Kenneth G. Tropin
Graham Capital Management

Robert S. Koenigsberger
Gramercy Funds Management

Luke Ellis
Man Group

Andrew McCaffery
Aberdeen Standard Investments

Stuart Roden
Lansdowne Partners

Sir Paul Marshall
Marshall Wace

Sir Michael Hintze
CQS

AIMA

Dr Ray Carroll
Neuberger Berman Breton Hill

Paul Sabourin
Polar Asset Management Partners

Dr Robert C. Merton
Massachusetts Institute of Technology

Dr Jane Buchan
PAAMCO, PAAMCO Prisma Holdings

Dr Campbell Harvey
Duke University, National Bureau of Economic Research, Man Group

Dr Leda Braga
Systematica Investments

Fiona Frick
Unigestion

Seth Fischer
Oasis Capital

P E R S P E C T I V E S

INDUSTRY LEADERS ON THE FUTURE OF THE HEDGE FUND INDUSTRY

J. Kyle Bass
Hayman Capital Management

David C. Haley
HBK Capital Management

Philippe Jordan
Capital Fund Management

Danny Yong
Dymon Asia Capital

Anthony Kaiser
Kaiser Trading Group

Dr Jim Liew
John Hopkins Carey Business School

Dr Lasse H. Pedersen
New York University Stern School of Business, Copenhagen Business School, AQR Global Asset Allocation

Lee S. Ainslie
Maverick Capital

J. Tomilson Hill
Blackstone Alternative Asset Management, Blackstone

Omar Kodmani
EnTrustPermal

AberdeenStandard Investments

Dr Ray Carroll
Chief Investment Officer, Neuberger Berman Breton Hill

Paul Sabourin
Chairman, Chief Investment Officer and Portfolio Manager, Polar Asset Management Partners

Dr Jane Buchan
Managing Director and Chief Executive Officer, PAAMCO; Co-Chief Executive Officer, PAAMCO Prisma Holdings

Dr Robert C. Merton
School of Management Distinguished Professor of Finance, Massachusetts Institute of Technology

Kenneth G. Tropin
Founder and Chairman, Graham Capital Management

Robert S. Koenigsberger
Founder, Chief Investment Officer and Managing Partner, Gramercy Funds Management

Dr Campbell Harvey
Professor of Finance, Fuqua School of Business, Duke University; Research Associate, National Bureau of Economic Research; Investment Strategy Advisor, Man Group

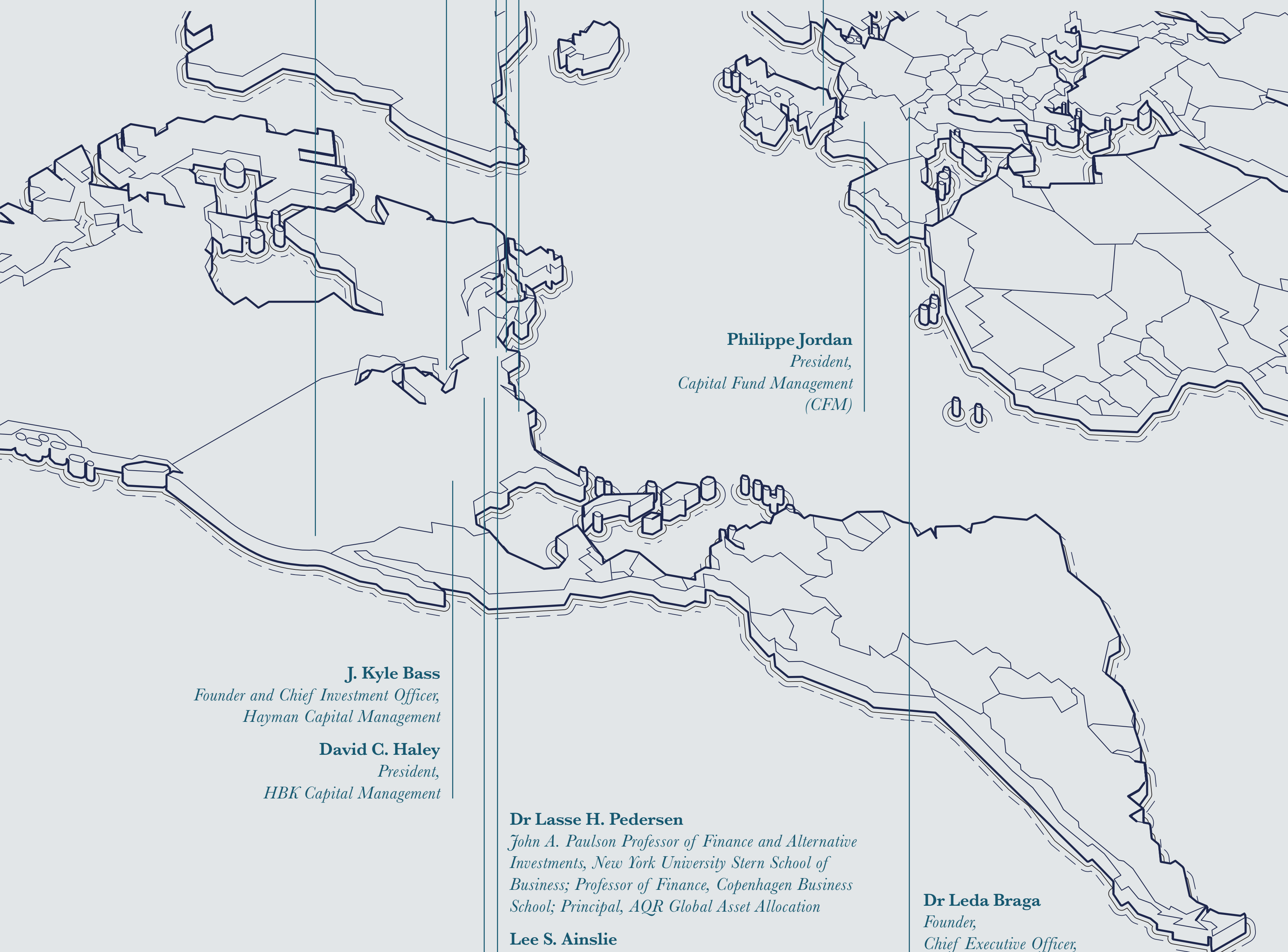
Luke Ellis
Chief Executive Officer, Man Group

Andrew McCaffery
Global Head of Client-Driven and Multi-Manager Solutions, Aberdeen Standard Investments

Stuart Roden
Chairman, Lansdowne Partners

Sir Paul Marshall
Chairman and Chief Investment Officer, Marshall Wace

Sir Michael Hintze
Founder, Chief Executive Officer and Senior Investment Officer, CQS



Philippe Jordan
President, Capital Fund Management (CFM)

J. Kyle Bass
Founder and Chief Investment Officer, Hayman Capital Management

David C. Haley
President, HBK Capital Management

Dr Lasse H. Pedersen
John A. Paulson Professor of Finance and Alternative Investments, New York University Stern School of Business; Professor of Finance, Copenhagen Business School; Principal, AQR Global Asset Allocation

Lee S. Ainslie
Founder, Managing Partner and Chief Executive Officer, Maverick Capital

J. Tomilson Hill
Chairman, Blackstone Alternative Asset Management; Vice Chairman, Blackstone

Omar Kodmani
Senior Executive Officer, EnTrustPermal

Dr Leda Braga
Founder, Chief Executive Officer, Systematica Investments

Fiona Frick
Chief Executive Officer, Unigestion

Dr Jim Liew
Assistant Professor of Finance, John Hopkins Carey Business School

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Seth Fischer
Founder and Chief Investment Officer, Oasis Capital

Danny Yong
Chief Investment Officer and Founding Partner, Dymon Asia Capital

Anthony Kaiser
Founder, Chief Executive Officer and Chief Investment Officer, Kaiser Trading Group

Carol Ward
Chief Operating Officer, Man GLG

Max Budra
Research Associate, The Alternative Investment Management Association

Ermanno Dal Pont
Managing Director, EMEA Head of Capital Solutions, Barclays

Chris Farkas
UK Hedge Fund Leader, Deloitte

Richard Hindley
Head of Marketing, ARG Asset Management

Cédric Kohler
Head of Advisory, Fundana

Dr Robert Kosowski
Associate Professor, Imperial College Business School; Head of Quantitative Research, Unigestion

Dr Anthony Ledford
Chief Scientist, Man AHL

Jennifer Mernagh
Investment Strategist, Aberdeen Standard Investments

Hugh Orange
Chief Financial Officer and Chief Compliance Officer, Lansdowne Partners

Michael Peltz
Global Head of Content, WorldQuant LLC

Axel Pierron
Managing Director, Opimas

Michael Weinberg
Chief Investment Officer, Protégé Partners

And the members of AIMA's Research Committee

FOREWORD

Alfred W. Jones opened the doors of the world's first hedge fund firm almost 70 years ago. He could not have known it at the time, but his innovations would sow the seeds of a new industry that would change the face of investing.

The story of the hedge fund industry since then has been one of continued growth and innovation. Today's hedge fund firms trade in everything from vintage wines to risk factors, using cutting-edge mathematics to manage risks and even to execute trades—the stuff of science fiction in Jones's days.

At the same time, the industry's investors have changed. The benefits of hedge funds are no longer restricted to the few. Pensions, university endowments, and sovereign wealth funds now number amongst the industry's largest investors. The industry is also increasingly open to retail investors, meaning that everyday investors are able to access the same financial innovation and rigorous risk management that was once only available to the wealthiest investors.

Many have questioned what the future holds for the hedge fund industry, given its history of innovation. What kind of products will hedge fund firms offer to their new investor? How will they reconcile profits with social responsibility? Will hedge fund firms even exist in the future, or will they have been replaced by artificial intelligence systems? If they do still exist, and are still staffed with humans rather than machines, how will hedge firms navigate the coming generational change in leadership?

The Alternative Investment Management Association (AIMA) and Aberdeen Standard Investments (ASI) decided to answer those questions. We are delighted to introduce *Perspectives: Industry Leaders on the Future of the Hedge Fund Industry*, our look at the future of the hedge fund industry.

This paper is based on conversations with 25 of the leading figures in the hedge fund industry, from founding principals at hedge fund firms, to senior management at multi-asset managers, to industry academics. Collectively they represent close to 300 years of leadership experience in the hedge fund industry and over $500 billion in assets under management. We would like to thank them again for their participation in this paper, and for sharing their insights with us.

The picture those individuals painted in our conversations was of an industry embracing change while staying true to its primary focus of delivering for investors. They were excited about the challenges they faced and optimistic about their ability to evolve and remain valued partners to their clients. Far from failing to embrace change, hedge fund firms are thriving on it, exploring new ways of protecting and growing the capital of their investors.

This paper is also the result of the dedication of the members of AIMA's Research Committee, who sifted through hundreds of pages of interview transcripts and spent months writing, editing, and rewriting dozens of drafts. We would like to take this opportunity to thank each of them for their efforts.

Andrew McCaffery
Global Head of Client-Driven and Multi-Manager Solutions, Aberdeen Standard Investments (ASI)

Jack Inglis
CEO, The Alternative Investment Management Association (AIMA)

EXECUTIVE SUMMARY

1. A PARADIGM SHIFT

The hedge fund industry is experiencing a significant transformation. In the past customers tended to use unconstrained investors such as hedge funds to achieve alpha, while relying on traditional active and passive fund managers for beta. This industry model is now being replaced by a new range of investment solutions, each tailored to the needs of an increasingly diverse investor universe. Collectively, these new solutions constitute a paradigm shift in the hedge fund landscape.

Central to this shift are 'smart beta' and 'alternative beta.' These products have emerged from years of financial innovation, and offer investors access to the benefits of alternative investments—from diversification to the maximisation of returns—at a much lower cost than has historically been possible. Banks and mainstream fund managers are replicating these hedge fund techniques. However, thanks to their experience pioneering these solutions, hedge funds will be well placed to use them to meet investors' risk and return goals.

2. ENDURING ALPHA, ENDURING VALUE

Despite what some critics have said, alpha is not becoming impossible to produce. Alpha has, and always will be, the rarest form of returns. Purely picking individual securities to gain an edge is increasingly difficult, given the wider availability of once-valuable financial information and the fact that markets are more efficient than in the past decades. Further, recent years have witnessed some investment strategies quickly delivering returns. Consequently, expectations of immediate success from other investment strategies have risen among investors; the majority of investment strategies must now work on compressed time horizons. Some of those strategies simply cannot realise optimum performance in such short timeframes.

Hedge fund firms can still deliver alpha through a combination of skill, knowledge, market timing, and judgement. They will need to compete harder to produce alpha, and evaluate ways of using different investment timeframes to maximise their advantage when doing so. Given the rarity of the skill needed to deliver alpha, investors will continue to pay a premium to those who can deliver it consistently.

3. MAN AND MACHINE LEARNING

Artificial intelligence and other cutting-edge quantitative techniques will soon become crucial to the hedge fund industry. Both systematic and discretionary hedge fund firms will need to use machine learning (a subset of artificial intelligence) in order to process information and make the best investment decisions possible. Artificial intelligence will be particularly important in short-term trading: firms operating in this area will likely need sophisticated artificial intelligence capabilities.

The complexity of financial markets data means that, for the foreseeable future, artificial intelligence will not be able to make accurate long-term financial predictions. As such, it will not usurp the integral role of humans in the investment world. However, hedge fund firms that do not develop artificial intelligence capabilities to aid their human employees may soon find themselves at a competitive disadvantage.

4. INVESTING, RESPONSIBLY

Whilst good governance has always been important to investors, different forms of responsible investment are now increasingly becoming more widely adopted across the hedge fund industry. Today's investors expect their investments to reflect their values and to account for long-term environmental risks; hedge fund firms are responding to investor demand.

While responsible investment can, in some cases, act as a constraint on a manager's ability to generate profits, new technology is allowing hedge fund firms to implement responsible investment at a low cost. Some hedge fund firms are exploring whether the use of responsible investment can deliver outperformance. While not every hedge fund firm will adopt responsible investment in the near future, the confluence of investor demand, improving data, and technological capacity will likely push more managers to offer their investors a greater level of responsible investment opportunities.

