TOTAL
Market Access			4			1	1	6
Carry/Curve	1	67	6	2	3		1	80
Event Driven			2					2
Hedging								0
Liquidity	1		1					2
Low Beta/Low Vol		1	29			1	1	32
Momentum/Trend	2		7	2	2		7	20
Quality		2	20		2		1	25
Value		2	108	2	3		1	116
Multi-strategy	3	2	109				23	137
	7	74	286	6	10	2	35	420

3B: NUMBER OF UNIQUE STRATEGIES OFFERED, WITH ASSETS GREATER THAN \$100M: INVESTMENT BANKS								
STRATEGY TYPE	COMMODITY	CREDIT	EQUITY	FX	RATES	VOLATILITY	MULTI-ASSET	TOTAL
Market Access	20		37	24	22			103
Carry/Curve	20	3	7	4	6	12	2	54
Event Driven			1					1
Hedging			4		1	8	1	14
Liquidity	3		1					4
Low Beta/Low Vol	2		20				4	26
Momentum/Trend	6	1	5	3	4		12	31
Quality			5					5
Value	1		5	3	4		1	14
Multi-strategy	1		13	1	1		14	30
	53	4	98	35	38	20	34	282

III. Size and Scope of the Market

Again, the analysis highlights the dominance of equity strategies in the asset managers' offering. For the investment banks, Market Access strategies appear the most likely ones to attract significant assets, but elsewhere the picture is much more dispersed. Overall, we count 702 strategies with assets over USD 100 million, out of a total of 2,200.

Looking at the numbers across the providers, asset managers have reached the USD 100 million hurdle with 68% of their strategies, whereas for investment banks the proportion is only 18%. The discrepancy probably reflects the differences in the providers' business models, in that asset managers' requirement for minimum AuM for a new fund (or a separate account / mandate) is generally much higher than that of investment banks who tend to offer a wide range of products as portfolio building blocks. As discussed in the next section, most bank strategies are accessed using derivatives, which are more flexible to implement and lower cost than fund vehicles. Furthermore, as investment banks cannot apply discretion in the management of strategies, any adaptations to a strategy will typically involve the launch of a new version of a strategy. This partly explains the apparent proliferation of strategies from the investment bank providers.

We also asked the participants what proportion of their systematic business is accessed through a structure offering explicitly limited downside risk or principal protection. We saw significant variation in the answers of the investment banks, reflecting different target markets and business profiles, as the proportion ranged between zero and 80%, with the average being 26%. For the asset managers, the results were heavily skewed as 16 out of the 21 respondents had not been involved in principal protected solutions, and the proportion for the remaining ones ranged from 25% to 100%. Compared to our 2014 survey, we see a declining importance of principal protected solutions, especially for providers catering primarily for a client base consisting of institutional asset owners.

Differences in strategy implementation

The method of strategy implementation varied considerably across the respondents and the different decisions that are made during the strategy construction phase are the primary driver for the high level of performance dispersion within the industry. This performance dispersion was cited as one of the main impediments to the ongoing growth of the industry as investors struggle to understand the large divergences in the performance of seemingly similar products, thus making it crucial to understand the differences in the strategy implementation of the different providers.

Taking the example of an equity factor strategy, naturally the choice of factors selected for inclusion in the product will have a dramatic effect on performance due to the fact that many exhibit low correlation to one another, but even single factor products can display huge divergences in performance based on their construction methodology. For example, a value factor can be constructed from numerous different measures of value, such as price/earnings, price/book and various measures of enterprise value. Some of these factor inputs have stronger predictive power than others and many give quite different results at times, so the selection, weighting and conditioning of such factor inputs can be a critical determinant of the factor's performance. Few providers choose to restrict themselves to replicating factor construction precisely as detailed in the academic literature. Most practitioners see opportunity in adapting the original academic formulation to reflect constraints in the financial markets, or look further afield to create proprietary factors. Some use static factors, while others favour conditioning the factors based on research insights and in some cases this can extend to the highly contentious topic of factor timing.

An equity market neutral factor strategy is clearly an entirely different investment proposition to a long only factor strategy and yet there still persists some confusion within the industry when it comes to labelling these inherently different products. The dominant risk exposure in the long only factor products remains the equity risk factor and in comparison, the exposure to the stated factor will remain relatively small as these products represent an attempt to tilt the exposure slightly away from market cap weighted and towards an alternative. For the market neutral strategies, the dominant factor will be the stated strategy factor, but the resultant exposures created by any factor strategy are rarely completely pure, with a number of untargeted factor exposures usually present at different times.

III. Size and Scope of the Market

How aggressively these unwanted factors are hedged out, if at all, varied considerably among the providers. Some of the respondents achieved market neutrality by shorting single stocks, while others simply used an index short. Both approaches have advantages and disadvantages. Using an index short is relatively cheap and easy to implement but it can result in exposure to unwanted factor exposures that are inherent to the index. Furthermore, using an index short approach ignores the value in using the factor methodology to identify specific underperforming companies, thereby leaving a portion of potential returns on the table. In contrast, the use of single name shorts can help to avoid unwanted factor exposures and provides access to additional sources of return, but borrowing costs can vary and risk management becomes more complicated, including having to deal with the threat of short squeezes.

Even in cases where products apply the exact same strategy and the same methods of shorting and factor neutralisation, there are still numerous opportunities to create a distinct offering. One important consideration is the rebalancing frequency of the strategy, which can vary considerably between different providers. Meetings with the survey participants highlighted the fact that many of the investment banks are either considering, or have already implemented a change from monthly rebalancing to daily rebalancing. Furthermore, with increased asset growth, many of the providers have become increasingly conscious about market impact and have begun to transition from end of day trading to intraday trading.

The above discussion only touches on some of the main differences in implementation, but this is itself a huge topic and others include the asset universe selected, risk targets, risk management methodologies, liquidity controls and portfolio optimisation techniques. Beyond these choices is the higher level philosophical choice relating to the use of discretion in active risk management and indeed discretion in modifying and removing underperforming strategy components. It is clear from all of the above that the design parameters for factor strategies vary considerably between different providers as they seek to simultaneously meet the needs of different investor types and also distinguish themselves from their peers. Despite the extremely broad range of product offerings and implementations in the market, there at least appears to be a number of near-universal prerequisites for factor construction, whereby factors must be economically intuitive, robust and persistent. Beyond this, everything else is subjective.

EXAMPLE OF DECISIONS TO BE MADE IN EQUITY STRATEGIES:

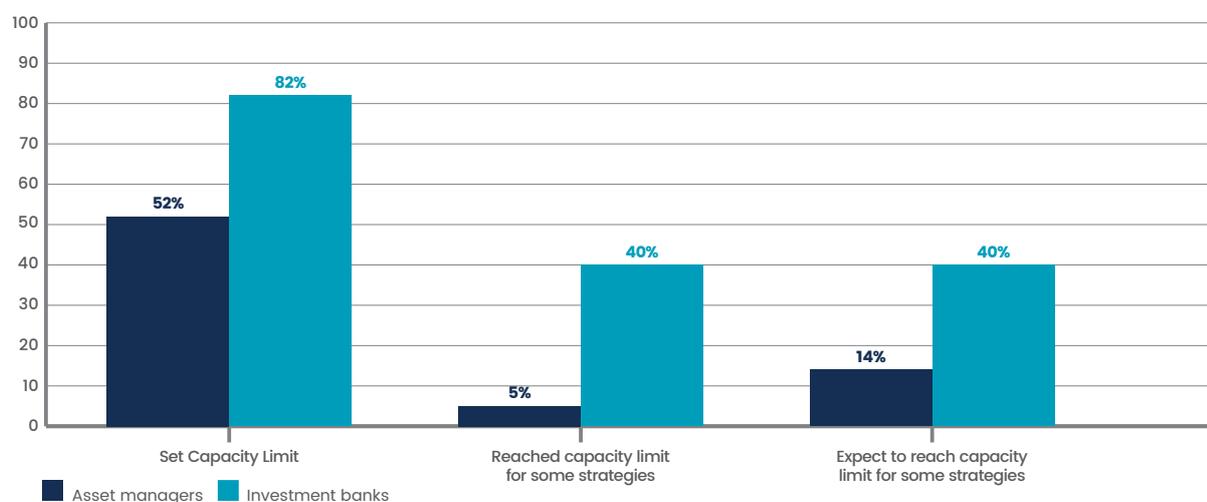
- Factor selection
 - Factor input selection – e.g. different measures of value
 - Factor input weighting
 - Conditioning of factors
- Factor timing
- Undesired factor hedging/neutralisation
- Long only, long short, market neutral
- Implementation of shorts – index short or single name shorts
- Investment universe selection
 - Geographic weightings and neutrality
 - Sector weightings and neutrality
 - Market cap weightings and neutrality
- Portfolio level turnover/holding period
 - Factor level turnover/holding period
 - Rebalancing frequency
- Risk target
 - Static or dynamic market beta
 - Volatility target and how tightly controlled
- Risk management
 - Portfolio risk target
 - Notional exposure or risk limits for:
 - *Position sizes,*
 - *Sector exposures,*
 - *Market cap exposures,*
 - *Regional exposures,*
 - *Factor exposures*
 - Drawdown controls
 - Liquidity controls
- Market impact mitigation
- Data sources and data frequency used
- Level of discretion used
- Static or evolving strategy (innovation verses style drift)

III. Size and Scope of the Market

Capacity

The issue of strategy capacity is an interesting one, as it goes to the heart of one of the key attractions of factor investing – the potentially great scalability of the strategies. Capacity is also central to the question of what is the economic rationale and driver of a strategy. Arguably, strategies with a strong risk-based explanation are less prone to performance decay than those that rely on transient market imbalances and may thus be expected to be arbitrated away over time.