EXECUTIVE SUMMARY
(CONTINUED)

5. THE FIRM OF THE FUTURE

The shift towards systematic investing is pushing the hedge fund industry to hire new talent. Many hedge fund firms now hire highly quantitative talent—such as mathematicians, physicists, and computer scientists—instead of the traditional business school graduates. They are also moving beyond the industry's traditional talent pools and hiring from a diverse range of identities and backgrounds. This is pushing hedge fund firms into direct competition with the technology industry for the brightest talent.

In order to get the most out of this talent, and to lure it away from the technology industry, hedge fund firms are changing how they work. In order to succeed in the future, hedge fund firms are encouraging internal collaboration and flattening their internal hierarchies.

Further, many hedge fund principals are now looking to institutionalise their firms and ensure a smooth handover to the next generation of leaders. As such, succession planning is becoming more common in the industry. Selling a portion of the management company ownership to external shareholders is one strategy being used by hedge fund firms to drive growth.

6. PARTNERING WITH INVESTORS

Hedge fund firms will focus on building closer relationships with their investors. As the hedge fund industry evolves and investor demographics become increasingly heterogeneous, multi-managers, with their resources, experience and infrastructure, are well placed to help investors access new opportunities tailored to their needs. There will also be greater development around co-investment options (in which a hedge fund manager invests in opportunities alongside its investors, working exclusively together on high conviction investment strategies), an even greater level of transparency, and true knowledge sharing as managers and investors align their interests more closely.

The hedge fund firms that are most likely to be successful will be those that prioritise how they are perceived by investors and the wider market. Central to such an outcome is the importance of trust, not only between hedge fund firms and their investors, but also between the industry as a whole and the wider public.

7. SUSTAINABLE SUCCESS

Hedge fund firms are being forced to focus more on their business and distribution models, as they face increasing competition both from each other and from traditional asset managers. Hedge fund firms can no longer only focus on their investment products—they must think about how best to run their firms as institutionally-friendly asset management companies. As competition for capital flows intensifies, retail investors are likely to become an increasingly important source of growth for hedge fund firms. This is driving hedge fund firms to rethink their distribution models. Consequently, firms are exploring how to deploy best-in-class digital and mobile technologies to deliver the most cost-competitive solutions possible to their clients. ■

THE HEDGE FUND INDUSTRY IS AT AN INFLECTION POINT

Changing investor expectations are forcing hedge fund firms to rethink the investment solutions that they offer. The pace of technological change and the rise of artificial intelligence is leading some to question whether the hedge fund proposition will even exist in a few years. Responsible investment, meanwhile, is becoming more of a priority for hedge fund firms, as they gradually overcome their reluctance to constrain themselves. All of these changes are in turn forcing hedge fund firms to re-evaluate their own inner workings, from how they service investors through to how they build a business that outlasts its founders. For the purposes of this paper, the term 'hedge fund firm' includes diversified alternative investment management firms that provide investment management services including a variety of fund products, such as pure hedge funds and liquid alternative products.

The paper is based on the views of some of the leading figures in the hedge fund industry, including the leaders of asset management firms and renowned academics from around the world. Each participant shared their unique perspective on the changes facing the industry, and how best to contend with those changes.

Tom Kehoe, CAIA
Global Head of Research, AIMA

OUR CONVERSATIONS WITH THE PAPER'S PARTICIPANTS CENTRED ON THREE KEY QUESTIONS

What must hedge funds do to maintain their value to investors?

How will the hedge fund industry be shaped by external forces of disruption and global megatrends?

How will the structure of hedge fund firms need to change in order for them to remain relevant to the investors and the workforce of the future?

In addressing each of these themes, this paper will examine the major issues facing the hedge fund industry. To begin with we will examine how the products offered by hedge fund firms are changing, and how this change is enabling the industry to cater to increasingly varied investor demands. Next, we will investigate the forces of change most likely to impact on the hedge fund industry over the coming decade: the rise of artificial intelligence and related technologies, and a growing demand for responsible investment options. The final part of this paper will explore how hedge fund firms are reacting to these transformations, changing everything from the services they offer investors to how they staff and structure themselves.

This paper is divided into three main chapters, which are in turn subdivided into two sections each. It is designed so that each chapter, and each section, can be read as a separate paper.

In recent years the hedge fund industry has been criticised over its performance (allegedly below par), its fees (allegedly too high), its size (allegedly too many fund management firms), and its next generation of leaders (allegedly too few in number). Put another way, hedge fund firms have been accused of not keeping up with a changing world.

What we found, however, was an industry embracing change. From the creation of new investment solutions to the implementation of cutting-edge technology to stay ahead of the pack, hedge fund firms are meeting the challenge. In the coming years, hedge fund firms will continue to refine not just what they deliver to their investors, but how they deliver it.

1

DELIVERING FOR INVESTORS

The past years have brought significant changes to the hedge fund industry. What was once a boutique industry serving high-net-worth individuals now serves some of the world's largest investors. The products offered by hedge fund firms are changing to meet the needs of this wider and more diverse investor universe. The alpha-beta returns dichotomy of yesteryear is being replaced with a new range of investment solutions tailored to the needs of a wider range of investors.

DEFINITIONS

Smart beta

Also referred to as strategic beta or market beta. A transparent and rule-based long-only style of investing that seeks to improve returns, reduce risks, and enhance diversification by delivering exposure to systematic investment factors.

Alternative beta

Also referred to as hedge fund beta or alternative risk premia or risk premia. Rule-based (long/short) strategies designed to provide access to the portion of hedge fund returns attributable to the systematic risk (beta) versus idiosyncratic returns derived from taking long and/or short positions.

A NEW WORLD ORDER

KEY TAKEAWAYS

Investors increasingly have differing expectations of their hedge fund allocations, and do not always simply want absolute returns.

New investment products—smart and alternative beta—are gaining in popularity, and changing the traditional industry bifurcation of alpha and beta.

Hedge funds firms must offer a new value proposition in the new world order, and that may be pure alpha, alternative beta or a hybrid of both.

We are experiencing a paradigm shift in the asset management industry. "Returns from active investment strategies have been increasingly disaggregated into three parts: true alpha, alternative beta (which includes strategy premia and risk premia), and market betas (including smart beta)," according to Tom Hill (Chairman, Blackstone Alternative Asset Management; Vice Chairman, Blackstone). Gone are the days of high-net-worth individuals simply tasking hedge fund firms with generating absolute returns. Institutional investors now dominate the hedge fund landscape, and today's mandates vary from investor to investor. These differing investment objectives naturally lead to differences in overall asset allocations, risk-return profiles, time horizons, and liquidity expectations.

Investors are now looking at allocating to hedge fund strategies as a means of complementing their other investments. They increasingly tend to allocate to hedge funds in order to replace some or all of their investments in traditional long-only equity, credit, or fixed income. Those hedge fund allocations can reduce the overall volatility of a portfolio's public markets allocation while also offering more attractive risk/reward profiles. Other hedge fund strategies, meanwhile, offer attractive portfolio diversification qualities through their low correlation to equity and credit markets, which can provide a higher probability of generating higher returns (albeit by taking on higher levels of risk).

THE NEW WORLD OF HEDGE FUND INVESTING

The old two-tier model of investments, comprised of returns attributable to the market (beta) and investment returns based entirely on the skill of the fund manager (alpha), is expanding. While alpha still sits at the pinnacle of the investment product universe, and beta still sits at the opposite end, there now exists a range of products between the two (see Exhibit 1).

Investors increasingly accept that portfolio diversification comes not from investing in different asset classes, but rather from investing in the different risk factors that drive those asset classes. Investors are compensated for being exposed to a range of risks. Those risks include market beta, smart beta, alternative beta and risk premia.

In recent years, the number of factors and their associated betas used by sophisticated investors to calculate risk and alpha have been increasing as several factors, such as interest rate risk, have been identified that carry a risk premium.[1] This has allowed for the creation of new hedge fund products.

Smart and alternative beta products are the products of years of financial innovation driven by hedge funds, which have now perfected the creation and implementation of such products. They are designed to give investors access to the same broad, diversified set of risks normally derived from investing across a universe of hedge fund strategies, but with greater flexibility, and in a more liquid, low-cost format. These strategies exploit a common set of factors—often behavioural return anomalies, such as value, momentum and volatility—but use them to generate entirely different return streams.

Smart beta is a long-only product that is generally designed to provide exposure to equities—and more recently fixed income—while delivering a higher risk-adjusted return than conventional index investing techniques. As such, the performance of these strategies is closely correlated to the performance of equity and fixed income indices, and much of their risk and return is driven by the market. Smart beta is designed to offer aspects of both passive and active investing, by taking a passive investment strategy but modifying it according to one or more factors. In essence, smart beta offers investors the ability to profit from sustained equity upswings while maximising their risk-adjusted return.

Owing to the key distinction of the ability to short securities within the alternatives space, the intermediate category between alpha and beta needs to be distinguished from the 'smart beta' of long-only investing. The way many alternatives firms choose to do this is via the term 'alternative beta,' a class which otherwise shares many of smart beta's characteristics such as having lower cost (compared to alpha) and being accessed in a systematic way.

Omar Kodmani

SEO, EnTrustPermal, on the evolving role that hedge funds play in an investor's portfolio

Most people today look to hedge funds for diversification, i.e., an alternate return stream, with low beta and correlation to traditional investments. In the past, the driver of hedge fund interest was high expected returns and growth of capital.

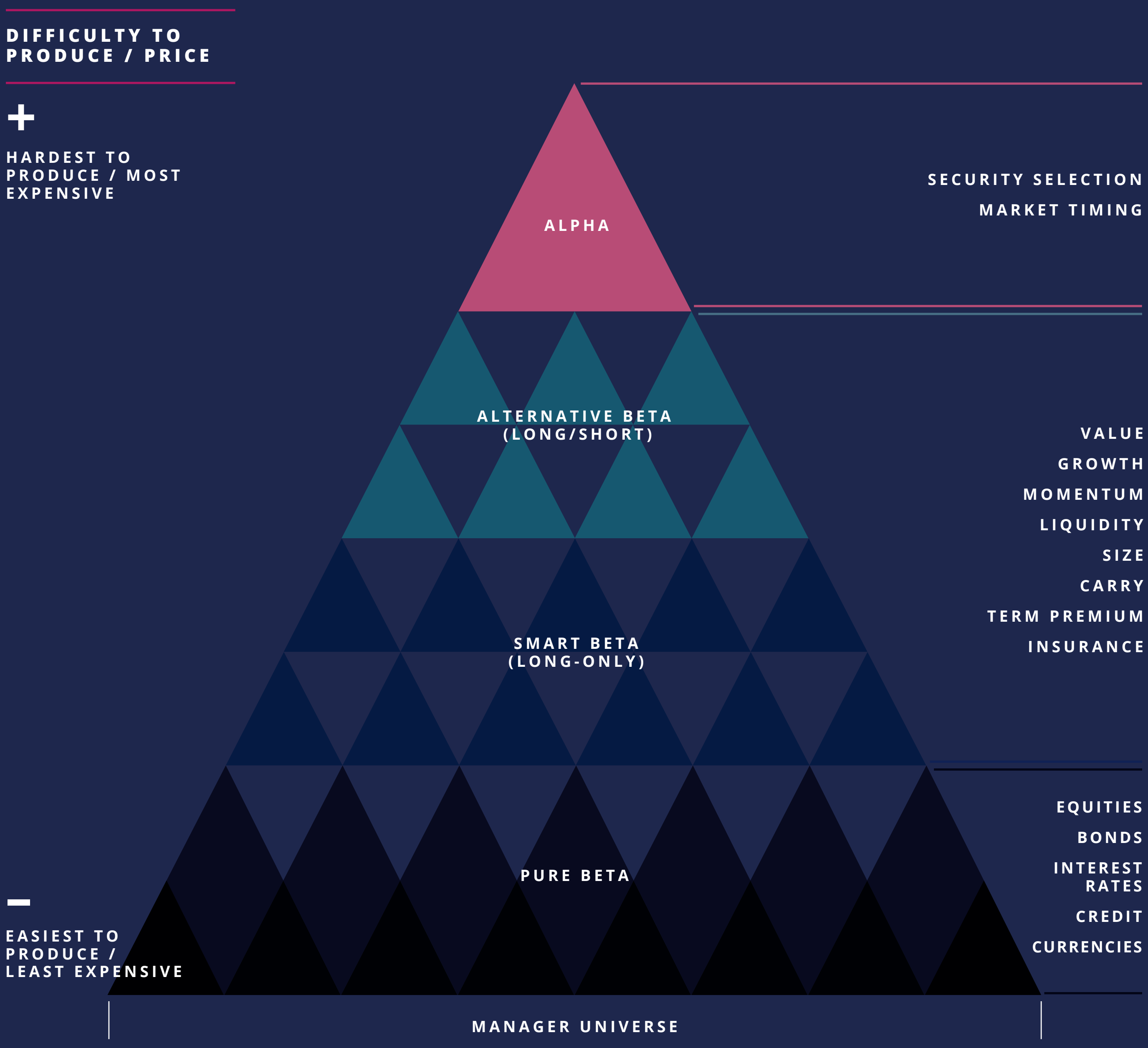
Danny Yong

CIO and Founding Partner, Dymon Asia Capital, on the paradigm shift taking place across the hedge fund universe

The majority of the hedge fund universe in the future will be populated by risk premia, factor investing, and strategy replicators, all of which will be somewhat correlated to assets and other instruments. To access these, you will pay a reduced fee. The remaining, albeit far smaller universe of investment products, will be made up of strategies that can deliver absolute return; where that is delivered, investors will pay higher.

[1] Note the distinction between the concept of the 'risk premium' and the 'factor.' The factor captures the risk that fundamentally explains the risk premium. The equity premium, for example, is justified by the fact that equity investors are exposed to equity market risk as measured by beta. Analogously for bonds, interest rate risk is the factor and the term premium is the associated risk premium.

EXHIBIT 1
THE NEW HEDGE FUND PRODUCT TAXONOMY



Source: AIMA Research
(Note: not to precise scale)

Leda Braga

Founder and CEO, Systematica Investments, on how she sees the future hedge fund taxonomy evolving

A majority of investable assets in the total hedge fund pot will go to some form of risk premium investment strategy or a low-to-average correlation type of investment product, because investors have become increasingly more technical and have caught on to the fact that some investment strategies can be replicated for lower fees.

Going forward, I expect more than half of the hedge fund investable universe will comprise of the top ten largest investment strategies being commoditised into more low-cost investment products—the so-called liquid alternatives. The remainder of the universe will comprise of high-end niche investment strategies that are capacity constrained, and are able to deliver true alpha.

Alternative beta is closely related to smart beta, but uses a multi-factor approach to exhibit almost no correlation to the markets in which it is invested. Alternative beta products offer exposure to a set of factors such as momentum investing, value, or size. Each of these products should have little-to-no market risk exposure, and should offer a way of targeting a specific level of risk independent of overall market risk.[2] Their diversifying properties and low correlation to traditional market betas can be achieved through their ability to go both long and short: a positive expected return uncorrelated with the equity market has historically been achieved by, for instance, going long on value and short on growth stocks. The risk-adjusted returns of alternative beta products should be higher than that of both traditional beta and smart beta.

These relatively new alternative beta solutions have been witnessing very robust demand from larger institutional investors in recent years, as those investors look for above-beta returns that are available on quite a large scale, offer good liquidity, and come at a relatively low cost. The ability of hedge fund firms to respond to such demand has been greatly helped by advances made in technology, which in the case of some strategies are even enabling hedge fund firms to deliver what previously may have been considered to be alpha in more systematic ways, leading to such new products being referred to as more akin to alternative beta. With demand likely to stay strong, and amidst rapid advances in technology, this development has the potential to become a major structural growth source for hedge fund firms in the years ahead.

TIME-VARYING RISK PREMIA

Both smart and alternative beta seek to harness risk premia. As the term risk premia suggests, the returns from these premia are compensation for underlying risks that are understood by market participants. Risk premia can be interpreted as a type of insurance premium, the size of which depends on the relative supply and demand of insurance. Consider, for example, the market for hurricane insurance in Florida as an analogy for the equity market risk premium, the value premium, the liquidity premium or other risk premia in financial markets. Following large hurricanes, the supply of insurance is low relative to demand and insurance premia rise until new insurance supply enters the market and insurance premia fall.

Fiona Frick

CEO, Unigestion, on using time-varying beta to optimally allocate to alternative risk premia

Academics and practitioners have identified several sources of systematic returns that can be elicited from different liquid assets including value, size, momentum and carry in equity, bond, FX and commodity markets. The performance and risk characteristics of alternative risk premia are time-varying and dependent on the prevailing economic regime. To achieve diversification and optimize the risk-adjusted return of alternative risk premia, investors need to actively manage the portfolio by dynamically changing their risk allocations on the basis of different risk factors, which is referred to as a form of time-varying beta.

[2] Although in the aggregate they will equate to the market.

The implication is that the size of the premia attached to risks will change over time, thus presenting the potential opportunity to dynamically allocate to those premia. Manufacturing this type of all-weather return requires an investor to vary a portfolio's risk exposures to risk premia over time based on a model that predicts the performance and risk of those risk premia. If an investment manager correctly forecasts the risk premia, such a conditional approach will generate risk-adjusted returns that are superior to that of a constant beta or unconditional allocation.

These strategies lend themselves more to liquid assets, the transaction costs of which are relatively low, and which can be traded using systematic strategies based on statistical analysis.

SMART BETA VERSUS ALTERNATIVE BETA

Smart and alternative beta products tend to fall into different buckets when investors are building their portfolios. Smart beta products typically form part of the long-only growth portion of a portfolio. Alternative beta products, meanwhile, are often used as portfolio diversifiers due to their unconstrained nature.

Fiona Frick explains the shift in her firm's thinking around these products: "academic research and quantitative modelling conducted over the past decade has challenged the idea that hedge fund returns can be attributed to market beta and alpha, less fees. Rather, the reality is more nuanced, with much of what was previously thought of as alpha proven to be due to the existence of differentiated risk premia which can be captured through liquid investment strategies. Of course, there is still room for true alpha, but this development opens up the possibility of a new way of accessing alternative investment returns."

Crucially, you can "class these strategies, organise them, isolate them, and you can create a portfolio of them and own them," says Philippe Jordan. "If you do it that way instead of allocating money to hedge funds that are invested in negatively skewed propositions in liquid markets where you are paying 1-and-20 or 2-and-20, you can cut fees in half and increase the returns substantially," he says. For investors, an allocation to these new products offers the chance to diversify their investment portfolios and gain better risk-adjusted returns at a lower cost than has historically been possible.

However, Mr Jordan cautions, while the new products are more scalable, "we live in an era of compressed risk premia because of central bank policies, which means that firms have to be very, very careful when they're trying to harvest any risk premia. They have to control their costs in a manner that they did not need to 10, 15, or 20 years ago." If costs are not controlled, Mr Jordan says, the profit delivered by such products will quickly deteriorate. To exacerbate matters, banks are industrialising these products, putting even more pressure on profit margins; the cost and complexity of establishing the necessary infrastructure to create such products acts as a high barrier to entry.

Further, both smart beta and alternative beta products are the domain of a specific type of investment approach: systematic investing. Systematic hedge fund firms typically construct their portfolios around factors, and feed data on those factors into a set of algorithms. Those algorithms start as investment hypotheses, which are tested against historical market data before being put into action. Once built, those algorithms do much of the day-to-day work of the fund, executing trades and signalling which investment decisions should be made. As alternative and smart beta products become more popular so too will the systematic strategies that underwrite them. According to Leda Braga, "this highly disruptive trend, which incorporates an increasing number of systematic investment strategies, appears to be poised to dominate the future hedge fund landscape."

Since the days of the invention of long-short equity, hedge fund firms have created innovative strategies designed to offer superior ways of investing. More than ever, this does not simply mean absolute returns. Hedge fund firms are designing and offering products intended to fulfil the specific needs of different investors, be they the maximisation of risk-adjusted returns, affordable diversification, or the exploitation of equity market upswings.

Despite all these changes, however, hedge funds will continue to offer the product for which they are best known: alpha. ■

Luke Ellis

CEO, Man Group, on building a business to scale, but not necessarily one that produces alpha

Alpha is naturally an artisanal product. It takes creativity and attention to detail. But the large end investors (pensions, sovereign wealth funds, etc.) need it to be created on an industrial scale. If you're selling an artisanal product to people who have artisanal needs, which is what the hedge fund business originally did, you are in a situation of having hedge funds who could generate $20-$50 million of alpha a year, which was being sold to people who only needed a million dollars each. So, you would have thirty investors and a few hundred million dollar hedge funds and that all worked fine.

But, now, if you run a $20 billion pension fund, a million or even ten million dollars of alpha is a waste of time. These funds need alpha, but to have any chance of meeting their objectives they need to buy it on an industrial scale. But I don't think you can make alpha on an industrial scale by pursuing one single thing. That isn't alpha. So you have to bridge the gap by having multiple sources of potential alpha.

PHILIPPE JORDAN

President, CFM, describing the universe of smart and alternative beta

There is a different kind of hedge fund business, where you deliver a slightly different performance experience for the investor. If you invest very large sums of money you're going to have to be invested in strategies that have structural backing, such as long term trend following, or short term risk premia.

These are the dark matter of financial markets. These strategies can absorb hundreds of billions, if not a trillion plus, of dollars. You can harvest these things, but you need to be mindful of the costs associated with doing so, and control those costs in an almost surgical manner. Otherwise, you will deteriorate any Sharpe that you harvest very quickly.

DEFINITIONS

Alpha

A measure of the difference between a fund's actual returns and its expected performance, given its level of risk as measured by beta with respect to one or several factors such as the market index.

THE PURSUIT OF ALPHA

KEY TAKEAWAYS

Alpha is becoming more difficult to deliver, but not impossible.

Investors are increasingly discerning when it comes to seeking alpha, and as such are unwilling to pay alpha prices for non-alpha performance.

Hedge fund firms will need to calibrate their prices, based on the returns and the risks attached to the products they offer.

At the top of the investment universe resides alpha—typically the domain of the best hedge fund firms, including those using classical hedge fund strategies. Those firms aim for absolute returns by balancing investment opportunities with the risk of financial loss. The strategies they employ differentiate themselves from smart and alternative beta, and create alpha by exploiting idiosyncratic factors that are (not yet) explained by identifiable risk premia. Alpha can be derived from security selection or market timing both on the long and the short side of the investment book. The end result creates value beyond what can be achieved by matching the beta of a market or attaching factors or rules to an investment.

CHASING ALPHA

According to Sir Paul Marshall (Chairman and CIO, Marshall Wace), there is now "an improving understanding of the nature of alpha and the distinction between alpha and beta." Indeed, "things that have been categorised in the past as alpha are now being seen as replicable factors, and so there is more scrutiny on real idiosyncratic alpha as opposed to lazy beta," continues Sir Paul. Neither smart beta nor alternative beta offer the "artisanal, completely uncorrelated returns of pure alpha, which hedge funds around the world still have the potential to offer," adds Luke Ellis (CEO, Man Group). Indeed, Sir Michael Hintze (Founder, CEO and SIO, CQS) argues that alpha in its truest sense is a return on judgement and insight, not simply knowledge.

Many have argued that the hedge fund industry collectively plays a zero-sum game in the search for alpha. The argument is that every firm that generates true alpha does so at the expense of other firms or individual investors that underperform the market benchmark. Consequently, there will be losers as well as winners, suggesting that investors may need to be prepared to tolerate periods of lesser performance.

Further, in recent years hedge fund managers have needed to be much more flexible in the way they adjust and renew their single stock positions, their market exposure, and the size of their books. Those with high conviction portfolios and moderate levels of assets under management have attracted the largest investments. On the other hand, those managers that have high betas and provide no real added value on the short side have found it difficult to survive, as investors adjust their expectations of what a hedge fund should deliver, typically favouring diversification.

There are also new investment strategies that have the potential to generate strong performance: for example, private credit and credit restructuring. The growth of these strategies is the result of the continuing global low interest rate environment, and of the opportunities being created for traditional and alternative managers by the deleveraging of major banks in the wake of the 2008 financial crisis. With banks providing less capital to small and medium-sized enterprises, real estate and infrastructure projects, it became possible for institutional investors to participate in these sectors in a more meaningful way and take advantage of the strong set of risk adjusted returns, as well as the associated illiquidity premium.[3]

As Omar Kodmani explains, "some managers seek longer investment time horizons in order to carry out their strategy effectively (e.g. an activist campaign, or private credit investments). Such longer duration strategies may exploit an illiquidity premium at a time when investors are embracing more liquid offerings." Given the operational, process-oriented nature of these types of strategies, investment managers who have executed them successfully in the past tend to deliver consistent strong returns.

THE CHALLENGE OF CREATING ALPHA

The search for alpha is only becoming more difficult. Due to the vast amounts of information that are now widely available, it is becoming ever harder to extract alpha, prompting critics of the hedge fund industry to assess the success of some alternative investment strategies over inappropriate time horizons. According to Andrew McCaffery (Global Head of Client-Driven and Multi-Manager Solutions, Aberdeen Standard Investments), "so much investment activity has become short term in nature, the result is that many investment strategies are more aligned to each other than has historically been the case. For some of them having this short-term outlook regarding their investments simply doesn't work."

As a result, investors can end up having risk exposures that offset each other, says Mr McCaffery. Leda Braga concurs, remarking that the short termism which has been creeping into investor behaviour is all too apparent in other walks of life, from the brief average length of tenure for corporate executives to political cycles that are too short to allow for an economic policy to deliver results.[4] Because of this, Andrew McCaffery argues, "one of the real opportunities for alpha generation is to consider allocations across different

Luke Ellis

CEO, Man Group, on the opportunities that exist to generate alpha

Inherently, there are lots of potential opportunities to generate excess returns and alpha. People try to measure and strip alpha, and what you can end up doing is stripping out everything you can think of, leaving yourself with a residual, which people call pure alpha. If you keep thinking of things to strip out, that residual alpha becomes smaller and smaller. We should always recognise that beta and alpha are simplified; defining plain equity market beta is relatively easy, and then there is a range between that and pure alpha. The hedge fund business is made up of some pure alpha strategies, and also operates in the area in between, which can offer potential value to investors.

[3] For more information on the emergence of non-bank lending and private credit investing, see *Financing the Economy 2017* here: https://www.aima.org/uploads/assets/uploaded/b30be521-1092-479a-8d70f9d2db9d4ee7.pdf

[4] Paradoxically, short termism can be positive for some investment strategies because it leads to market inefficiencies. Those investors who are truly long term will exploit these anomalies to deliver attractive long-term returns to their investors.

Sir Paul Marshall

Chairman and CIO, Marshall Wace, on whether there has been a discernible decline in alpha

I think there is an improving understanding of the nature of alpha and the distinction between alpha and beta. Things that have been categorised in the past as alpha are now being seen as replicable factors, and so there is more scrutiny on real idiosyncratic alpha as opposed to lazy beta.

Because of this, some of the weaker managers have been found out. There has been a shakeout in the industry.

There are three things that have made alpha more difficult to obtain at different stages: the short selling ban in 2008, the absence of creative destruction due to loose monetary policy and lower volatility.

Danny Yong

CIO and Founding Partner, Dymon Asia Capital, on how different hedge fund products should command different fees

The big trends will be investors moving out of allocating to long/short equity in favour of factor investing—quantitatively driven lower-fee fund replicators. Maybe the hedge fund space could shrink further: it's for the managers to either communicate or hopefully be able to prove through their track records that they have something to offer investors that is not just beta. In some ways, the long/short equity managers got a free ride from 2009, because there was a high beta component to their returns but investors were just happy to be making money. But if you strip out the beta for a lot of these funds, then the fees-to-returns were overpriced.

Investors should pay 2-and-20 for idiosyncratic returns. On the flipside, if there is lower performance than outright take-home pay, then the fees charged to the investor should be lower.

time horizons and build a portfolio accordingly. To generate a level of meaningful fund outperformance many such strategies require longer holding periods, i.e. combining a strategic mind-set, with clear risk tolerance overlaid."