CHART 2: CAPACITY LIMITS



There is quite a striking contrast in the responses from the two groups of participants. The asset managers are split 50/50 on whether they set any capacity limits on their strategies, and only one respondent has closed a product for further investment due to reaching capacity. Furthermore, only 14% of the managers expect capacity to become an issue in the future. For the investment banks, 82% of respondents do set capacity limits, 40% have already reached the limit on some of their strategies, and 40% expect to do so in the future.

Where capacity limits are set, our understanding is that the typical levels are also quite different between asset managers and banks. For the former, the limits range from 2-3 to 30 billion dollars, averaging around 10 billion. For the banks, the range goes from a few hundred million up to several billion, but is on average significantly lower than for the asset managers.

We see three major explanations for the difference in the approaches. First, the investment banks' product ranges often include tactical, trading-oriented, or "market-structural" strategies which are naturally capacity constrained. Second, we point again to the inherent lack of adaptability of investment bank strategies. Whereas an asset manager will be able to adjust the parameters, universe of investments, and execution methodology of a strategy should capacity constraints emerge, banks don't act in a fiduciary capacity and hence have no such freedom. They may, therefore, be more likely to limit capacity at the outset. Third, many of the investment banks we met during the survey expressed a major concern regarding the possibility of front-running of systematic strategies, especially in situations where a strategy has significant assets and its rules are known to some market participants. Non-fiduciary market participants such as banks do not have the latitude to actively risk manage their strategies or alter their trading methodologies in response to front running by another market participant, even if they did detect such activity. As such, the banks seek to ensure that they leave only a light market footprint and one not easily exploited by predatory traders.

III. Size and Scope of the Market

Comparing asset managers and investment banks

Asset managers and investment banks are both competitors and collaborators in the factor investment space. The two groups often service different investor types with differing requirements and objectives. The two also have somewhat different utility functions and provide strategy exposure via different distribution routes, with each business model having its own benefits and disadvantages.

TEAM STRUCTURE – Unlike asset management firms, most investment banks were initially impeded by the fact that they operated their systematic strategy businesses via a siloed approach, with strategy research and trading performed within separate asset classes, and sometimes coordinated through a central client solutions team. While this approach did benefit from the expertise of asset class specialists across different departments it was clearly sub-optimal, with disconnected research efforts and competing interests at play. In recent years, as factor investing has grown globally and the banks have recognised its importance, many banks have transitioned to creating a dedicated multi-asset class business function for factor investment strategies.

PRODUCT OFFERINGS – In terms of product offerings, investment banks tend to favour breadth of range, whereas asset managers favour depth. The most common bank business model is to provide investors with access to a hugely diverse range of single factor/single strategy building blocks, spanning all of the major asset classes. Only a minority of the bank respondents stated that they pursued a specialised approach. These building block products aim to offer “pure” exposure to a strategy, often focusing on relatively parsimonious academic factors and avoiding complexity. They are usually constructed as index products, with clearly defined rules that cannot be changed after launch. As such, the strategies do not suffer from any risk of style drift, but they also offer no scope for adaptation in the event of a changing market environment.

This extremely broad menu of strategy components offered by the banks is well suited to investors seeking to select specific strategies that meet their own portfolio’s needs. These products are complemented by a range of more basic market access products and also access to strategies where banks have an edge in implementation such as trading over-the-counter derivatives. With their origins in client solutions provision, the investment bank systematic strategy businesses can easily tailor strategies to the needs of specific investors by launching modified versions of their flagship indices. They can also help investors with the portfolio construction using the strategies as building blocks, on a non-fiduciary basis. Lastly, by providing access to their strategies via swaps, the investment banks can offer investors highly capital efficient products, thereby enabling investors to deploy the strategies in the form of an overlay.

In contrast, most asset managers focus on developing fully integrated strategies by constructing multi-factor/multi-strategy products that are predominantly distributed via commingled vehicles. These standalone products tend to offer greater diversification and free the investor from the burdens of handling the underlying portfolio construction, risk management and in some cases, any potential factor timing. Inevitably this is at the cost of reduced flexibility, but some asset managers have the capacity to offer their larger clients fund-of-one structures, or managed accounts and this gives them the ability to provide more tailored solutions. The result is that many investors with the internal resources and expertise to construct and manage multi-factor portfolios (such as funds of funds) may favour the strategy building blocks offered by the investment banks. In contrast, investors seeking a more diversified approach, or those who feel that such strategies benefit from active risk management and strategy evolution will no doubt favour asset managers.

III. Size and Scope of the Market

Some banks have faced criticism for the sheer number of products that they offer and for the high attrition rates associated with these product ranges. This has raised concerns about the ability of investors to assess their strategy performance in light of potential survivorship and selection biases. While some of this criticism may be valid, there are also a number of reasonable justifications for the high number of products on offer and the rate at which they are created and decommissioned. For example, banks will offer separate equity market factors for each regional market and often hedged into numerous different currencies or rebalanced at different frequencies. This results in a very large number of possible product permutations and much of this product creation is at the request of the investor, which means that a large number of these products are discontinued when the investor no longer has need for the exposure.

Nonetheless, investors should be aware that the high number of bank products on offer and their high attrition rate, does leave considerable room for banks to eliminate poorly performing strategies and only market the surviving strategies to clients. As for asset managers, launching new commingled fund vehicles is more expensive than structuring a swap on a new index permutation, so there is less room for asset managers to rotate their sales focus to their best performing products whilst ignoring or discontinuing underperforming products.

STRATEGY INNOVATION VERSUS STYLE DRIFT – The difference in the fiduciary status of banks and asset managers is probably the largest distinguishing feature determining the nature of the products that they offer. By having fiduciary power, asset managers have the flexibility to offer investors strategies that can evolve over the course of time, benefiting from innovations derived from ongoing research and adapting strategies to a changing market environment by incorporating new insights as they are discovered. In contrast, the rigid approach demanded by investment bank index products prohibits changes to the strategy implementation post-launch, such that within any particular product, consistency inevitably takes precedence over adaptability or enhancement. Despite this, it is important to stress that investment banks do also innovate, but their strategy innovation occurs across successive product releases rather than within an ongoing product. For this reason, banks tend to offer products that remain consistent with their originally stated strategy, with any new research insights having to wait until the launch of a new index product. This approach may well suit investors who seek the power to accept or reject all strategic changes, but asset manager products may prove more attractive for investors seeking products that incorporate all of the latest insights, or for those who would rather avoid frequently switching between vehicles. Ultimately the decision between these two philosophies comes down to whether the investor has a preference for consistency or innovation within an individual investment product.

COMPLEXITY VERSUS PARSIMONY – Asset manager products tend to be more complex than bank products for the simple reason that beyond a certain point, complexity hits a “fiduciary wall”. The more complex a product becomes, the more ongoing maintenance it will require to remain optimal and any form of ongoing maintenance requires fiduciary control. Banks are faced with a considerable challenge when setting all of the index rules associated with a strategy prior to its launch, knowing that there is no option for altering the strategy at a later date. For a single factor strategy in a single asset class, this problem is not entirely insurmountable, but extending this problem to multi-factor, multi-asset class strategies results in systems with high numbers of degrees of freedom, and highly complex interactions, which are ill-suited to a fire and forget approach to development.

Additionally, asset manager products often deploy relatively complex portfolio construction and optimisation techniques. This level of complexity is difficult to replicate in a bank index product, which must have clearly explainable performance. Lack of fiduciary control is in fact one of the primary reasons why banks pursue a breadth of range (as opposed to depth of strategy) business model.

III. Size and Scope of the Market

ACTIVE RISK MANAGEMENT - Systematic strategies are implemented using specific data sets are therefore by construction susceptible to exogenous risks. In this context, an exogenous risk would be any risk that does not present itself in the data sets used. As it is currently impossible to predict natural disasters, geopolitical shocks or terrorist attacks, there is little room to prepare a systematic strategy for such events in advance. For this reason, many assets managers tend to protect their systematic strategies using a combination of systematic risk management and importantly, discretionary oversight. This discretionary element of risk management can either be reactive in nature, by responding to unknown risk events after the fact, or proactive in nature, by cutting risk in advance of a known event.

A good recent example of the latter is that of the Brexit vote in the UK in June 2016. With knowledge of this exogenous information, an asset manager with fiduciary power could intervene in the system to cut risk, or even temporarily remove the strategies exposed to high risk markets (such as sterling) from the portfolio. In contrast, an investment bank index product with no associated fiduciary power would be left to its own fate, with the bank prohibited from interfering with the rules of the index no matter how obvious the approaching risk. This situation may be acceptable for an investor using bank products as portfolio building blocks, as such an investor could themselves act by cutting the risk allocated to the offending component. However, investors exposed to a commingled multi-strategy, multi-asset class bank product would not have the control to remove or de-risk any particular markets within that product and they would instead be faced with the decision of whether to cut exposure to the entire product (a classic example of throwing the baby out with the bathwater), or maintain the complete exposure despite the impending risk event.

SOURCES OF REVENUE - Asset managers' primary source of remuneration is via their headline fees, which is usually management fee focussed. Some charge an additional performance fee, with this practice more common among alternative beta strategy providers.

Investment banks most commonly offer exposure to their factor strategies via a swap linked to the performance of an index, and they charge for exposure to these products via a number of different routes. Some charge via an all-in strategy fee, similar in structure to the management fee charged by asset managers. The banks tend not to charge performance fees, due to practical issues relating to accounting and methods of revenue recognition. The all-in strategy fee structure includes all transaction costs, so the strategy is calculated based on mid-market prices or exchange closing prices. However, the majority of the investment bank respondents separated their headline fees and transactions costs. The transaction costs themselves are calculated in different ways, with some providers using fixed fees and others using "prevailing market spreads". Fixed fee transaction costs tend to be higher, to compensate the bank for assuming additional risk during illiquid market environments, when transaction spreads would normally widen.