Delivering repeatable alpha on a net-of-fees-and-costs basis that can withstand changes in market conditions is the rarest of investment skills. As Seth Fischer (Founder and CIO, Oasis Capital) points out, the very nature of alpha is its ephemerality: "it exists for a short period of time and then gets arbitraged out. Typically whatever does exist is exploited by the larger universe until excess returns disappear." According to Stuart Roden (Chairman, Lansdowne Partners), "it has never been and never will be easy to produce alpha, because it involves doing something that is different from everyone else, and having the courage to do this through supporting your convictions while at the same time constantly questioning your assumptions for doing so, and all the time having the humility to admit when your investment hypothesis is not correct."

ALPHA GENERATION IN A PASSIVE ENVIRONMENT

To further complicate matters, some have suggested that the rising popularity of passive investing has undermined opportunities to generate alpha. Research, however, has shown this not to be the case. The notion that passive investing must necessarily be bad for alpha is sometimes explained by way of Professor William Sharpe's famous equation: "before costs, the return on the average actively managed dollar will equal the return on the average passively managed dollar."[5] However, as Professor Lasse Pedersen (John A. Paulson Professor of Finance and Alternative Investments, New York University Stern School of Business; Professor of Finance, Copenhagen Business School; Principal, AQR Global Asset Allocation) points out in a recent *Financial Analysts' Journal* article entitled "Sharpening the Arithmetic of Active Management," this conclusion is only correct under the unrealistic assumption that the market portfolio does not change. In reality, the securities in the market regularly change. This occurs due to the addition of new firms and shares, and the subtraction of other ones. Passive investors must regularly trade in response to new issuances, share repurchases, and index inclusions and deletions. If the changes in the market portfolio are large enough, then active managers in aggregate can add value or alpha relative to passive investors.

Andrew McCaffery

Global Head of Client-Driven and Multi-Manager Solutions, Aberdeen Standard Investments, on the challenge to deliver alpha

Alpha is no longer as abundant as once perceived. Much that was classified as 'alpha' can be achieved through exposure to various risk premia strategies. Further, much of the industry's assets are concentrated in large funds in certain strategy areas. The ability to generate alpha in its truest form can now be far more of a challenge. This has been one of the drivers of the push for less liquid, i.e. private, market opportunities. Investors recognise the potential for harvesting an illiquidity premium and a degree of additional 'alpha.'

[5] Sharpe, William, "The Arithmetic of Active Management," *The Financial Analysts' Journal* (47), no.1, January/February 1991, pp. 7–9

THE RIGHT PRICE

In an increasingly fee-conscious world correctly pricing investment products is critical. As Luke Ellis observes, "investors don't want to pay lots of money to generate plain vanilla beta—you can buy beta for almost nothing." Mr Ellis elaborates on this point, arguing that if a manager is going to charge fees, "it has to be for value added, and the fees need to be proportional to the amount of value added." Sir Paul Marshall agrees, saying that there should be marked differentiation in the fees attached to different products: "if some firm charges, for example, 4-and-40, but is able to deliver 10%–15% returns net of fees to its investors every year, then good on them. But equally, if a manager loses heavily or generates negative alpha that manager may be willing to give its fund for free to its investors." Fiona Frick adds: "in today's world, it is possible to build a robust alternatives solution around a core exposure to alternative risk premia, which provide investors access to the same broad diversified set of risks embedded in *some* hedge fund strategies with greater liquidity, more flexibility and more transparency and at a lower cost."

Ultimately, says Paul Sabourin (Chairman, CIO and Portfolio Manager, Polar Asset Management Partners), when it comes to pricing your investment product it is a case of "being realistic with your investors regarding what you can deliver for them. If you're realistic about these expectations, investors will either buy into your product or they won't."

We leave the last word to the allocators. Tom Hill provides his firm's perspective on fees: "investors are willing to pay a premium for true alpha as opposed to something else that is more representative of a type of beta." Jane Buchan (Managing Director and CEO, PAAMCO; Co-CEO, PAAMCO Prisma Holdings) concurs, adding that "if a manager could generate 1,000 basis points consistently in alpha, there are a lot of people who would be happy for them to keep 40% or north of that. So allocators are prepared to pay, provided that the alpha is delivered."

In response to investor demands, hedge fund firms are creating new, innovative financial instruments, with varying fee structures, levels of correlation, and risk/return profiles. The changes facing the hedge fund industry are not, however, limited to new investment products. As hedge fund firms concentrate on responding to the needs of investors they are being confronted by sweeping technological and societal disruptions that have already transformed industries around the world. In the coming years, those disruptions will radically alter the hedge fund industry. ■

Sir Paul Marshall

Chairman and CIO, Marshall Wace, on how the growth of passive investing offers opportunity for delivering alpha

The growth of passive investing is actually good for alpha opportunities in the market. As passive management takes greater market share, the relationship between a company's fundamental strengths and its stock price is likely to weaken, leading to inefficient markets that active managers can exploit. The opportunity for alpha creators participating in this larger part of the market is buying or selling lagged momentum, which is what passive investing is.

The problem with passive investing is that it reduces liquidity in the market as most passive investors trade by appointment once a quarter. This results in lower liquidity in the market intra-quarter, while liquidity spikes at the end of the quarter. This spike in liquidity allows for opportunity among alpha-seeking managers to sell to passive investors at the end of the month and similar periods.

Philippe Jordan

President, CFM, on his hopes for the evolution of the hedge fund industry

I am very optimistic that we are going to build a grown up industry that says we're not doing alpha, but rather it says there are products that can be structural, can be scalable, can harvest performance, and can be done at a price point that is much more reasonable, driven by returns and costs.

I am also very optimistic that investors will learn about these techniques and that they are going to build portfolios that are coherent. Up to a point, people will understand that alpha is a much sought-after commodity, and highly difficult to produce and harvest. Consequently, investors will have reasonable expectations as to what they will get when making an allocation and what they should pay for it.

SIR MICHAEL HINTZE

Founder, CEO and SIO, CQS,
on the 'secret' to finding alpha

I believe that successful investing is based on hard work which allows one to understand the fundamentals, the technicals and investor sentiment in the market segment you are investing in.

It is a team effort, and you need the analysts, traders, portfolio managers with the skills, experience, and judgement to use and understand sophisticated financial models in equity and credit, and one cannot forget the operational risk of doing so in sophisticated markets. This enables a manager to price risk and to identify value in a company's capital structure, and to express an investment thesis. Alpha is a return on insight and judgement, not only knowledge.

IS ALPHA BECOMING HARDER TO PRODUCE?

David Haley

President, HBK Capital Management

Alpha has declined over the past three years, objectively. The question is why. I think the media would like to say that it's because there is too much competition—too many hedge funds chasing too few opportunities—and because fees are too high. These reasons are then conflated with the active versus passive debate. My opinion on why alpha has contracted is that it is because we are in the middle of an intersection of high correlation and low volatility, which has resulted in an ever-increasing benign equity market, incredibly low interest rates and an almost complete absence of defaults. If you were to construct a scenario that was particularly pernicious to creating hedge fund opportunity, that would be it. However, no rational person would argue that those conditions are going to last forever.

If you really believe this is the case, then you should invest in long-only products, and we can revisit this approach in another five years. I don't really know of anyone who says that the conditions that we have experienced are going to continue. Those are unique conditions historically that arise from a confluence of factors including the unprecedented level of quantitative easing that we have witnessed over the past several years. These global central bank interventions distort valuations, dampen volatility and over-inflate the value of financial assets. That being the case, isn't this why you have an alternatives portfolio? Are the conditions that we are experiencing now any different than what we experienced in 1998 and 1999, when we heard, 'why should we invest in a hedge fund, we can invest in the NASDAQ and earn 30% in a year?' Well, as we know, the subsequent fallout from investing in this hypothesis in 2001 and 2002 (with the ensuing TMT market crash) told us a different story.

Kyle Bass

Founder and CIO, Hayman Capital Management

I think that the reason that hedge funds have generally performed poorly as a group is that, irrespective of strategy, we are a sceptical bunch and we go both long and short. And so, when you compare hedge funds to indices, anything that a manager has done in general to be short has cost them a lot of money. When you talk about driving alpha against an ever-increasing equity market for eight years in a row, that's a structural challenge for hedge funds. In the face of such a tremendous equity bull run, hedge funds are not two-times long and short nothing.

Professor Lasse Pedersen

John A. Paulson Professor of Finance and Alternative Investments, New York University Stern School of Business; Professor of Finance, Copenhagen Business School; Principal, AQR Global Asset Allocation

It is always difficult to empirically estimate alpha over a short time period, and many commentators focus on specific events that may not reflect general trends. That said, I would expect on first principles that alpha is reduced as the cost of information diminishes and as more capital is allocated to skilled asset managers who compete with each other. But, at the same time, alpha is likely to increase as capital flows to passive investing and as markets grow.

Ken Tropin
Founder and Chairman, Graham Capital Management

For many macro managers, the alpha opportunity tends to be challenging if there are not any significant moves in any one direction in key assets or key capital markets outside of equities. After a year in which we saw extremely low volatility in equities, fixed income, and foreign exchange, we have seen these same markets have a dramatic increase in volatility recently and accordingly I am optimistic that this will bring a sea change in the opportunity set for macro.

Ray Carroll

CIO, Neuberger Berman Breton Hill

I don't think this is just a hedge fund challenge: it's an asset management challenge, for the whole industry. There is so much money flowing into passive index investing that it's extremely hard to beat an index that has billions of dollars of inflows going into it each month. If we are measuring alpha against such an index then creating alpha will be very difficult. It makes for an environment in which it is tougher to outperform.

Paul Sabourin

Chairman, CIO and Portfolio Manager,
Polar Asset Management Partners

There are a number of factors hindering the production of alpha. Some of these include the following: the level of sophistication among hedge fund professionals has increased, so the competition is as good as or greater than it has ever been. In recent years, volatility—broadly speaking—has been very low, and this can cause a significant headwind if you are in the arbitrage or the mean-reversion business. Information is being disseminated quicker than ever, and has become readily available. The widespread availability of market-moving information has resulted in the investment playing field being levelled dramatically.

Omar Kodmani

SEO, EnTrustPermal

When people ask, is the decline in alpha cyclical (temporary) or structural (long term), the answer is a little of both, but changes are also afoot on both fronts. The cyclical part has to do with the QE regime and the accompanying low volatility across markets. This is finally coming to an end. The structural part relates to the lower risk parameters many managers adopted as their business became more institutional. With lower risk, comes lower return and alpha. Sophisticated investors can adjust for this and "bring back the alpha" with customized mandates.

Stuart Roden

Chairman, Lansdowne Partners

I would take a step back and think about alpha for all investments in public equity markets. If you look at the performance of the long/short equity funds and active management in the long-only side, there has been a discernible decline in alpha in both over the last couple of years, where previously there had been very good performance. That being said, it's a two-year phenomenon from what I can see, but an extreme one. If one looked back at periods of underperformance, they're generally followed by periods of strong performance. As a firm, we can't find anything structural that suggests that LIBOR plus 5%, or LIBOR plus 10% if that's your target, is not sustainable in the longer term.

Professor Jim Liew
Assistant Professor of Finance,
Johns Hopkins Carey Business School

I think it's much more difficult to generate alpha now than it was 10 years ago. Back then, it was easier to make money through having an information advantage. Now it's very difficult.

This is because the knowledge of hedge fund trading strategies have been disseminated across the world through academic publications, business school case studies, and the internet. In the early days of the hedge fund industry some managers did risk-arbitrage and the layperson didn't know what that was. But now you can go to any top business school and students there know what risk arbitrage and merger arbitrage is. Finance professors explain all the intricate details of this trade ad nauseam.

This type of hedge fund strategy knowledge has become pervasive. What was a proprietary trading strategy 10 years ago is now common knowledge taught in business schools.

Professor Campbell Harvey
Professor of Finance, Fuqua School of Business, Duke University;
Research Associate, National Bureau of Economic Research;
Investment Strategy Advisor, Man Group

The first thing that people need to understand is that the overall amount of alpha in the market is zero. In any deviation from a capital market-weighted portfolio there has to be people on both sides of the trade. That means that the total amount of alpha is zero. We know that there are some managers who make positive alpha and some managers who make negative alpha. One way of thinking about this is looking at the absolute value of all the alpha that is out there. I believe that the absolute value has decreased, and it has decreased for several reasons. A lot of the smaller hedge funds (including some of the mid-cap $1bn—$5bn hedge funds) are being disrupted by more passive strategies (such as index ETFs, or smart beta) that offer performance at much lower fees. The result is that a lot of the negative alpha has disappeared, so it's more difficult for the skilled managers to find that alpha—they used to be trading on the other side of these investors.

Jane Buchan
Managing Director and CEO, PAAMCO;
Co-CEO, PAAMCO Prisma Holdings

Essentially, there are two ways of making alpha. One of the ways of making alpha historically in hedge funds has been through investing in unusual instruments—things like convertibles, distressed debt and leveraged loans. Some of these, however, have now gone into the investment mainstream via mutual funds and 40 Act funds. The premium in the old days of having this weird security that people did not understand has in some places disappeared, so I think there is some validity in the argument that alpha has eroded in these products.

However, quite a lot of hedge fund strategies—and still to this day the biggest preponderance of investing is around long/short equity, which has nothing to do with understanding complex securities—continue to generate alpha. The hedge fund managers are getting in front of this, because they, in my experience, tend to be more dynamic and more flexible in their mandates.

I'm not sure we have run out of alpha. I am not certain I would want to be an active long-only manager in a major liquid market trying to compete with hedge funds. The active part of what a hedge fund provides to investors still provides alpha to its investors.

2

FORCES OF DISRUPTION

As hedge fund firms grapple with the ramifications of a changing array of investment products they are also being buffeted by external forces of change. The advent of cutting-edge statistical and computational tools, including advanced quantitative techniques and artificial intelligence, is forcing hedge fund firms to re-evaluate how they operate and invest. At the same time, hedge fund firms are having to contend with increasing investor demands for more responsible investment. While perhaps not as revolutionary as the new array of technologies that are being adopted by the hedge fund industry, these new investor demands will nonetheless shape the products that hedge fund firms will offer in future.