Transaction costs represent an important source of revenue for the majority of investment bank products and there exists a wide variation in the magnitude of these charges, with some products embedding all of their fees into their transaction costs. In any case, any assessment of investment bank provided strategies requires careful consideration of these costs. Beyond headline fees and revenue generated via transaction costs, other sources of revenue for investment bank products can include swap fees and financing charges. Lastly, in order to hedge the provision of the swap return stream, banks may hold some of the underlying assets. These assets may be used to generate additional sources of return for the bank through activities such as securities lending and dividend enhancement.

III. Size and Scope of the Market

The primary criticism of the bank model is that charging investors via spreads is less transparent than charging headline fees and that it results in a poorer alignment of interest with investors. Banks will argue that they typically have access to lower execution costs, so even after charging an additional spread, they remain competitive. They also offer guaranteed execution rates, which can be advantageous in the event of declining market liquidity and ultimately they need to be competitive to maintain market share.

It should be noted that some asset managers with pre-existing products will already have competitive brokerage costs in place, especially if they have either high assets under management, or trade leveraged or higher frequency strategies, as their high trade volume will provide them with considerable negotiating power around trading costs.

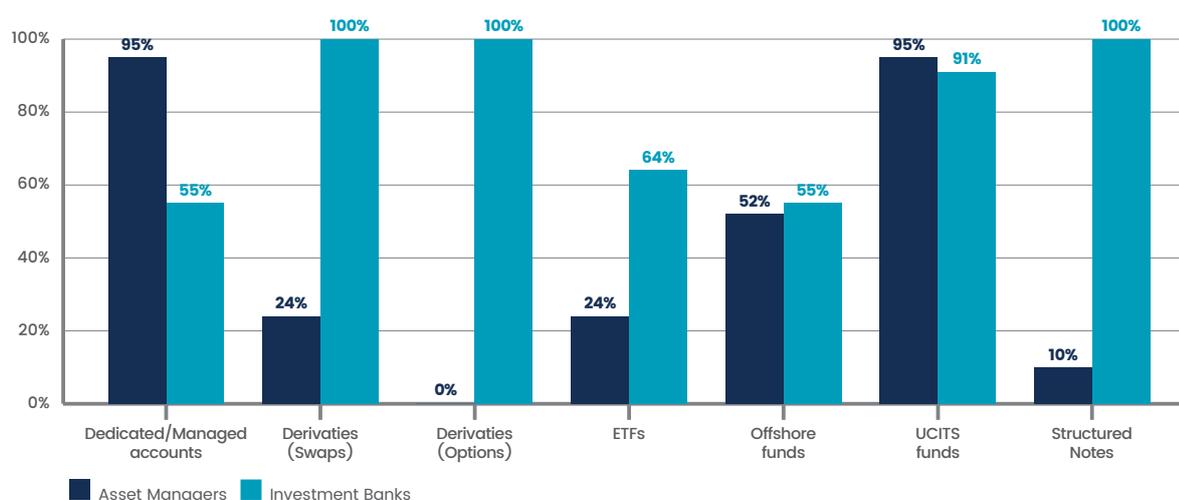
TRANSPARENCY – Transparency comes in different forms, such as transparency relating to the strategy, transparency on costs and positional/risk exposure transparency. By virtue of offering clearly defined and relatively strategically pure index-based products, investment bank strategies tend to benefit from considerably greater transparency than their asset manager peers. It should be noted however that the full technical specification of some index products is long enough to fill a book and this raises the question of what use the investor can make of the information. Some investors go as far as completely reconstructing the strategy in order to assess parameter sensitivities among other aspects, but for most having full strategy transparency is less useful than obtaining qualitative transparency on its underlying drivers and rationale. Positional transparency varies among the banks and asset managers with some providing full daily positional transparency and others providing less granular data. Lastly, it could be argued that asset manager fees are more transparent than investment bank charges that are imbedded into spreads and structuring costs, but there is little doubt that the rigid rules based approach of investment banks lends itself to greater strategic transparency than the more gradually evolving strategies of the asset managers.

IV. Investment Terms and Governance

Format

The selection of investment formats is another key differentiator between the asset managers and the investment banks. As shown in chart 3 below, asset managers predominantly offer their strategies in an onshore / offshore fund format, dedicated account or via an ETF. Over half of the banks have the ability to wrap their strategies into funds, but all of them offer derivatives or structured notes.

CHART 3: INVESTMENT FORMATS OFFERED



The chart illustrates the proportion of asset managers and investment banks, respectively, offering a particular investment format.

As further illustrated in table 4A, derivatives, followed by structured notes, are the most popular means for investors to access bank strategies. Funds and ETFs are used selectively for flagship strategies that aim to raise significant AuM from investors unable to use derivatives or structured notes. This contrasts with the asset managers, who see UCITS funds and managed accounts as the most popular investment formats.

**4A: POPULARITY OF INVESTMENT FORMATS:
ASSET MANAGERS**

	MOST POPULAR	AVERAGE	LEAST POPULAR
UCITS funds	81%	19%	0%
Dedicated accounts / Managed Accounts	80%	20%	0%
Offshore funds	50%	50%	0%
ETFs	8%	54%	38%
Derivatives (Swaps)	0%	80%	20%
Structured Notes	0%	67%	33%
Derivatives (Options)	0%	25%	75%

We asked the survey participants to rank the investment formats from 1 to 7, with 1 = most popular. The results are summarized in the table as 1-2 = Most popular, 3-5 = Average, 6-7 = Least popular.

IV. Investment Terms and Governance

4B: POPULARITY OF INVESTMENT FORMATS: INVESTMENT BANKS			
	MOST POPULAR	AVERAGE	LEAST POPULAR
Derivatives (Swaps)	91%	9%	0%
Structured Notes	55%	36%	9%
UCITS funds	27%	55%	18%
Derivatives (Options)	18%	82%	0%
ETFs	10%	60%	30%
Dedicated accounts / Managed Accounts	0%	50%	50%
Offshore funds	0%	33%	67%

We asked the survey participants to rank the investment formats from 1 to 7, with 1 = most popular. The results are summarized in the table as 1-2 = Most popular, 3-5 = Average, 6-7 = Least popular.

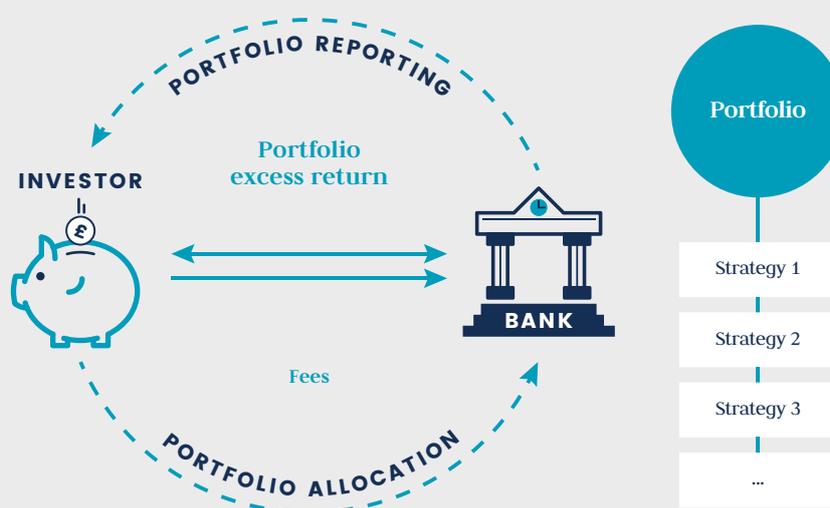
There has been little change in the relative popularity of the investment formats since our 2014 survey. We noted at the time, with some surprise, the relatively low ranking of ETFs in both the managers' and the banks' popularity assessment. The new results confirm the observations we made at the time, that whilst ETFs are an important tool for distributing long-only smart beta strategies to retail investors (and, conversely, smart beta is the fastest-growing segment of ETFs), many institutional investors generally prefer other types of investment vehicles.

IV. Investment Terms and Governance

Accessing Bank Strategies

While some investment bank strategies are available in a fund format (typically, as ETFs or Exchanges Traded Notes (“ETNs”)), our research shows that **swaps** are by far the most popular vehicle for accessing them.

In the most common format, the investor and the bank enter into a swap agreement where the bank commits to paying the positive performance of the underlying investment, and the investor compensates the bank for any negative performance. In addition, the swap may include additional fees paid by the investor. The actual payments are calculated based on an agreed **notional amount**, and are typically defined as the **excess return** of the strategy index over a risk-free interest rate.



The underlying investment of the swap may be an index representing the performance of a single strategy, or, as often is the case, the swap is linked to a **portfolio** of strategies chosen by the investor. The portfolio weights may be set as static at the inception, or they may follow a systematic rebalancing rule. Very commonly the investor has the ability to make periodic changes to the portfolio weights, and add or remove strategies from the portfolio.

The investor has full **transparency** to the components of the portfolio, and many investment banks offer full asset-level transparency to the individual investments within each of the indices comprising the portfolio.

Swaps on factor strategies are typically **unfunded derivatives**, that is, only payments reflecting the positive and negative performance of the strategy are made between the investor and the bank. The notional amount of the swap serves as a point of reference only, which contrasts with an investment into a fund or managed account, where the investor needs to commit and pay capital into the fund vehicle. The unfunded swap structure may offer investors additional flexibility in terms of portfolio management, and it allows the use of systematic strategies as an **overlay** on a portfolio of traditional assets.