DEFINITIONS

Artificial intelligence
The use of computational tools to solve problems which have traditionally required human sophistication.[1] For instance, the recognition of images or the processing of natural languages.

Machine learning
A technique which uses algorithms that automatically optimise ('learn') in order to solve a problem with little or no human intervention.[2] Machine learning is often used to find patterns in large volumes of data.

Deep learning
A technique which uses layers of artificial neurons to solve a problem or identify a solution. The bottom layers identify a phenomenon in a rudimentary way, which is then refined upon by the following layers.[3] For instance, when a deep learning network is given a picture of a car to process, the neural layer may check if the picture has any wheel-like shapes; if so the next layer might then check if there was a roughly rectangular shape attached to those wheels, and so on.

Big data
The widespread availability of large volumes of data on everything from credit card use to political instability.

[1] UK Financial Stability Board (2017), *Artificial intelligence and machine learning in financial services*, London: p.3
[2] Ibid., p.5
[3] Knight, Will (2017). The Dark Heart of AI. *MIT Technology Review*. Accessed 15/2/2018. https://www.technologyreview.com/s/604087/the-dark-secret-at-the-heart-of-ai/

A TECHNOLOGICAL REVOLUTION

KEY TAKEAWAYS

As hedge fund firms become more quantitative they will need to make greater investments in technology. In the coming years the use of machine learning will become necessary for most hedge fund firms.

Systematic investors and those hedge fund firms specialising in short-term investing may need to invest heavily in developing their own more advanced machine learning capabilities.

Artificial intelligence will not replace human investment professionals for the foreseeable future, due to the constraints of financial data and the fact that it will be difficult to foster investor trust in such technology.

Hedge fund firms are being disrupted by revolutionary technologies that have already reshaped industries around the world, from international shipping to online shopping. Chief among those new technologies are those that fall under the umbrella of advanced quantitative techniques and artificial intelligence. Over the next decade, a subset of artificial intelligence called machine learning will become steadily more important for hedge fund firms, until it becomes a necessity. Hedge fund principals see a time when trying to compete without machine learning capabilities will be akin to trying to compete without a Bloomberg terminal.

These new technologies will not, however, replace human beings at hedge fund firms. Financial data does not readily lend itself to machine prediction, and fostering investor trust in such technology will be challenging. Despite the need to use machine learning, one thing will remain constant: the success of a hedge fund firm will continue to depend of the quality of its most critical asset—its people.

RISE OF THE LEARNING MACHINES

The penetration of machine learning into the hedge fund space is being made possible by the same set of circumstances that is enabling the changes in hedge fund products discussed in Chapter 1 of this paper. Hedge fund firms have always been at the cutting edge of investment science. They pioneered the idea that the traits of an investment opportunity can be quantified, and that investment opportunities with similar traits can be grouped together and targeted based on those quantified traits. This revolution in investment theory has inexorably pushed the hedge fund industry towards a more quantitative outlook.

This outlook has opened the way for machine learning to be used by the industry. Spurred by the falling price of computing power—your smartphone has more computing power than all of NASA had at the time of the 1969 moon landing—and the skyrocketing levels of available data,[4] machine learning has gone from the realm of science fiction to a modern-day reality.[5] It now forms, in the words of Philippe Jordan (President, CFM), "one of the chapels in the quantitative family, which up until the last five years was very slow moving in its development, but more recently has witnessed a lot of breakthroughs and an acceleration in its applicability." Machine learning refers to a host of different statistical and computational terms, but broadly it entails the use of algorithms to extrapolate from patterns found in data in order to ultimately make categorisations and predictions. One key trait which distinguishes machine learning from more basic statistical techniques is the fact that it is not instructed which patterns to seek when given a set of data.

These advanced quantitative techniques, and forms of machine learning, are primarily being used by hedge funds to collate and categorise data. For instance, they can be tasked with scanning social media posts about a company and deciding whether those posts are positive or negative. They can then create a dataset with the number of each type of post, which can then be used by a hedge fund firm to gauge the sentiment of the company's customers. These categorisations are based on probability. They may not be completely accurate, but they will become more so the longer the system is run, as the system is optimised and the factors on which it bases its predictions are refined.

A form of machine learning known by the technical term 'supervised learning,' in which the answers are already known so that the machine can work backwards from the solution, is one of the more common forms of machine learning in the hedge fund industry. To stay with the example of using social media to monitor a company's performance, in supervised learning a machine learning system would be fed social media posts which had already been classified as positive or negative. The system would then try to ascertain the distinguishing characteristics of those posts labelled as negative, and those posts labelled as positive. Once it had learned those characteristics it could then apply what it had learned to the classification of new social media posts, the positivity or negativity of which was unknown.

Tom Hill

Chairman, Blackstone Alternative Asset Management; Vice Chairman, Blackstone, offering the perspective of one of the largest investors in hedge funds as to how AI is being considered across financial services

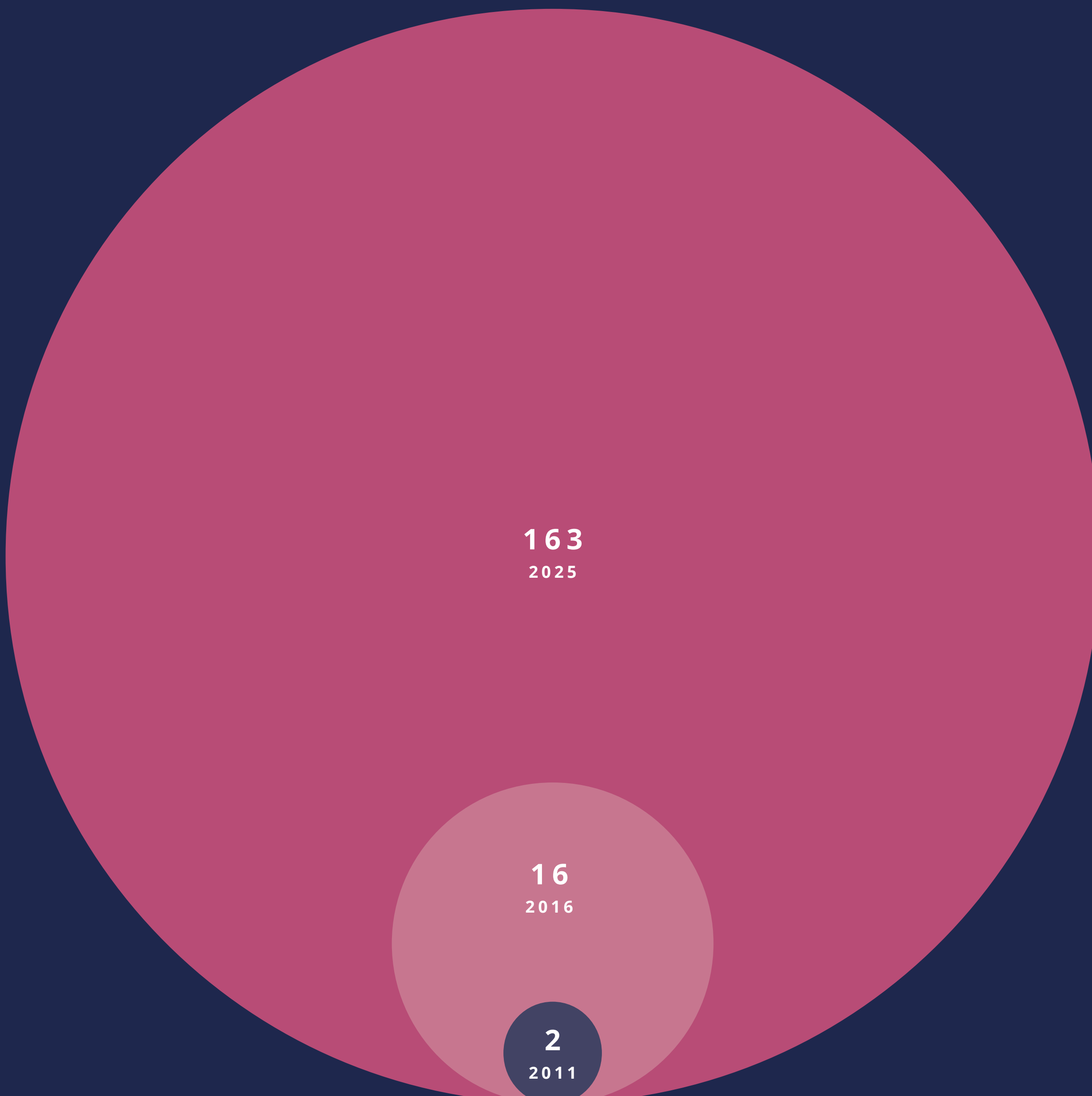
There's an arms race around how asset management firms collect data and how they slice and dice it. Datasets purchased from third parties can degrade very quickly, so some funds are creating proprietary datasets that include everything from utilising cargo ship transporter data to monitor commodity flows, to using cell phone data to monitor retail foot traffic. The diversity of signals that quants are able to create has increased significantly.

But machines can take things only so far. You need humans to make judgements on what correlations make sense with a particular investment. When the Swiss franc broke, some machines indicated 'stick with the trade.' Humans had to intervene and point out that something was wrong. At the end of the day, you need to have machines and humans working in partnership to make key investment decisions.

[4] Global data has grown more than eightfold since 2011, as shown in Exhibit 2.

[5] Dunbar, Brian, (2009). Rocket Evolution. [Online] NASA. Available at: https://www.nasa.gov/audience/foreducators/diypodcast/rocket-evolution-index-diy.html [Accessed: 8 Mar. 2018]

EXHIBIT 2
GROWTH IN GLOBAL DATA
(TRILLIONS OF GIGABYTES)



Source: IDC/Seagate, Data Age 2025 (2017)

Professor Robert Merton

School of Management Distinguished Professor of Finance, MIT, on the limitations that financial technologies have in offering investment advice

It will be tough for technology to truly disrupt investing in the field of financial advice—and to usurp the role of the traditional wealth manager unilaterally. Technology is inherently opaque and cannot be made transparent. If I allocate my money to an algorithm to manage, how long would I have to monitor its performance, before I know if it was doing a good job? The answer is anywhere from 20 to 400 years. Relying on verification as a substitute for transparency is therefore not a practical path to create acceptance.

How people gain trust in financial intermediaries is highly complex—it's not mechanical. For instance, you trust Google for some things, but you would not trust Google to make every decision for you—not least in the field of investment advice. Imagine I picked up my smartphone and consulted the internet to ask 'I have a painful knee, what should I do?' and the advice I receive is to 'cut it off.' Neither I, nor anyone else, is likely to follow that advice. Why? The advice that is being provided is completely black box. As an investor, we have no idea what the motivation behind the advice being provided was. We have no idea what model and what data the system sourced in providing its advice. It could be poor, incomplete or biased data and it may have been transcribed incorrectly. Without full transparency into the rationale for how such advice has been provided, which is not possible, people are unlikely to embrace this form of technology, unless a mechanism is created for trust in its content.

Programs using artificial intelligence to advise investors (robo-advisors) lack a fundamental ability their current successful human counterparts possess—trust. The successful wealth advisor must have the trust of its clients. The technology industry narrative appears to underestimate the importance and difficulty of acquiring trust. Technology does not create trust on its own. The incorporation of technology by wealth advisors with the trust asset will actually enhance their business, and not destroy it. The share of total profits between technology providers and trust providers in financial services is difficult to predict, as we have already observed for technology and content providers in sports and entertainment. Trust is not a commodity. It is difficult to acquire and can be lost in an instant. So where it is essential, I would expect its value share to be substantial.

The systematic collection and ordering of data is highly useful for all hedge fund firms, whether they are discretionary or systematic in their approach to investing, says Professor Campbell Harvey (Professor of Finance, Fuqua School of Business Duke University; Research Associate, National Bureau of Economic Research; Investment Strategy Advisor, Man Group). The hedge fund industry has always been at the forefront of rigorous, data-driven investing, and the new technology available to hedge fund firms will allow them to make use of the ever greater volumes of data becoming available every day. For instance, a discretionary hedge fund firm looking to invest in a retail company could use machine learning to analyse satellite imagery and determine whether there are people lining up in front of that store's locations. Alternatively, a systematic hedge fund firm using algorithms to trade could use machine learning to collate data on the use of credit cards at every retail company in the United States, and subsequently feed that information into its trading algorithms. According to Professor Harvey, the question is not *whether* hedge fund firms will use such technology, but rather *how* they will use it: whether they will use the data they gain to inform a human decision or to serve as inputs for an algorithm which can then make a trade.

A PROBLEM OF PREDICTION

Most predictions of the replacement of human investment professionals with machines tend to ignore the simpler forms of machine learning. Instead, they focus on the theoretical predictive powers of the most advanced form of machine learning: 'deep learning.' This technology uses algorithms to mirror human cognition and recognise more advanced patterns (for example, identifying complex images). By allowing for the rapid, accurate recognition of highly complex patterns, the predictive powers of deep learning could, in theory, outstrip those of human beings and thus change the face of investment management.

In reality, however, most hedge fund principals believe that the applicability of deep learning to hedge fund investing is limited. In order to make accurate predictions even the simplest quantitative techniques and machine learning systems require vast amounts of data; deep learning systems require exponentially more. However, as Leda Braga (Founder and CEO, Systematica Investments) points out,

Professor Lasse Pedersen

John A. Paulson Professor of Finance and Alternative Investments, New York University Stern School of Business; Professor of Finance, Copenhagen Business School; Principal, AQR Global Asset Allocation on the use of big data in hedge funds

Using big data is what quantitative investing is all about and this has been going on for decades, which has provided alpha for a number of managers. While some commentators frame the use of big data as a paradigm shift, it is really a gradual evolution that has been going on for a long time as quantitative managers have been seeking out more and more relevant data using a variety of statistical techniques. Some of these statistical techniques are known as machine learning, and these have relevance for certain types of problems. The general idea is to use a large amount of relevant data filtered using a relevant statistical method to construct an efficient portfolio.

Luke Ellis

CEO, Man Group, on the evolving role of quantitative techniques in portfolio investing

The idea that people will invest without using any of these quantitative techniques to help them is daft. The reality, though, is that no one today invests without using quant techniques—they just don't call them quant. People don't call a spreadsheet a quant technique, but it is. People don't call Bloomberg a quant technique, but it is.

For the foreseeable future there are things that humans can still do better than computers. However, what humans are not doing better is processing large amounts of data, trading into markets, and trying to build a small edge across many markets.

Take the fundamental law of investing, that the value you add is equal to the edge you have on the average trade, multiplied by the square root of the number of independent trades you've got, less costs. It follows then that, in seeking to generate alpha, you either have to have a large edge, and you don't need many trades, or if you've got a small edge you need that edge across a lot of trades.

So if your edge halves, the number of trades that you need must go up fourfold, and they need to be independent trades. Humans aren't capable of having a thousand independent thoughts—it's just not possible. When we at Man Group focus on human discretionary investment, we try to concentrate down to a small number of things where we believe we have a potential edge, which is what humans are good at. But if you want to build a portfolio of a thousand stocks, then we believe a computer is going to beat a human every time.

Seth Fischer

Founder and CIO, Oasis Capital, on the value that a discretionary manager can provide to its investors amidst the proliferation of systematic investing

I have to be in a position where I'm not competing with a computer. In my business—for example, in the activist part of my business, which focuses on driving substantial corporate change at companies and improving corporate governance—I want to create an event that results in the realization of and significant appreciation in the value of a company. This can't be done by just data mining, or forensic analysis mining, or traditional sources of desktop work. In some cases, I'm trying to be in a place where something has not happened yet so I can make it happen.

long-term financial data is relatively scarce. While Google, for instance, may receive massive amounts of search data every day on which it can train its machine learning systems, GDP figures are only released once a year, and most security prices are quoted on a daily basis. As Professor Lasse Pedersen (John A. Paulson Professor of Finance and Alternative Investments, New York University Stern School of Business; Professor of Finance, Copenhagen Business School; Principal, AQR Global Asset Allocation) notes, some investment techniques do not produce much data by their very nature: "some strategies that are based on fundamentals are considered low turnover because what is a good company doesn't change that quickly. If you have a low turnover, then you don't have that much data, so your economic understanding of what makes a good company becomes more important, and statistical techniques and AI become less useful than in more data-intensive high-turnover strategies."

The problem of having such limited data with which to work is compounded by two other challenges: the non-stationary nature of financial data and the relatively low signal-to-noise ratio of that data. To begin with the former challenge, financial markets are notoriously mutable: an inflationary period, for instance, is radically different from a deflationary one, or an era of stagflation. The challenge for machine learning is that it may extract patterns from data that are only relevant in a particular type of financial environment—for example, an inflationary one. Those patterns may not apply in a deflationary period, thus rendering the system's predictions incorrect—a problem a human being would likely be able to foresee.

To further complicate matters, there is also the problem of signal-to-noise. Financial data tends to have a very large amount of irrelevant data (noise) for every piece of useful data (signal), which can make finding meaningful patterns extremely challenging. For instance, a machine learning system looking at financial data may recognise a pattern linking equity prices in France to, say, the cost of sand in India. Sorting through all these irrelevant correlations is deeply time consuming, and can lead to the problem of 'over-fitting,' in which the factors on which a system bases its predictions become so complex that they lose predictive power.

Industry leaders say that the more advanced forms of machine learning, such as deep learning, are likely to have the most value in short-term, high-frequency trading decisions, which produce large volumes of data and do not require long-term predictions. Those short, high-frequency investment decisions are, according to Sir Paul Marshall (Chairman and CIO, Marshall Wace), increasingly the domain of systematic hedge fund strategies. As such, it is primarily those firms that will make use of the more sophisticated forms of machine learning such as deep learning. Such firms will have enough data to enable deep learning systems to make short-term predictions; the first systematic hedge fund firms to deploy such technology to enhance their abilities may gain an advantage over their peers.

MAN AND MACHINE (LEARNING)

While the most advanced forms of machine learning may be of limited use to most hedge fund firms, the less advanced forms of machine learning, used for categorisation, are on track to become necessary for every hedge fund firm. "The long-term trend is that you can't fight technology," in the words of Ray Carroll (CIO, Neuberger Berman Breton Hill). Every hedge fund firm will need to have access to the simpler forms of machine learning, not to make predictions but in order to process the massive amounts of data to which they have access. Those hedge fund firms without such capabilities will be at a severe informational disadvantage.

This is true for firms that are more discretionary in their approach to investing, as well as for the more systematic ones. "It is crucial for the human decision-making that occurs in a discretionary fund, that the highest possible quality of information is delivered to the portfolio manager," says

Professor Campbell Harvey, and he "cannot imagine doing that without big data and the actual interpretation of big data that occurs through the use of machine learning." Meanwhile, the specialised systematic hedge fund firms operating in the short-term space—the firms which have the greatest demand for deep learning—will need to invest heavily in the more sophisticated types of machine learning if they are to survive and compete. Machine learning will not just affect a certain type of hedge fund firm: it will affect the entire industry. This development will change the industry, says Professor Harvey.

That change, however, will be different from what many expect. Artificial intelligence will not replace human beings in hedge fund firms. Rather, as more hedge fund firms rush to implement the new technologies available to them, their demand for non-traditional, highly quantitative talent will only grow (a development explored in greater depth in Chapter 3). After all, if every hedge fund firm is employing some form of machine learning, the competitive advantage will not come from *whether* machine learning is being used, but rather from *how* it is being used—something that will be determined by the quality of a firm's human talent. "Machine learning," as Seth Fischer comments, "does a lot, but it doesn't imagine." The question hedge fund firms should be asking, Paul Sabourin (Chairman, CIO and Portfolio Manager, Polar Asset Management Partners) argues, is not whether to replace employees with technology, but rather "how do we use technology to make the portfolio managers better at their jobs?"

The need for new types of highly quantitative human talent will be even greater at those systematic firms hoping to use the more complex forms of machine learning. While many hedge fund firms may be able to purchase machine learning capabilities from third-party suppliers in the future, systematic firms will most likely need to continue to develop their own in-house machine learning capabilities. Recruiting the necessary talent alone to do that will be deeply expensive, and some managers, Professor Campbell Harvey warns, may simply not be able to do it. This will fuel further consolidation in the industry, argues Professor Harvey, as larger, more established hedge fund firms will be better placed to invest in the new technology, while many smaller-sized managers may not be able to do so. Those smaller firms may be pushed into establishing new strategic partnerships with financial technology firms or risk obsolescence. As Ray Carroll summarises it, in the coming years machine learning will become "your ticket to the game, and your ticket just got more expensive."

The future of the hedge fund industry will see man and machine working together. Machines, for the most part, will take over tasks such as data processing; human talent will still be necessary for the finer points of understanding and predicting the financial markets. Ultimately, the quality of a hedge fund firm's people will still determine that firm's success or failure. At the end of the day, says Tom Hill, "machines can take things only so far." ■

Professor Jim Liew

Assistant Professor of Finance, John Hopkins Carey Business School, on the potential for a technology company to disrupt investing

Google, with the amount of information it has and the things it can do with it, would have an amazing advantage if it started a hedge fund. The same thing for Amazon or Baidu. They all have the capacity to do it too.

They have the best data scientists in the world, with many researching and inventing some of the most exciting next-generation machine learning/AI algorithms.

If, for instance, Google got a big allocation from CalPers to create the first machine learning AI asset management company, would people invest in that? Definitely! It would absolutely have an advantage with tons of information and the world-class ability to process all that information. Would other institutional investors follow CalPers? Absolutely! We all know institutional investors love to herd. Here they would actually be following a pretty good trade. Such combinations could potentially destabilize the asset management industry.

LEDA BRAGA

Founder and CEO, Systematica Investments, on the limitations of using artificial intelligence in portfolio investing

The glamorous thought is that I will switch the computer on and I will tell the computer, 'manage money for this target return,' and then I can go to the beach and the machine will do everything.

That sort of thing is almost possible in the case of self-driving car or similar things. But in the financial markets there are a couple of things that are very different. First, the amount of data is not that large. Most trading algorithms are price-based. You have in the investable universe maybe 4,000 to 5,000 stocks, maybe 7,000 stocks. Each stock has only one closing price point per day.

The other thing is that financial data is very noisy. Markets fluctuate and display variance because they're big crowds arguing over how things should be priced and trading on different preferences. Variance is a phenomenon that is essentially attached to the market.

If I'm the computer and I've been told to make money, how am I going to evaluate what makes money? I will look at the financial data and I try to infer what makes money. But if you infer from the dataset what makes money, there's so much noise that the rule which will be inferred will, in all likelihood, not make any sense.

Therefore, I don't think we're anywhere near this idea of switching the computer on and going to the beach. But these quantitative techniques can still be used, so long as you use them prudently. What you can't do is hand the money over to the computer and leave the room. But if you create an investment thesis using common sense and your intuition, instead of letting the computer create that thesis, you can then use machine learning and statistical techniques to support that thesis.

These techniques are very good: the data analysis is good, and we are able to use data that we were not able to use before. All these things open a greater set of possibilities for the industry.

DEFINITIONS

Socially responsible investment (SRI)
A screening process which excludes certain securities from a portfolio based on perceptions of their moral worth. For instance, the exclusion of landmine manufacturers from an investment portfolio.

Environmental, social, governance (ESG) factors
Identifying traits of a security that may not have been taken into account by that security's price, but which may affect its desirability, from both a moral and a profit point of view. For example, taking into account a company's carbon footprint when deciding whether to invest in that company.

Impact investing
Investments made in order to deliberately create social goods. For instance, investing in a for-profit company which makes affordable water purifiers for the developing world.

United Nations Principles for Responsible Investment (UN PRI)
A set of six investment principles that offer signatories actions for integrating responsible investment into their investment decisions.

INVESTING, RESPONSIBLY

KEY TAKEAWAYS

Growing investor demand, coupled with advances in technology, is pushing more hedge fund firms into adopting responsible investment options. Certain investors now use environmental, social, and governance measures as a lens through which to view risk.

While responsible investment can be viewed as a constraint these strategies can increasingly be implemented at a low cost, allowing hedge fund firms to respond to investor demand.

In the coming years more hedge fund firms will offer their investors responsible investment options; some larger firms already offer full environmental, social, and governance compliant portfolios.

The hedge fund industry is being disrupted not only by new technologies, but also by new investor expectations. Today's investors worry about new forms of risk. Institutional investors are now more worried than ever about reputational risks. Millennials, meanwhile, are more concerned than previous generations about creating social good from their investments. Whilst investors have long focused on good governance and transparency, they are increasingly pushing their asset managers to focus further on the environmental and social aspects of investing. The hedge fund industry is now facing serious calls to offer responsible investment opportunities to its investors.

The hedge fund industry has traditionally been reluctant to constrain the investments it can make. The "whole premise of hedge funds is that they are unconstrained in their behaviour," Omar Kodmani (SEO, EnTrustPermal) explains. As such, the drive for socially responsible investment (SRI) and environmental, social, and governance (ESG) investment criteria has so far not been as popular in the hedge fund industry as it has been in others. However, with growing demand from investors, improving ESG data sets, and the wider availability of technology that makes it easier to use such data, we will likely see more hedge funds offering their investors responsible investment opportunities in the coming years.

SRI and ESG are distinct but related phenomena; both fall under the umbrella of responsible investment. SRI calls for the exclusion of certain securities from an investment portfolio based on whether they are considered ethical. For example, an SRI portfolio may exclude cigarette companies or weapons manufacturers. ESG is slightly more complex. It calls for the evaluation of investment opportunities based on whether they adhere to certain standards of environmental, social, and governance responsibility. ESG is predicated on the assumption that non-financial environmental, social, and governance risks are costs to which the market has yet to attribute a financial value. For instance, given the choice between two otherwise equal energy companies, an ESG portfolio would include the energy company which derives more of its energy from renewable sources.

DO GOOD OR DO BETTER?

Hedge fund managers take their fiduciary duties very seriously, and therefore have been reluctant to limit their opportunities to deliver profits to their investors. Philippe Jordan speaks for many managers with whom we spoke when he describes SRI as a kind of tax on investing—something that ties one of the manager's hands behind their back. Narrowing the scope of the securities held in a portfolio necessarily increases its volatility, since holding fewer securities results in a market basket that is more susceptible to market fluctuations. A more narrow portfolio may work in favour of the investor in certain circumstances, but modern portfolio theory suggests that it will likely underperform the broader market index. At a time when investors are already disappointed with the performance of some hedge fund firms, many managers do not believe they can justify limiting their strategy's ability to generate returns.