The **flexibility, transparency and speed of execution** of swaps are often considered the key advantages of the investment bank business model in factor strategies.

IV. Investment Terms and Governance

Fees

This section explores the magnitude and structure of fees charged across the products surveyed.

As previously stated in this report, smart beta and alternative beta products can be seen as liquid systematic replacement strategies for long-only strategies and hedge fund strategies respectively. In terms of sophistication, smart beta generally sits somewhere between traditional passive index products and active long only products. These strategies aim to offer improved risk-adjusted returns compared to passive indices, or replicate the factor exposures exhibited by active stock pickers. Consequently, the fees associated with smart beta products are, on average, higher than traditional passive index products and lower than active manager products.

Even within the smart beta section of the market, fees vary considerably due to the fact that different products are constructed with differing degrees of sophistication. The simplest are the basic market access products, followed by the most parsimonious implementations of academic factors and finally onto the more advanced proprietary factor implementations, which often include considerable emphasis on portfolio construction and risk management. Despite this, price is not necessarily a good indicator of quality, and appropriate due diligence is also warranted in the domain of factor investing.

Of the asset manager smart beta products surveyed, management fees ranged from 15bps to 125bps, with an average of 77bps, and only a small handful of these products charged performance fees. The cheapest products tended to be developed market fixed income vehicles with low volatility targets and the most expensive products provided factor exposure to emerging markets equities and often included a degree of portfolio optimisation. While asset manager remuneration was nearly always derived solely from their headline management fees, it is important to note that the strategies will also incur transaction costs that should be considered when comparing the overall cost to their investment bank peers. However, in contrast to the investment banks, asset managers are highly motivated to keep these costs as low as possible, as they do not earn an income from them, so such costs only serve to reduce strategy performance, and with it, any potential performance fee income.

Transaction costs associated with trading any given market can vary considerably from manager to manager, based on their negotiating power with their brokers, which in turn will be largely dependent on the total firm-wide volume of trading that they perform with the brokers. For this reason, asset managers with significant assets under management, or those that also trade higher turnover strategies (such as quant equity hedge funds), will be able to negotiate the most competitive rates. With most asset managers distributing their products via fund structures, it is important to also consider the additional costs associated with the set up and maintenance of the vehicles, which can be material in some cases. Again, asset managers' interests are aligned with their investors in wanting to keep administrator costs, audit fees and custodian charges as low as possible, but fund structures can in some circumstances contain other more questionable charges that can form an additional source of revenue for the asset manager, so performing a comprehensive investment documentation review is essential.

**5A: RANGE OF FEES FOR LONG-ONLY AND LONG-SHORT STRATEGIES:
ASSET MANAGERS**

	MANAGEMENT/STRATEGY FEES					PERFORMANCE FEES	
	LOW	AVERAGE OF LOWS	AVERAGE	AVERAGE OF HIGHS	HIGH	LOW	HIGH
LONG-ONLY	0.11%	0.30%	0.47%	0.63%	1.50%	0.00%	20.00%
LONG-SHORT	0.35%	0.64%	0.76%	1.05%	1.50%	0.00%	20.00%

We asked the survey participants to indicate the range of fees they charge for long-only and long-short strategies, respectively. The table shows the lowest and highest fees, as well as the average of the lows and the highs, and the overall average.

IV. Investment Terms and Governance

As mentioned elsewhere in this report, investment banks may be remunerated via a broader range of mechanisms, including headline strategy fees, the spreads charged for trade execution within the strategy, as well as strategy access costs e.g. at the swap level. This can complicate the assessment of the overall costs of bank products as it becomes necessary to estimate the impact of trading spreads. Banks argue that investors can definitively see what spreads they are paying with their products, which is information that is not usually available for investors in asset manager products.

Of the investment bank smart beta products surveyed, strategy fees varied from 0bps (on products where the bank was remunerated via some of the other avenues outlined above) to 150bps. The average bank smart beta product fees range from 15bps to 86bps.

5B: RANGE OF FEES FOR LONG-ONLY AND LONG-SHORT STRATEGIES: INVESTMENT BANKS

	LOW	AVERAGE OF LOWS	AVERAGE	AVERAGE OF HIGHS	HIGH
LONG-ONLY	0.00%	0.15%	0.51%	0.86%	1.50%
LONG-SHORT	0.00%	0.23%	0.65%	1.00%	1.50%

We asked the survey participants to indicate the range of fees they charge for long-only and long-short strategies, respectively. The table shows the lowest and highest fees, as well as the average of the lows and the highs, and the overall average. The highest reported fee for a long-short product was 7.50%, which we excluded as an outlier.

Within the alternative beta product range, asset managers charged management fees that varied from 40bps to 150bps and only one in every five products charged a performance fee. The average management fee was 77bps, which was considerably lower than typical hedge fund management fees, and was only 30bps higher than the average fee for the smart beta products. Smart beta products generally have considerably lower fees than alternative beta products, but this information should be considered within the context of the magnitude of the factor exposures that are provided by each product. When an investor invests in an equity smart beta product, by far the largest factor exposure that they receive is simply the normal equity market risk factor. Whatever other factor(s) the strategy is designed to capture will be small in comparison. A similar strategy operating in the alternative beta space will typically have neutralised the market factor and leveraged up exposure to the factor(s) actively being targeted. Thus, while the fees associated with alternative beta product may be higher in absolute terms, the price per unit of factor exposure could be considerably lower. This leaves open an opportunity for an investor seeking a factor tilt strategy to buy an alternative beta strategy as an overlay for their pre-existing long equity market exposure.

The cheapest headline fees were associated with multi-premia offerings that utilised external investment bank provided factors in a fund of funds format. The management fees were particularly low on these vehicles, but this is because they also contained another layer of fees paid to the underlying strategy providers. We found the lowest management fees in alternative beta products developed by traditional long-only asset managers. Hedge fund firms' products were typically more expensive, but also tended to favour using more proprietary factors and factor inputs in addition to leveraging their expertise in portfolio optimisation and risk management.

For investment bank products, alternative beta strategy fees ranged between 0bps (again, for products where charges were embedded into transaction costs) and 150bps⁷, with an average of 65 bps. The average starting rate management fee was 23bps, while the average of the upper end of charges was 106bps.

Compared to our 2014 survey, average fees for asset manager products have remained essentially constant. There has been a reduction at the highest end of the range, which has moved down from 2.00% (long-short) to 1.50%. For the investment banks, excluding the outlier, we report a 10-15 basis point reduction in the average fees across the strategies.

⁷ The highest reported strategy fee was 7.50% for one strategy, which we chose to treat as an outlier.

IV. Investment Terms and Governance

It is important to consider all of the charges within the context of the nature of the strategy provided, its sophistication, and the amount of risk exposure that it provides per unit cost. Some of these products target very low volatility and this is extremely relevant when dealing with capital efficient investments, as the amount of risk targeted is very much at the discretion of the product provider. For this reason, in most cases it can be more useful to consider the fees and costs within the context of the volatility exposure provided. However, it should be noted this approach must be treated with caution when dealing with strongly hedged strategies that are heavily reliant on correlation relationships, as a breakdown in the underlying correlation structure can result in a leptokurtic return distribution. One must also be cautious about demanding higher volatility targets when dealing with left-tailed strategies, which is what most alternative risk premia strategies are by definition.

Furthermore, while lower fees are generally a good thing, the lack of performance fees associated with many of the products in the alternative beta space may be problematic in terms of alignment of interest. A modest performance fee can help to motivate positive innovation to generate better sources of return, while avoiding motivating excessive risk taking. In contrast, the absence of performance fees can result in providers becoming more focussed on developing strategies constructed for the purposes of asset gathering, rather than return generation, or simply providing very little risk exposure per unit of management fee. Obviously performance fees are far less appropriate for long-only factor-tilt products, and where they do exist, in our view, they should only be charged on excess performance above an appropriate benchmark and on a risk adjusted basis.

Transparency, Strategy Governance and Index Calculation

Investment bank strategies are, by definition, non-discretionary and rules-based⁸. All but one of the banks surveyed indicated that they will disclose the full strategy rules to both prospective and actual investors in the strategies. There is, however, notable sensitivity at the banks around the risk of strategy front-running, and as such some of the providers would not disseminate strategy rules externally, but only allow an investor to inspect a hard copy at the provider's offices as part of a due diligence process. This is particularly the case for the more tactical, and more capacity-constrained strategies.

Our discussions with the investment bank participants revealed a major emphasis on the development of appropriate governance structures around the systematic strategy business lines over the past few years. There is a growing body of research casting light on the shortcomings of quantitative investment strategies, and institutional asset owners are increasingly scrutinising any new strategies less based on their hypothetical past performance, and more on the economic rationale behind a strategy's returns and the method of its implementation. Consequently, several of the banks have introduced variations of a strategy development oversight process, including a critical evaluation of the drivers of a strategy, persistence of performance, assessment of feasibility of implementation, market impact, capacity, documentation, and client reporting process. The governance structures employ internal stakeholders from different parts of the business, and often include external advisors, including members of academia.

In a clear sign of the attempt to strengthen the governance around systematic strategies, six out of the eleven respondents use exclusively independent calculation agents to value their strategy indices (for comparison, in 2014, only one bank did so). Two of the banks do all the calculations in-house, and the rest use an external calculation agent for some of their strategies. Arguably, the use of an external calculator is not a panacea, and there is a question of how independent their valuations can be especially in less liquid OTC markets. However, we would expect investor scrutiny combined with recent regulatory attention on financial benchmark calculations to continue to drive the industry towards external service providers.

The questions around rules transparency and index calculation don't apply directly to the asset management community, as managed funds don't operate in a financial index framework and the fiduciary capacity of the manager allows discretion around the methodologies in strategy and portfolio construction, management and execution. Similarly, the valuation of funds or dedicated accounts is typically done by a third-party administrator independent of the investment manager.

⁸ To be precise, the strategies are non-discretionary once the final methodology, investment algorithm and rules have been set. Strictly speaking, no investment strategy is purely non-discretionary as even market capitalisation-weighted indices have rules that have been designed using discretion and judgment.

IV. Investment Terms and Governance

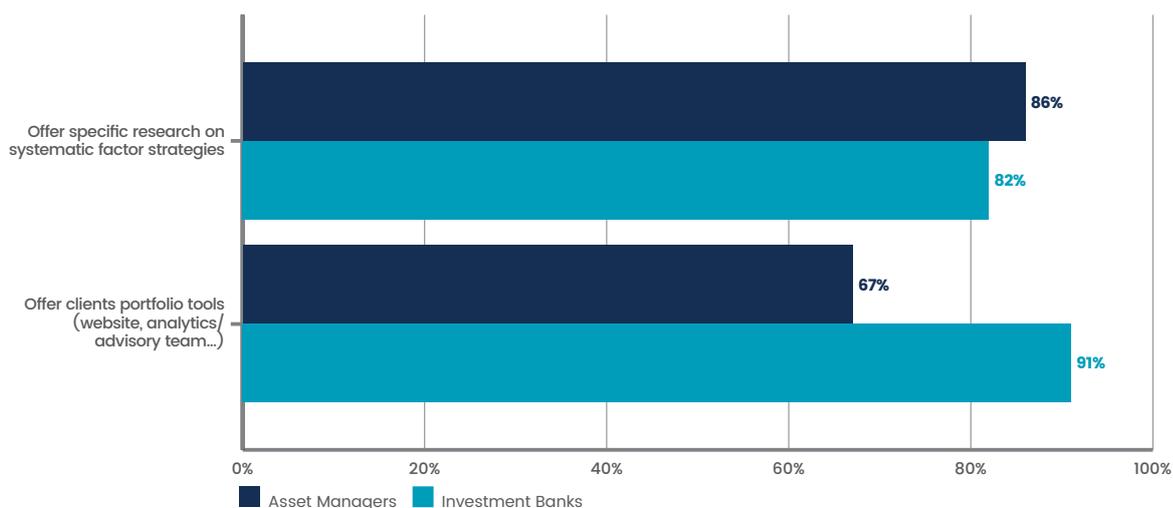
Additional Services

Factor strategies have their roots in academic research, and the identification and development of new investment strategies is often backed up by extensive quantitative analysis and research. Similarly, investors in the strategies often undertake detailed studies of their existing portfolios and the possible benefits and drawbacks that the strategies may bring.

Asset managers and investment banks have consequently deployed significant resources to the research functions around systematic strategies, and make the research content available to investors. 86% of the asset managers and 82% of the investment banks surveyed produce such research. In comparison to our previous study, the proportion of banks offering the service has stayed constant, whereas there has been a notable increase on the asset management side (from 69% to 86%). The introduction of MiFID II-rules on investment research may have an impact on some of the research products currently available to investors.

Both groups of providers have also boosted their capabilities in offering portfolio tools and analytics to investors, either through a dedicated solutions team, and / or a digital portal. 67% of the asset managers and 91% of the banks make these solutions available to their clients, compared to 31% and 67% in our previous survey.

CHART 4: ADDITIONAL SERVICES OFFERED



V. Investor Types, Sources of Assets and Investor Attitudes

The final section of the survey investigated how systematic factor strategies are positioned in relation to investors. We started off by mapping the importance of various investor types.

Mapping the demand for factor strategies

As shown in table 6A, the three most important investor groups for the asset managers were pension funds, insurance companies and high-net-worth/private-banks/wealth-managers, with the latter group increasing in importance since 2014 to make it into the top three, while most other investor groups declined in importance.

6A: IMPORTANCE OF INVESTOR TYPES AS SOURCE OF ASSETS: ASSET MANAGERS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Pension Funds	95%	0%	5%
Insurance Companies	80%	15%	5%
HNW investors / private banks / private wealth managers	76%	19%	5%
Sovereign Wealth Funds	71%	10%	19%
Endowments and foundations	65%	15%	20%
Corporates	55%	25%	20%
Asset managers (traditional or Fund of Funds) creating new funds investing primarily in systematic strategies	40%	30%	30%
Traditional asset managers (as part of a discretionary portfolio)	40%	25%	35%
Funds of hedge funds (as part of a discretionary portfolio)	35%	30%	35%
Retail investors / distributors	33%	33%	33%
Hedge funds (as part of a discretionary portfolio)	5%	5%	89%

V. Investor Types, Sources of Assets and Investor Attitudes

There was a similar trend with the investment bank providers, with pension funds and insurance companies again being in the top three investor groups. These were joined by asset managers themselves as the second most important investor group for the banks. This is not dissimilar to the results seen from the last survey in 2014, with all three of these top groups then listed in the top four. The biggest change has been the decline in the importance of sovereign wealth funds, which were previously the third most important investor group with 75% of bank respondents indicating their significance. In the current survey, sovereign wealth has declined to seventh place, with only slightly more than a third of the investment banks seeing them as an important investor group in the space and just as many seeing them as unimportant. Endowments and corporates also saw a decline in importance since the 2014 survey.

6B: IMPORTANCE OF INVESTOR TYPES AS SOURCE OF ASSETS: INVESTMENT BANKS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Pension Funds	91%	0%	9%
Asset managers (traditional or Fund of Funds) creating new funds investing primarily in systematic strategies	73%	18%	9%
Insurance Companies	64%	18%	18%
Traditional asset managers (as part of a discretionary portfolio)	55%	27%	18%
Retail investors / distributors	55%	18%	27%
HNW investors / private banks / private wealth managers	45%	45%	9%
Sovereign Wealth Funds	36%	27%	36%
Endowments and foundations	27%	27%	45%
Funds of hedge funds (as part of a discretionary portfolio)	27%	27%	45%
Hedge funds (as part of a discretionary portfolio)	9%	36%	55%
Corporates	9%	27%	64%

V. Investor Types, Sources of Assets and Investor Attitudes

Providers' perspective on benefits and considerations

Factor strategies offer investors numerous potential benefits. We therefore asked the providers to indicate what they perceived to be the main benefits of the strategies.

The asset managers' responses highlighted the importance of low fees, transparency and portfolio diversification as benefits. Interestingly, the importance of liquidity as a benefit has declined in importance since the last survey. This may be related to the fact that as the industry has evolved, many asset manager providers have seen the value in incorporating less liquid assets, either for the purposes of capturing illiquidity premia directly, or for the purposes of portfolio diversification. It is also possible that liquidity is less of a concern in today's markets than in the years following the financial crisis, which witnessed severe asset price dislocations due to disappearing market and funding liquidity.

7A: IMPORTANCE OF PERCEIVED BENEFITS FOR INSTITUTIONAL INVESTORS: ASSET MANAGERS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Low fees compared to active management	100%	0%	0%
Transparency	100%	0%	0%
Portfolio diversification	95%	5%	0%
Consistency with factor / style-based investment philosophy	81%	14%	5%
Access to new sources of returns / premia	81%	10%	10%
Liquidity	76%	19%	5%
Purity of the strategy / lack of style drift	67%	29%	5%
Ability to create liquid absolute return portfolios	62%	14%	24%
Outsourcing of strategy implementation – economies of scale / lower transaction costs	57%	19%	24%
Attractive historical returns	52%	33%	14%
Outsourcing of strategy implementation – operational ease	48%	19%	33%
Capital efficiency / unfunded strategies	33%	29%	38%
Lack of discretionary management / human intervention	29%	33%	38%
Lack of 'headline' or blow-up risk (cf. Hedge funds)	19%	48%	33%

V. Investor Types, Sources of Assets and Investor Attitudes

The investment banks also saw the importance of low fees and portfolio diversification but they additionally cited “outsourcing of strategy implementation” and “liquidity” as more important selling points when compared to the asset managers. Of these, “low fees compared to active management” had increased the most in importance since the 2014 survey, no doubt in part due to the increased amount of negative press associated with hedge fund fees over the course of the last few years. In contrast, “access to new sources of returns” declined in importance, which is probably due to investors becoming more accustomed to smart beta and alternative beta products during the intervening years.

7B: IMPORTANCE OF PERCEIVED BENEFITS FOR INSTITUTIONAL INVESTORS: INVESTMENT BANKS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Liquidity	100%	0%	0%
Low fees compared to active management	100%	0%	0%
Outsourcing of strategy implementation – economies of scale / lower transaction costs	100%	0%	0%
Outsourcing of strategy implementation – operational ease	100%	0%	0%
Portfolio diversification	100%	0%	0%
Access to new sources of returns / premia	91%	9%	0%
Attractive historical returns	82%	18%	0%
Transparency	82%	18%	0%
Ability to create liquid absolute return portfolios	82%	9%	9%
Consistency with factor / style-based investment philosophy	64%	27%	9%
Purity of the strategy / lack of style drift	64%	27%	9%
Lack of discretionary management / human intervention	55%	36%	9%
Capital efficiency / unfunded strategies	45%	36%	18%
Lack of ‘headline’ or blow-up risk (cf. Hedge funds)	36%	18%	45%

Interestingly, both groups of respondents viewed “a lack of blow up risk” as the least compelling selling point for these strategies, with the asset managers seeming more bearish on the subject than the investment banks.