Andrew McCaffery

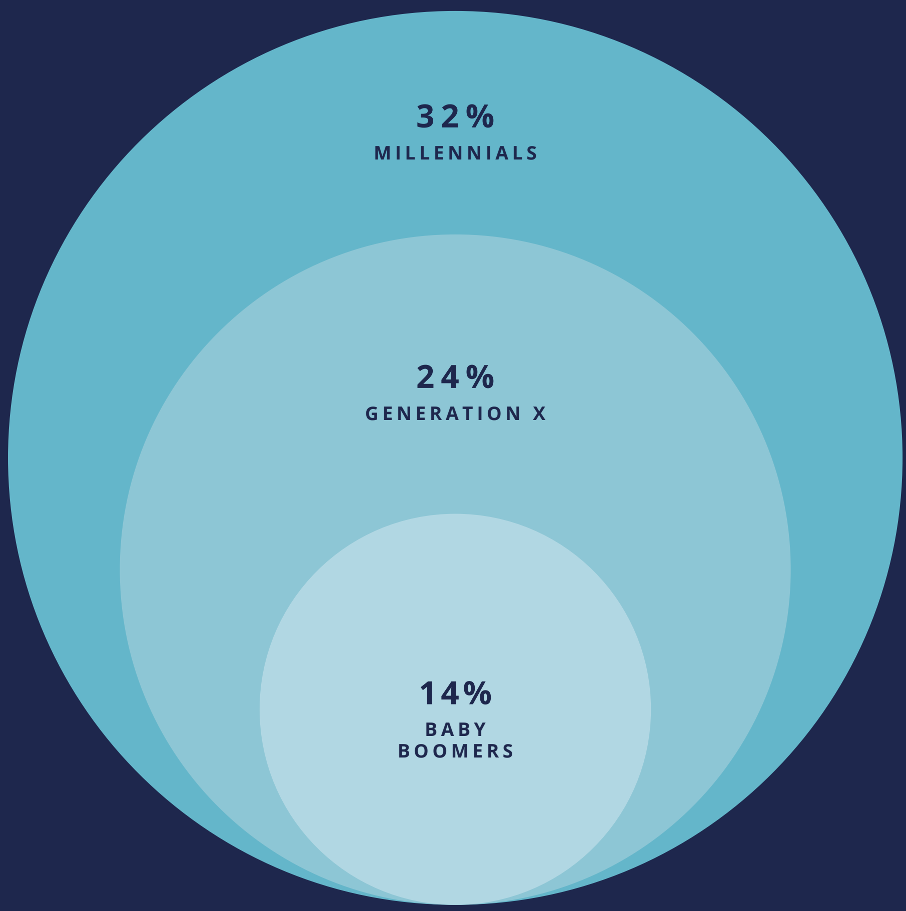
Global Head of Client-Driven and Multi-Manager Solutions, Aberdeen Standard Investments, on his firm's approach to implementing responsible investment

We believe transparency, accountability and good governance are key to investing in hedge funds. Our policy on responsible investment allows us to enhance the risk management of our investments. Our approach towards responsible investment revolves around the identification of key investing issues that we believe have an impact on risk.

In addition to this we also apply more traditional approaches, such as negative screening, to our alternative UCITS mandates as we recognise clients are placing increasing importance on the adoption of ESG frameworks to their investment decisions.

EXHIBIT 3
THE GENERATIONAL DIVIDE IN ATTITUDES TOWARDS RESPONSIBLE INVESTMENT

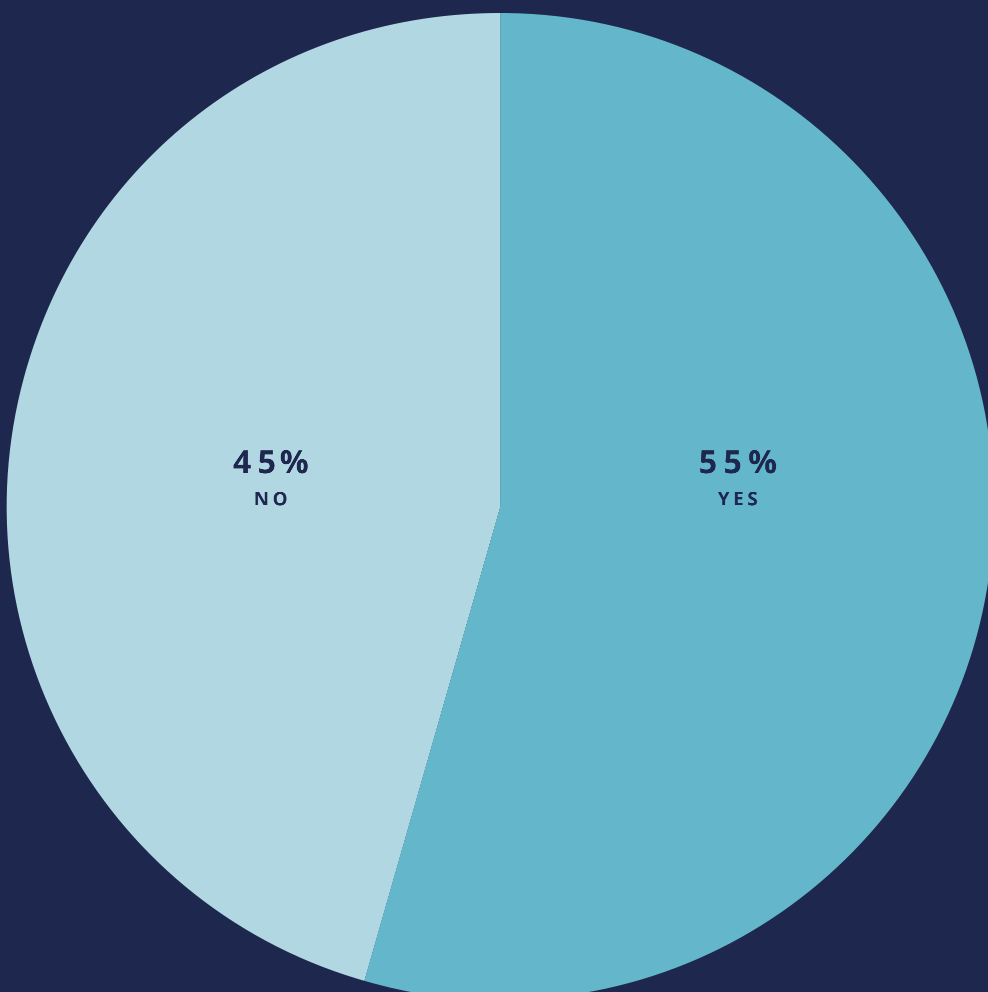
Percentage of generation saying they invest in companies based on positive impact



Source: US Trust, 2017 US Trust Insights on Wealth and Worth (2017)

EXHIBIT 4
THE GROWING POPULARITY OF RESPONSIBLE INVESTMENT

Percentage of firms that have seen increased investor interest in responsible investment in the past 12 months



Source: AIMA/CAIS Research
(Findings based on AIMA investment manager survey held in Q4 2017)

Another obstacle to the adoption of SRI in the hedge fund world has been the debate over which companies should be deemed responsible, and which ones not—and indeed whether legitimate investing techniques, such as shorting, are responsible. As Lee Ainslie (Founder, Managing Partner and CEO, Maverick Capital) comments, "what a religious institution wants and what the kids on the college campuses want from their respective investments" can be quite different, and hedge fund managers are often in the position of investing the capital of both parties at the same time.

The adoption of ESG factors, meanwhile, has mostly been slowed by technical difficulties. Most of these difficulties stem from a relative scarcity of reliable data. Many companies simply do not report on ESG factors, or do so only in a cursory manner. A recent industry report showed that 42% of investors believe that nonfinancial data put out by companies is "inconsistent, unavailable, or not verified."[6] To further complicate matters, third-party data on such factors can often be unreliable, meaning that should a hedge fund firm choose to build an ESG portfolio it would have to invest time and capital into verifying whether the information put out by companies is accurate, potentially cutting into investor profits.

VOX POPULI

The traditional obstacles to the adoption of responsible investment are, however, weakening. The single most important factor driving this change is investor demand. Investors are increasingly demanding that their capital be put towards a more responsible form of investing. For some this is a product of changing risk perceptions. Many investors now worry about long-term risks such as environmental damage—something that was once uncommon.[7] It is also part of a generational change, argues Omar Kodmani: "millennials really think about ESG as a guiding principle for their investing, and they invest accordingly." Compounding this is the increasing adoption of responsible investment by large institutional investors, who are more susceptible to public opinion than, say, wealthy individual investors. All of this, in turn, is being accelerated by social media. The public can now easily find out about a company's misbehaviour, and outrage can circle the globe in seconds.

At the same time, hedge fund managers are gaining the tools they need to quickly and efficiently analyse ESG factors. The growing power and availability of new statistical and computational tools is allowing hedge fund managers to sift through more data on their investments. If a company does not release ESG data a hedge fund manager can now use such tools to analyse social media posts about that company in order to see whether people are complaining about it. Further, more third-party firms now offer reliable research on companies' ratings on ESG factors.

Moreover, as Lee Ainslie notes, the rise of systematic hedge funds may make the industry more able to adopt responsible investment: "systematic funds tend to hold more securities for a shorter period, and as such can exchange investments that are deemed irresponsible more easily than traditional discretionary hedge funds can." Investors are

[6] EY (2017), *Is your nonfinancial performance revealing the true value of your business to investors?*, p.7
[7] FTSE Russell (2017), *Smart beta: 2017 global survey findings from asset owners*, p.35

also increasingly interested in adding ESG to their smart beta products.[8] Should systematic funds continue to grow in popularity so too may the hedge fund industry's ability to implement responsible investment.

THE FUTURE

While not every hedge fund firm will adopt ESG or SRI in the near future, the confluence of investor demand, improving ESG data, and technological capacity may push more managers to offer their investors a greater level of responsible investment opportunities.

More hedge fund managers are likely to adopt Stuart Roden's (Chairman, Lansdowne Partners) attitude towards investor demands for responsible investment. As he explains his firm's screening process, "if our clients supply us with a list, we will adhere to it as long as this is not hugely restrictive." Such an approach is easier, and cheaper, than investing around ESG factors. While the church and the student union may not be able to agree on what constitutes social responsibility, they may both agree that they do not want their capital going to the manufacturers of, say, landmines.

Larger managers, meanwhile, are increasingly likely to offer fully fledged ESG funds and portfolios. These managers will have the operational capacity and access to new technology necessary to collect, analyse, and evaluate data on ESG factors. In doing all of this, they will be able to test the hypothesis proposed by some that there is alpha to be gained in ESG, since companies that score strongly on ESG criteria may outperform their competitors. We are already seeing this trend: large managers are already offering their investors ESG options. Luke Ellis, for instance, says that ESG is already "an area which we are very committed to," while Stuart Roden has launched a clean energy fund at his firm. In short, in the coming years larger hedge fund firms, especially multi-strategy managers, will likely give their investors the option of allocating to ESG funds.

As investor demand for responsible investment grows, hedge fund managers will respond. The shift towards responsible investment, Stuart Roden argues, "is very, very real." In the coming years, most hedge fund managers will offer at least some of their investors the opportunity to exclude certain investments from their portfolios. Large hedge fund firms will use new technology to monitor their investments, and use the data they gain to create ESG portfolios and funds. While not every hedge fund manager will offer ESG or SRI in the near future, every investor will be able to find a manager who does. As with every other facet of the industry, hedge fund firms are responding to investor demand.

While hedge fund firms contend with the winds of change that are only just beginning to buffet the industry, they are also beginning to change their own internal functions, and how they work with clients. They are, in essence, future-proofing themselves, so that they can continue to meet changing client needs. ■

[8] FTSE Russell (2017), *Smart beta: 2017 global survey findings from asset owners*, p.33

Philippe Jordan

President, CFM, on how deploying responsible investment can be an additional constraint on investing

We have taken a look at ESG factors and to date have not found any evidence that E and S are accretive to portfolio returns. That is not to say they are not valuable principles in the wider context of our complex societies and ecosystems, but there is no evidence to date that they contribute positively to increased portfolio returns or decrease risk. The one notable exception is the governance factor which conceptually closely resembles the Fama-French quality factor which does indeed exhibit the traits of persistent increased returns over the benchmark.

There's an old-fashioned mind-set that leads investors to say to companies: 'if I'm going to invest my money to build out your business, you're going to have to take my value system.' But if you do enough of that the only thing that happens is that companies no longer do IPOs. They sell their stock privately, instead. ESG investors end up sawing the branch on which they are sitting.

The problem is that these are not laws; they are private value systems. We operate under many constraints at our firm in London, Paris, New York, Tokyo and later this year Sydney because it's the law of the land. For instance in France, you cannot invest in the manufacturing of cluster munitions, and we respect that. Some of our clients have constraints of their own and respect their national laws and ask us to build portfolios that reflect these constraints. Businesses respect the law. But I think the idea that companies in different jurisdictions should all respect an undefined value system is deeply counterproductive. Instead of doing this, laws should be passed so that we are able to invest in an efficient manner under the rule of law.

FIONA FRICK

CEO, Unigestion, on how ESG can be beneficial when making investment decisions

We believe that integrating ESG criteria into our decision making process is essential to better understand the risks of our investments, and therefore has a positive impact on the risk-adjusted performance of investor portfolios. We view risk management as a means to achieve outperformance and believe that the inclusion of environmental, social and corporate governance criteria can form an integral part of this comprehensive and holistic risk management approach. As an example, our job as an investment manager is to define which risks we want to take and choose those where we believe there can be a positive outcome. In regards to environmental risk, we believe that the asymmetry is negative; there is more of a chance of a negative outcome than a positive one.

More philosophically, I think that ESG will take a bigger part of our investment philosophy going forward.

More and more asset managers will be asked to make a positive impact on society as well as increasing the value of their clients' assets. There are already around 1,500 signatories—including asset owners and managers—to the United Nations-backed Principles for Responsible Investment. These principles encourage asset managers to act as stewards of the corporate landscape, and have brought about considerable improvement in companies' corporate governance through proxy voting by asset managers and their engagement processes to improve corporate behaviour.

This trend is apparent among our client base too. More and more of our investors have to show to their stakeholders that their investments are having a positive impact beyond rising in value.

ARE HEDGE FUNDS WORTH THE FEES THEY CHARGE?

Jane Buchan

Managing Director and CEO, PAAMCO;
Co-CEO, PAAMCO Prisma Holdings

One of the things that is sometimes lost in this debate is that traditional long-only active management is incredibly expensive for the investor, if you look at what you get versus what you pay for. As an example, take an active long-only fixed-income manager, who is probably charging 30 to 40 basis points in fees and is probably adding 15 basis points of active alpha. So, while the fee level is very low, when you look at the alpha that is being generated for it, it is actually very expensive. On the other hand, if a manager could generate 1,000 basis points consistently in alpha, there are a lot of people who would be happy for them to keep 40% or north of that. So allocators are prepared to pay, provided that the alpha is delivered.

Stuart Roden

Chairman, Lansdowne Partners

When it comes to fees charged by hedge funds, between 20% to 30% of the alpha (that is generated for the investor) being given to the manager seems sensible. Below 20% is too little and above 30% is too high. The concern, though, is if that becomes the new fee structure, how do you set up a new fund as a new manager when the management fee is going down and costs are going up? That's a big challenge for any hedge fund business.