V. Investor Types, Sources of Assets and Investor Attitudes

We then asked the providers about the main considerations that a potential investor in factor strategies should focus on during the due diligence process. The asset manager respondents considered “correlation with rest of investment portfolio” as the top priority, followed by “investment rationale”, “risk monitoring”, “sustainability of performance” and “strategy construction”. They considered liquidity risk as a less important topic compared to during the last survey and in a similar manner to the banks, they de-emphasised the importance of focussing on performance track records. Interestingly, capacity remained a low importance due diligence consideration for both groups.

8A: IMPORTANCE OF INVESTMENT CONSIDERATIONS: ASSET MANAGERS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Correlation with rest of investment portfolio	100%	0%	0%
Investment rationale of the strategy	95%	5%	0%
Sustainability of performance	95%	5%	0%
Strategy construction methodology	95%	0%	5%
Strategy risk monitoring and management	95%	0%	5%
Operational implementation of the strategy	90%	10%	0%
“Hidden” factor exposures or tail risks inherent in strategy	86%	14%	0%
Transaction costs / cost of implementation: bid-offer spreads within strategy	86%	14%	0%
Strategy fees	81%	14%	5%
Transparency of strategy rules	76%	19%	5%
Governance around strategy calculations	76%	14%	10%
Transaction costs / cost of implementation: frequency of dealing within strategy	71%	29%	0%
Reporting provided	71%	24%	5%
Risk of large drawdowns	71%	24%	5%
Transaction costs / cost of implementation: leverage within strategy	67%	29%	5%
Liquidity risk	67%	24%	10%
Live performance record	67%	24%	10%
Length of live track record	57%	38%	5%
Volatility	57%	33%	10%
Capacity	52%	38%	10%
Historical performance (backtested + live)	38%	48%	14%
Counterparty risk	29%	52%	19%

All of the investment bank respondents cited the “investment rationale”, “transaction costs (bid-offer spreads)” and “correlation with rest of investment portfolio” as the three most important considerations. The banks were more concerned about the topics of fees and transaction costs compared to the asset managers. The responses were broadly consistent with the previous survey results with the exceptions that for the banks, the assessment of performance track records was of diminished importance and they now saw increased importance in assessing the costs embedded in the bid-offer spreads. The former may be because the prevalence of overly optimised back-tests has diminished investor confidence in the analysis of track records, with the latter likely due to the increased scrutiny on how a few basis points of additional daily bid-offer spread can amount to a considerable cost over the course of an entire year.

V. Investor Types, Sources of Assets and Investor Attitudes

8B: IMPORTANCE OF INVESTMENT CONSIDERATIONS: INVESTMENT BANKS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Correlation with rest of investment portfolio	100%	0%	0%
Investment rationale of the strategy	100%	0%	0%
Transaction costs / cost of implementation: bid-offer spreads within strategy	100%	0%	0%
“Hidden” factor exposures or tail risks inherent in strategy	91%	9%	0%
Risk of large drawdowns	91%	9%	0%
Strategy fees	91%	9%	0%
Strategy construction methodology	91%	9%	0%
Transparency of strategy rules	91%	9%	0%
Sustainability of performance	82%	18%	0%
Transaction costs / cost of implementation: frequency of dealing within strategy	82%	18%	0%
Length of live track record	73%	27%	0%
Live performance record	73%	27%	0%
Volatility	73%	27%	0%
Transaction costs / cost of implementation: leverage within strategy	73%	18%	9%
Historical performance (backtested + live)	64%	36%	0%
Strategy risk monitoring and management	64%	36%	0%
Governance around strategy calculations	64%	27%	9%
Liquidity risk	64%	27%	9%
Reporting provided	64%	27%	9%
Operational implementation of the strategy	55%	36%	9%
Capacity	27%	64%	9%
Counterparty risk	9%	64%	27%

V. Investor Types, Sources of Assets and Investor Attitudes

We then looked at the perceived impediments to investing in factor strategies, for both prospective and existing investors in the strategies. Regarding investors who are currently not allocating to factor strategies, the asset managers ranked strategy crowding as the greatest concern, whereas investment bank respondents identified concerns about the robustness / sustainability of the strategy, limited live track record and the lack of investor education as the main impediments to investing. Fees, transparency and capacity concerns were generally seen as less relevant.

As the industry has matured it is natural that the impediments of being a “new investment style” and having a “limited track record” have gradually diminished somewhat for both groups of providers since the last survey was performed. While diminished, these concerns have remained some of the primary impediments for growth among the asset manager respondents. Responses from the banks suggested that concerns relating to the robustness of factor strategies have also lingered.

9A: IMPEDIMENTS TO INVESTING (PROSPECTIVE INVESTORS): ASSET MANAGERS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Concern over strategies getting crowded	81%	10%	10%
New investment style – lack of investor education / awareness of opportunities	71%	29%	0%
Limited live track record of the strategies	71%	24%	5%
Conservatism of trustees or other governance bodies	67%	24%	10%
Difficulty to navigate the universe of strategies / too many offerings	62%	29%	10%
Investor suspicion over robustness / sustainability of strategy returns and premia	62%	29%	10%
Difficulty of choosing and monitoring a strategy due to lack of benchmarks	62%	14%	24%
Aversion of investment consultants / advisors towards quantitative strategies	52%	29%	19%
Difficulty of / lack of framework for strategy allocation over time	52%	29%	19%
Too many strategies marketed as ‘product push’ without understanding of investor objectives	52%	24%	24%
Aversion of investors towards quantitative strategies	48%	48%	5%
Bad experience with previous alternative investments	48%	24%	29%
Lack of substantial seed / anchor investors for new strategies – insufficient AuM	43%	29%	29%
Investor concern over lack of human intervention / oversight	33%	48%	19%
Concern over hidden factor exposures or tail risks in the strategies	33%	43%	24%
Lack of fiduciary or ‘key man’ responsible for the strategy	29%	38%	33%
Rigidity of investment process and governance in client organizations	29%	38%	33%
Lack of transparency on strategy rules	29%	33%	38%
Lack of allocation into risk assets / de-risking of portfolios by investors	24%	43%	33%
Capacity of strategy too limited	24%	33%	43%
Perceived conflicts of interest in strategy creation, implementation and calculation	24%	24%	52%
Perceived high transaction costs	19%	52%	29%
Difficulties in risk monitoring and management	19%	48%	33%
Quantitative strategies do not fit into investor’s asset allocation framework	19%	48%	33%
Quantitative strategies do not fit into investor’s due diligence framework	14%	43%	43%
High perceived fees relative to value add	14%	10%	76%
Opacity of fees	10%	19%	71%
Regulatory restrictions or concerns	0%	38%	62%

V. Investor Types, Sources of Assets and Investor Attitudes

9B: IMPEDIMENTS TO INVESTING (PROSPECTIVE INVESTORS): INVESTMENT BANKS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Investor suspicion over robustness / sustainability of strategy returns and premia	73%	27%	0%
Difficulty to navigate the universe of strategies / too many offerings	73%	18%	9%
Concern over strategies getting crowded	64%	36%	0%
Difficulty of choosing and monitoring a strategy due to lack of benchmarks	64%	27%	9%
Rigidity of investment process and governance in client organizations	64%	27%	9%
New investment style – lack of investor education / awareness of opportunities	64%	18%	18%
Quantitative strategies do not fit into investor’s asset allocation framework	64%	9%	27%
Limited live track record of the strategies	60%	40%	0%
Aversion of investment consultants / advisors towards strategies created by investment banks	55%	36%	9%
Bad experience with previous alternative investments	55%	36%	9%
Conservatism of trustees or other governance bodies	55%	36%	9%
Quantitative strategies do not fit into investor’s due diligence framework	55%	36%	9%
Aversion of investment consultants / advisors towards quantitative strategies	55%	27%	18%
Too many strategies marketed as ‘product push’ without understanding of investor objectives	55%	27%	18%
Aversion of investors towards strategies created by investment banks	55%	9%	36%
Lack of fiduciary or ‘key man’ responsible for the strategy	45%	36%	18%
Perceived high transaction costs	45%	36%	18%
Opacity of fees	45%	9%	45%
Investor concern over lack of human intervention / oversight	36%	45%	18%
Difficulty of / lack of framework for strategy allocation over time	36%	36%	27%
Lack of allocation into risk assets / de-risking of portfolios by investors	36%	27%	36%
Regulatory restrictions or concerns	36%	27%	36%
Concern over hidden factor exposures or tail risks in the strategies	27%	55%	18%
Lack of substantial seed / anchor investors for new strategies – insufficient AuM	27%	36%	36%
Aversion of investors towards quantitative strategies	27%	27%	45%
High perceived fees relative to value add	27%	27%	45%
Difficulties in risk monitoring and management	18%	36%	45%
Perceived conflicts of interest in strategy creation, implementation and calculation	9%	36%	55%
Lack of transparency on strategy rules	9%	9%	82%
Capacity of strategy too limited	0%	36%	64%

V. Investor Types, Sources of Assets and Investor Attitudes

One of the dominant themes that emerged, both from the manager interviews and from the survey responses, was the issue that many investors seem bewildered by the range of products currently on offer within the space. This seems to be a problem both in terms of the number of seemingly similar products available and in terms of the different strategies that prospective investors must navigate. The matter has been complicated by inconsistent strategy labelling, wild divergences in strategy implementation and the presence of a very high degree of performance dispersion between different products, even ones with similar sounding strategy names. From an investor perspective, this seemingly chaotic universe of investments is made even harder to navigate due to the absence of any appropriate benchmarks. All of these issues indicate a need for improved strategy classification and investor education.

The other major impediment to growth that was repeatedly discussed with the survey participants was that of crowding within the space. Interestingly, despite this, neither group regarded strategy capacity as a major problem, with regards to attracting investors.

Both groups naturally saw weaker impediments for growth from their existing investors, when compared to prospective investors. Issues such as the rigidity of the investment process along with issues relating to comfort levels around quantitative strategies, were obviously less of a problem for existing investors. Both groups of respondents stated that their existing investors seemed to be more concerned about hidden risk factors when compared with prospective investors. This suggests that as investors get past their initial concerns about quantitative strategies, they begin to redirect their attention to other, more technical aspects of the strategies. The one area when asset managers' existing investors remained as concerned as their prospective investors were, was on the topic of strategy crowding.

V. Investor Types, Sources of Assets and Investor Attitudes

10A: IMPEDIMENTS TO INVESTING (EXISTING INVESTORS): ASSET MANAGERS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Concern over strategies getting crowded	81%	5%	14%
Difficulty to navigate the universe of strategies / too many offerings	52%	24%	24%
Limited live track record of the strategies	48%	33%	19%
Concern over hidden factor exposures or tail risks in the strategies	48%	24%	29%
Conservatism of trustees or other governance bodies	43%	38%	19%
Bad experience with previous systematic strategy investments	38%	48%	14%
Investor suspicion over robustness / sustainability of strategy returns and premia	38%	29%	33%
Bad experience with previous alternative investments	33%	33%	33%
Aversion of investment consultants / advisors towards quantitative strategies	33%	24%	43%
New investment style – lack of investor education / awareness of opportunities	33%	24%	43%
Difficulty of choosing and monitoring a strategy due to lack of benchmarks	33%	19%	48%
Difficulty of / lack of framework for strategy allocation over time	29%	57%	14%
Difficulties in risk monitoring and management	29%	33%	38%
Capacity of strategy too limited	24%	43%	33%
Lack of substantial seed / anchor investors for new strategies – insufficient AuM	24%	43%	33%
Rigidity of investment process and governance in client organizations	24%	43%	33%
Lack of allocation into risk assets / de-risking of portfolios by investors	24%	33%	43%
Too many strategies marketed as ‘product push’ without understanding of investor objectives	24%	29%	48%
Investor concern over lack of human intervention / oversight	19%	33%	48%
Aversion of investors towards quantitative strategies	19%	19%	62%
Lack of transparency on strategy rules	14%	38%	48%
High perceived fees relative to value add	14%	33%	52%
Lack of fiduciary or ‘key man’ responsible for the strategy	14%	33%	52%
Perceived high transaction costs	10%	43%	48%
Regulatory restrictions or concerns	10%	19%	71%
Opacity of fees	10%	10%	81%
Perceived conflicts of interest in strategy creation, implementation and calculation	5%	24%	71%
Quantitative strategies do not fit into investor’s asset allocation framework	0%	29%	71%
Quantitative strategies do not fit into investor’s due diligence framework	0%	29%	71%

V. Investor Types, Sources of Assets and Investor Attitudes

10B: IMPEDIMENTS TO INVESTING (EXISTING INVESTORS): INVESTMENT BANKS	IMPORTANT	NEUTRAL	NOT IMPORTANT
Lack of allocation into risk assets / de-risking of portfolios by investors	50%	40%	10%
Limited live track record of the strategies	50%	40%	10%
Concern over strategies getting crowded	45%	27%	27%
Concern over hidden factor exposures or tail risks in the strategies	45%	18%	36%
Difficulty to navigate the universe of strategies / too many offerings	45%	18%	36%
Investor suspicion over robustness / sustainability of strategy returns and premia	40%	30%	30%
Opacity of fees	40%	20%	40%
Too many strategies marketed as 'product push' without understanding of investor objectives	40%	20%	40%
High perceived fees relative to value add	40%	0%	60%
Difficulty of choosing and monitoring a strategy due to lack of benchmarks	36%	55%	9%
Bad experience with previous systematic strategy investments	36%	45%	18%
New investment style – lack of investor education / awareness of opportunities	30%	60%	10%
Regulatory restrictions or concerns	30%	20%	50%
Investor concern over lack of human intervention / oversight	30%	10%	60%
Bad experience with previous alternative investments	27%	36%	36%
Aversion of investment consultants / advisors towards quantitative strategies	27%	27%	45%
Difficulties in risk monitoring and management	27%	27%	45%
Aversion of investment consultants / advisors towards strategies created by investment banks	27%	18%	55%
Perceived high transaction costs	20%	40%	40%
Quantitative strategies do not fit into investor's asset allocation framework	20%	40%	40%
Lack of fiduciary or 'key man' responsible for the strategy	20%	30%	50%
Lack of substantial seed / anchor investors for new strategies – insufficient AuM	20%	30%	50%
Quantitative strategies do not fit into investor's due diligence framework	20%	10%	70%
Capacity of strategy too limited	18%	36%	45%
Difficulty of / lack of framework for strategy allocation over time	10%	40%	50%
Rigidity of investment process and governance in client organizations	10%	30%	60%
Perceived conflicts of interest in strategy creation, implementation and calculation	10%	10%	80%
Conservatism of trustees or other governance bodies	9%	64%	27%
Aversion of investors towards quantitative strategies	9%	27%	64%
Lack of transparency on strategy rules	0%	20%	80%

V. Investor Types, Sources of Assets and Investor Attitudes

Investment trends

We then explored the anticipated investment trends over the next 12 to 18 months by asking the providers firstly whether they expected additional institutional investment over the course of the next 12-18 months and if so, which strategies they expected to be the most successful in raising new assets in the next 12 to 18 months (table 11). In response to the question of whether the providers expected industry growth to occur, 100% of the banks surveyed stated that they did expect assets to grow. All but one of the asset managers agreed with this prediction, with the one exception declining to comment.

Since the last survey, there has been a considerable shift in the strategies that are expected to see the highest investor inflows. Back in 2014, both the asset managers and the investment banks were expecting equity strategies, volatility strategies and fixed income strategies to see the greatest inflows, but the current survey suggests that it is multi-strategy products that will now be the most in demand. Both non-discretionary and discretionary multi-strategy portfolios were in the top three lists for expected inflows, for both groups of respondents. Investment banks continued to see volatility strategies as an important area of growth, but asset managers were less convinced. In contrast, the participants were consistent in their pessimism for the growth of FX, Commodity, Rates and Credit strategies over the next 12-18 months.

11A: MOST POPULAR STRATEGIES IN NEXT 12-18 MONTHS: ASSET MANAGERS			
	IMPORTANT	NEUTRAL	NOT IMPORTANT
Non-discretionary multi-strategy portfolios	79%	14%	7%
Equity strategies	56%	22%	22%
Discretionary multi-strategy portfolios	50%	10%	40%
Strategies incorporating ESG (Environmental, Social and Corporate Governance) criteria	46%	23%	31%
Volatility strategies	38%	23%	38%
Credit Strategies	18%	36%	45%
Rates Strategies	13%	13%	75%
Commodity strategies	0%	20%	80%
FX strategies	0%	0%	100%

11B: MOST POPULAR STRATEGIES IN NEXT 12-18 MONTHS: INVESTMENT BANKS			
	IMPORTANT	NEUTRAL	NOT IMPORTANT
Non-discretionary multi-strategy portfolios	100%	0%	0%
Discretionary multi-strategy portfolios	60%	20%	20%
Volatility strategies	60%	20%	20%
Equity strategies	56%	33%	11%
Strategies incorporating ESG (Environmental, Social and Corporate Governance) criteria	33%	0%	67%
Rates Strategies	20%	0%	80%
Commodity strategies	0%	33%	67%
FX strategies	0%	33%	67%
Credit Strategies	0%	25%	75%

V. Investor Types, Sources of Assets and Investor Attitudes

Factor strategies positioning

One of the identified challenges of investing in factor strategies is the positioning of these strategies within a broader investment portfolio. Looking at the issue another way, we asked the survey participants where they expected the funding for new investments to be derived from. Interestingly, investors replacing their hedge fund allocations were seen as the most important source of funding by the asset managers, and the second most important source by the banks, despite being viewed by the latter as the second least important source during the previous survey in 2014. This again suggests that alternative beta products are expected to continue to gain market share from embattled hedge funds, which continue to be perceived by investors as expensive. Both groups viewed cash holdings as the least important source of new capital, with most investment expected to derive from the replacement of existing investments.

12A: SOURCE OF NEW ASSETS: ASSET MANAGERS			
	IMPORTANT	NEUTRAL	NOT IMPORTANT
Alternative investments (hedge funds) allocation	84%	0%	16%
Discretionary managed alternative investments allocation within an asset class	70%	30%	0%
Low-risk assets – Increase in overall risk allocation	56%	28%	17%
Discretionary managed traditional (long-only) investments allocation within an asset class	47%	32%	21%
Portfolio overlay	47%	26%	26%
Cash holdings	37%	21%	42%

Table 12B shows that for the investment banks, allocations relating to portfolio overlays were expected to be the most important source of new inflows, while in contrast, asset managers did not view them as a critical source of inflows.

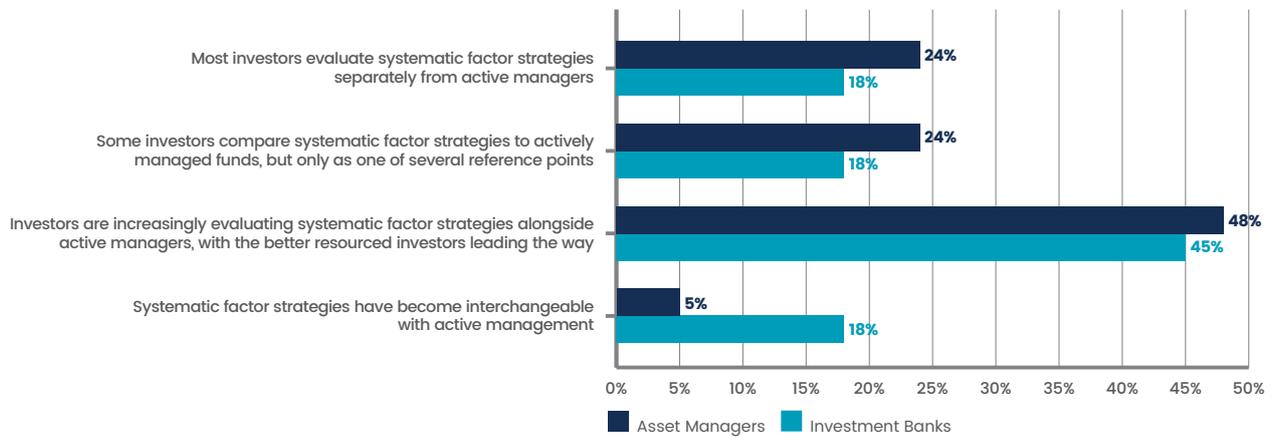
12B: SOURCE OF NEW ASSETS: INVESTMENT BANKS			
	IMPORTANT	NEUTRAL	NOT IMPORTANT
Portfolio overlay	73%	27%	0%
Discretionary managed alternative investments allocation within an asset class	64%	18%	18%
Alternative investments (hedge funds) allocation	60%	30%	10%
Discretionary managed traditional (long-only) investments allocation within an asset class	40%	30%	30%
Low-risk assets – Increase in overall risk allocation	33%	11%	56%
Cash holdings	20%	30%	50%

V. Investor Types, Sources of Assets and Investor Attitudes

Factor strategies and active management

Lastly, the respondents were asked about their views on how investors evaluate factor strategies in relation to actively managed investments. The most popular response among both groups of providers was that investors increasingly evaluate factor strategies alongside active managers. The largest area of disagreement between asset managers and investment banks related to whether factor strategies had become interchangeable with active management. On this topic, 18% of the banks believed that the two were now interchangeable, while only 5% of the asset managers agreed. This is most likely simply due to the fact that many of the asset managers also manage active “alpha” products, and they are therefore highly motivated to keep these separate from the relatively cheap factor products in the minds of investors.

CHART 5: SYSTEMATIC STRATEGIES AND ACTIVE MANAGEMENT



VI. Conclusions

The results of this survey have evidenced the rapid growth of the factor strategy market. The long-only smart beta segment has developed further over the recent years, but alongside it there is a strong upward trend of long/short alternative beta products developed by both the asset managers and the investment banks. Our survey participants expect fairly strong future growth in multi-strategy products, partially driven by investors' desire to replace hedge fund investments with lower-cost alternatives.

Multi-strategy offerings – whether in managed or non-discretionary format – may well be the tool that takes the alternative beta market into the mainstream of institutional investment, both in terms of assets, and the number of investors. The investment banking business model, based on individual factor “building blocks” offered via capital-efficient swap structures, has been embraced by a number of large and well-resourced asset owners in Northern Europe and the U.S. over the past decade. However, it remains beyond the reach of many institutions lacking either the scale, staff, infrastructure, or governance framework to self-direct investments into systematic strategies. This is where commingled products offering access to diverse factor portfolios may well be an attractive solution in the future.

This survey has highlighted some of the differences in the philosophical and technical approaches taken by the asset managers and the investment banks, respectively. One of the many interesting aspects of our discussions with the survey participants was the improving mutual recognition of the core competences between the two groups of strategy providers, which to us suggests that there is much further scope for industry collaboration and solutions combining the “best of both worlds”.

Hence, we are optimistic and the outlook for systematic strategies appears to be positive, although the market has clearly become more complex and intricate, a trend which may continue for some time requiring more specialised investment expertise and good quality data to be accessed effectively. Nonetheless, in order not to become overly complacent in our optimism, we conclude (below) with a summary of highlights from our closing question in the survey interviews – “what are your key concerns regarding the industry as a whole?” We agree with the observations, and share the call for continuing investor education, and improvements in factor strategy governance and transparency.

VI. Conclusions

Causes for Concern?

In our meetings with the participants we asked an open question about their biggest concerns regarding the future of the systematic factor strategy industry. The following issues were most frequently mentioned:

PERFORMANCE AND INVESTOR EXPECTATIONS

Systematic factor strategies are marketed as diversifying investments to traditional asset classes and benchmarks. However, the industry is still relatively young, and investors don't have the benefit of long live track records when evaluating the strategies. Many of the respondents (both the asset managers and the investment banks) saw strategy performance over the coming years as crucial to the long-term success of the sector. The impression was that investors would expect diversification and good performance relative to traditional benchmarks, but implicitly there is also an expectation of positive absolute near-term performance, especially from those investors who are new to the sector and under closer scrutiny from their governance bodies as far as their forays into factor strategies are concerned.

A related topic is the embedded traditional beta exposure of the strategies, especially at times of market stress ("crash beta"). Several of the asset managers highlighted the tail risks of short volatility strategies as a particular concern. Exposure to volatility strategies was one of the more divisive points for the asset managers in the survey.

CROWDING, FRONT-RUNNING AND FACTOR TIMING

Crowding of strategies was mentioned as a concern by a number of the asset managers. Generally, it wasn't seen as an immediate worry, but something that needs to be closely monitored. Low beta / Low vol strategies were mentioned as one example where we may have seen the first signs of crowding. The counter-argument raised by some of the participants who didn't see crowding as a concern was the diversity of approaches to strategy implementation, which manifests itself in the performance dispersion of strategies within the same headline style, equity Value being a good example.

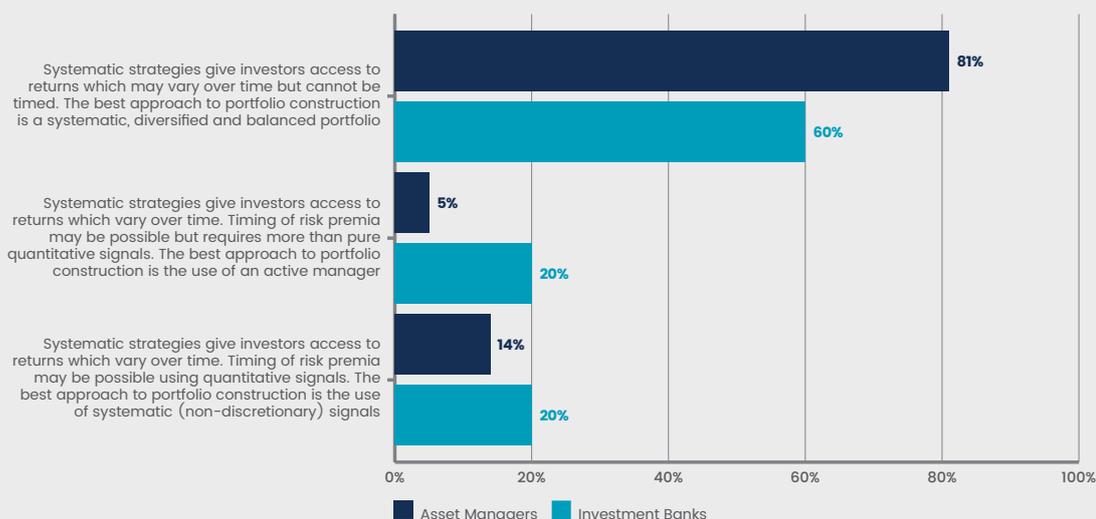
Several of the investment banks raised the risk of front-running of systematic strategies by other market participants as an important consideration. Mitigation of front-running risks may pose a limit on the transparency that investment banks can offer to the wider public, and may justify the setting of capacity limits especially in less liquid strategies.

Timing of alternative risk premia has been a lively topic of discussion among industry practitioners. The survey participants were on the whole cautious on the idea of premia timing (see chart 6 below.) Interestingly, a larger proportion of the asset managers (81%) than investment banks (60%) felt that although alternative risk premia is time-variant, it cannot be timed. 14% of the asset managers and 20% of the banks thought that premia could be timed using purely quantitative techniques. One comment we heard from numerous participants was that whilst predictive timing of the strategies was very difficult, some strategies can be expected to perform better in certain economic regimes than in others, and that this may give some guidance to portfolio construction and management.

Investment banks have been consistent in their greater confidence in the efficacy of timing premia when compared to the asset managers. This could be due to the fact that banks do not have the fiduciary power to discretionarily time the premia in any case, whereas any asset manager claiming that that timing is possible, would be asked to do so by their investors.

VI. Conclusions

CHART 6: ATTITUDES TO TIMING OF PREMIA AND RETURNS



LACK OF BENCHMARKS AND CONSISTENT TERMINOLOGY

Several respondents mentioned the lack of industry benchmarks and consistent terminology as an obstacle to future growth. These questions are linked to the issue of investor expectations, and underscore the importance of robust governance and monitoring structures around investments in factor strategies.

REPUTATIONAL RISK AND REGULATORY CHANGE

Reputational risk to the whole industry – possibly arising from the misconduct or failure of a smaller service provider – was raised as a concern by some respondents. Some of the investment banks also mentioned changing (tightening) regulatory requirements as a possible obstacle to industry growth.



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8 Old Jewry, London EC2R 8DN, United Kingdom | +44 20 7079 1000 | info@allenbridge.com | mjHUDSON.com | allenbridge.com

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