Leda Braga

Founder and CEO, Systematica Investments

One element of hedge fund compensation that adapts naturally is the performance fee. So, when performance is lower, that part of the fee is lower. But management fees have been compressed so much. Quantitative investment shops like us have been so far away from 2-and-20 that we have been really squeezed on costs. This has, for us, become a very low margin business.

Ray Carroll

CIO, Neuberger Berman Breton Hill

In our flat fee funds if you perform you are rewarded with more inflows. We are agnostic on fee structure. We are willing to propose performance-only fees, and flat fee-only fees based on investor preference. We can come up with a fair fee level for any structure. This lets us compete against other traditional firms. We are able to undercut on the management fee because we can tack on a performance fee, which lets us have a favourable response to RFPs versus the more traditional funds. The reverse is also true with our hedge fund product: in that we can lower performance fees for investors and make any shortfall up with the management fee.

Robert Koenigsberger

Founder, CIO and Managing Partner,
Gramercy Funds Management

We pivot the conversation with investors around the types of fee structures we can offer to our investors. Some investors are more management-fee sensitive and some are less, so we tend to talk about a menu of fee options. The key to all of this is determining what the value-added is to the investor. This value is based on the question that we ask ourselves, namely did we meet or beat the client's expectations when we put up returns in normal and abnormal markets, and did we preserve their capital?

The point is that we are not rigid on our pricing; we have different fee buckets for investors to choose from. We don't want to be known for my management fees but rather my performance fees. We want to perform for our clients and get paid; that's why we want a disproportionate amount of income that the firm generates to come from performance. The industry needs to get back to being paid for performing rather than earning an asset management fee for gathering assets.

Sir Paul Marshall

Chairman and CIO, Marshall Wace

A share of any profit earned where two-thirds of the alpha goes to the investor and one-third to the manager is about the right equilibrium. There should be very meaningful price differentiation. Good products should be highly priced and poor products should be priced lower. If you are selling tickets in a football ground, the best go for the highest price and the ones that have a restricted view will be priced lower.

There are quite a lot of hedge fund managers who employ a relatively small number of people, and don't invest in the infrastructure of the business but rather the star individual. On the other hand, where a firm makes huge investments in the business to gain an edge, then clients have to recognise this, and if they take away the management fee, then they are taking away the ability of the manager to invest in the business.

Professor Lasse Pedersen
John A. Paulson Professor of Finance and Alternative Investments, New York University Stern School of Business; Professor of Finance, Copenhagen Business School; Principal, AQR Global Asset Allocation

Fees are important to investors so they are right to focus on getting fair fees and trying to negotiate as low fees as possible. In the end, what matters to investors is that they can expect a positive outperformance after fees, that is, that the manager delivers a larger alpha than the fee charged.

The specific nature of the fee structure often differs across investors and managers and seems of lesser importance than the overall level of fees. Investors often compare the size of the fees to the assets under management, but ultimately the fees should be seen as a fraction of the manager's outperformance.

3

PREPARING FOR THE FUTURE

In order to contend with the multiple disruptions they face hedge fund firms are changing the way they work internally, from whom they hire to how they serve their investors. In order to remain competitive and position itself for success, the hedge fund firm of the future will need to adopt new, innovative approaches towards its talent, its products, its partnerships, and its value proposition.

Sir Paul Marshall

Chairman and CIO, Marshall Wace, on the importance of quantitative talent for the hedge fund industry

Brilliant people are still being attracted to work in the hedge fund industry. They tend to have different job profiles from my days though. I'm a history graduate with A-level maths. Now there's much more of an emphasis on hiring quantitative talent and on securing people with a higher emphasis on their mathematical skills; the mathematicians we hire these days could run rings around me.

We're still hiring fundamental managers and analysts, and they're still extremely important. But we're also boosting our fundamental business by building a 'quantamental' capacity within it, which means that we're crafting 'quants' into our fundamental business.

This shift towards the industry hiring people with more mathematical backgrounds is only going to increase. But any such hires will have to work effectively with people who have a more fundamental knowledge of finance and investing—that is those who know the companies and have the skills to analyse them.

THE RIGHT STUFF

KEY TAKEAWAYS

Hedge fund firms are having to compete harder than ever for talent, as the industry comes into direct competition for talent with the technology sector.

Hedge fund firms will need to foster greater internal collaboration and diversity in their workforces.

Hedge fund firms are increasingly looking to institutionalise themselves and outlast their founders.

Hedge fund firms are discovering that the industry's old approaches to hiring and retaining talent need to change. Consequently, they are increasingly hiring quantitative talent, a shift that is moving the hedge fund industry into direct competition with the technology sector, forcing hedge fund firms to rethink how they deploy and retain their talent. The cumulative effect of these changes is that, at least when it comes to talent, the hedge fund firm of the future may look more like Silicon Valley and less like Wall Street: flatter, more collaborative, and more diverse.

Hedge fund firms need employees who can run the new statistical and computational technologies that are rapidly becoming necessary to compete in the industry. Rather than hiring traditional financial talent, hedge fund firms increasingly prefer to hire employees with a deeper understanding of statistics, mathematics, and computer science straight from university. The new quantitative talent, Anthony Kaiser (Founder, CEO, and CIO, Kaiser Trading Group) explains, is "less traditional, and more scientific—think physicists, not economists." Once hired, these new employees are trained in finance under the assumption that, as Philippe Jordan (President, CFM) explains, "it's a lot easier to transform a scientist into an MBA-type person than the other way around."

This is not to say that the industry's demand for financial talent has disappeared; hedge funds firms still need people who understand financial markets. Ironically, some hedge fund principals say that finding those people is becoming more difficult, thus increasing the demand for them. This difficulty is partly caused by more university students electing to go into quantitative disciplines rather than studying finance. It is also being driven by changes that are taking place across the investment banking industry, which has traditionally provided the hedge fund industry with talent. As both Stuart Roden (Chairman, Lansdowne Partners) and Luke Ellis (CEO, Man Group) note, investment banks have become more risk-averse since the financial crisis, sharply curtailing the autonomy of their analysts and limiting the amount of experience that they can gain.

Hedge fund firms are also realising that they need to hire not only a diversity of talent, but also from a diversity of social backgrounds. The hedge fund industry's struggles with diversity are well known. Only 5% of hedge fund portfolios are managed by women, and talent has historically been drawn from a relatively small, elite circle.[1] This lack of diversity can have harmful effects on the quality of a firm's decision-making, fund performance, corporate culture, and even investor relationships. Hedge fund firms recognise this problem, as well as the need for change. As Luke Ellis explains, "we're not looking for a bunch of people who went to the same universities and worked at the same firms. A business made up of individuals who think more or less the same is not going to get you alpha in our view."

The good news is that hedge fund firms are not, despite what some have said, short of talent. There is a growing pool of available quantitative talent from which to hire, as university graduates naturally move to more lucrative degree paths. Philippe Jordan is not alone when he says that his firm has an "enormous pipeline of talent to choose from." Further, for many top graduates, finance is simply what interests them most. As Tom Hill (Chairman, Blackstone Alternative Asset Management; Vice Chairman, Blackstone) notes, "if you are passionate about the financial markets, the hedge fund model provides you with the most tools and flexibility to demonstrate your capabilities."

The bad news, however, is that hedge fund firms have to compete harder for the top talent, according to Seth Fischer (Founder and CIO, Oasis Capital): "hiring the best is harder today than it used to be." The industry's demand for quantitative talent is increasingly bringing it into competition with the technology industry. Like hedge fund

Anthony Kaiser

Founder, CEO and CIO, Kaiser Trading Group, on talent retention in the hedge fund industry

If you're a smart person you're going to ask yourself where you can do work that you like, and where you can get rewarded for doing it. That's the balance we have when trying to recruit talent. We're always trying to do things with universities. We're thinking about offering a prize for students who can come up with a concept, so we can assess whether a student's any good or not and hire them before they leave university.

As for keeping people at your firm, first you have to find what motivates people to do their job. The number one motivator for intellectual people is satisfaction with the work they're doing: seeing something come to fruition and be put to real use. They want to be able to say 'I built that.' Then you try to create a collegial, friendly work environment, where people have access to innovative tools and there's freedom of ideas. Then you need to reward them. Then you hope that you've done all these things right and that they want to stay and have their name on the door one day.

[1] Aggarwal, R. and Boyson, N. (2015). The Performance of Female Hedge Fund Managers. *Review of Financial Economics*

Robert Koenigsberger

Founder, CIO and Managing Partner, Gramercy Funds Management, on how best to retain and cultivate talent within a hedge fund

We view the development of our employees as akin to creating an investment firm that is a perpetuity in its nature rather than an annuity. Every day we are thinking about how we're going to perpetuate ourselves. And that means hiring the right people, retaining those people and giving them meaningful careers.

We have four tenets that support the ongoing development of our employees. First, we believe that everyone should get a base salary, and that should be sufficient to feed their family and not their neighbourhood. Number two, there should be some kind of bonus that can be a meaningful multiple of that base. Number three, it's about equity. Everybody at Gramercy owns equity, from the front door of this business to the back door. And the last tenet is to give people a meaningful career. We always have a three-year business plan for the firm, and we create a three-year plan for each member of staff to correspond with that. We say here's where we're going, what will you do to be a part of that growth?

EXHIBIT 5
AGEING HEDGE FUND FOUNDERS

Average age of leading hedge fund founders

Source: AIMA Research
(Based on a population of hedge fund manager principals who founded their firms before 1995)

firms, technology companies have an insatiable demand for quantitative talent and a willingness to pay handsomely for it. Further, the technology industry is considered by the general public to be more socially responsible, and at least as lucrative, as the hedge fund industry.

THE HEDGE FUND FIRM OF THE FUTURE

In order for hedge fund managers to benefit the most from the talent available to them, they will seek to have their quantitative employees and financial employees work together more effectively. Professor Jim Liew (Assistant Professor of Finance, Johns Hopkins Carey Business School) argues that the hedge fund firm which successfully integrates employees who are experienced in markets with employees experienced in analysing data—thus creating a 'quantamental' capacity—will have a winning combination. Success in the future, he argues, will come from having "a combination of someone who is seasoned to the market, and surrounding them with people who can code up ideas and access data."

This need for collaboration may very well change the industry. The hedge fund firm workforce of the future is less likely to centre on a single star performer and more likely to centre on a team of skilled individuals, each of them with different specialisations. Ironically, this reality is likely to push hedge fund firms towards a talent model more reminiscent of the technology sector, with flat hierarchies and open cultures that focus on greater collaboration and innovation. Some hedge fund industry leaders are already looking to the technology sector for guidance on handling and retaining talent. Having toured Silicon Valley in early 2017, in an effort to better understand how technology companies think about recruiting and attracting the world's best talent, Ken Tropin (Founder and Chairman, GCM) notes that the talent recruitment and retention models used by technology companies are highly relevant to the hedge fund industry, since the "people that are key to the future of hedge funds don't differ a lot whether they work for a technology company or an asset management business. Our mission statement is focused on collaboration, innovation and the diversity of ideas. I believe these factors are essential in both the asset management and technology space."

Hedge fund firm personnel will also become more diverse in terms of gender and background. Firms are already working on initiatives to increase the diversity of their workforces. In the coming years, more hedge fund firms will sponsor scholarships and prizes for women interested in working in the field of maths and science. Further, some firms are already revisiting their hiring processes, doing such things as softening expectations that all new hires possess graduate degrees from prestigious universities—historically a significant barrier to diversity. These changes will allow hedge fund firms to minimise any bias that might exist towards hiring from the elite, and instead help them acquire employees based entirely on their skill and individual merit.

More numerate, more diverse, flatter, and more collaborative—that is what the hedge fund firm of the future will look like, say today's hedge fund principals. Pushed by the existential imperative to attract the best talent, hedge fund firms will change the way they approach their human capital. Ultimately this will strengthen the industry by allowing for greater innovation and a wider variety of voices to be heard.

BUILDING A FIRM TO LAST

While the hedge fund industry contends with a changing talent pool, it is also grappling with the question of what to do with the hedge fund principals themselves. A generation of hedge fund managers is nearing retirement age (see Exhibit 5). At the same time, institutional investors are pressuring hedge fund firms to create more robust succession plans. According to David Haley (President, HBK Capital Management), "investors in a new age want more responsiveness, more clarity, and they have more say than ever, demanding logical answers to questions about the succession plans of the firms in which they invest." Faced with a demographic crunch and changing investor demands, many hedge fund firms are wrestling with the question of how they will outlast their founders.

Several hedge fund principals who are at the forefront of succession planning, including Philippe Jordan, have suggested firms sell part of their equity to a third party in order to establish themselves as enduring businesses. This is an increasingly popular option in the hedge fund world, and such equity is already being bought by asset managers. Selling equity provides hedge fund firms with an infusion of capital (which can be used to meet the increasingly expensive infrastructure demands faced by the industry), but it also acts as a statement of a firm's intent to continue as a going concern for its investors. A third party will generally not go through the effort of buying equity in a firm if they think that it will close any time soon. By buying equity the third party reassures both the hedge fund firm's investors and its employees of that, as well. The third party can also monitor the implementation of a firm's succession plan in order to make sure it runs as it should.

As the hedge fund industry matures and consolidates, and as infrastructure costs and competition for talent increase, hedge fund firms are increasingly choosing to institutionalise themselves. Planning for succession is a key part of that process. ■

Robert Koenigsberger
Founder, CIO and Managing Partner,
Gramercy Funds Management,
on how his firm plans for succession

When it comes to planning for succession for the business, we sat down and developed a plan for how we are going to handle it. The three risks we identified were first, friction with the estate in the case of an unplanned succession (in the event of the founder dying or becoming incapacitated and therefore unable to discharge his or her duties), second, retention of the firm's employees, and third, to make sure that we are doing the right thing by our clients.

We use large amounts of key-man insurance to defuse those three different areas. In the first instance, we communicate what we intend to do to our clients so that they're satisfied that we really are a perpetuity. Following that, we cut a deal with the estate of the founder so that some amount of the insurance will go to them and there can be no dispute. Finally we will offer our employees retention bonuses and a percentage of the stake to be shared among the firm's staff.

Tom Hill

Chairman, Blackstone Alternative Asset Management; Vice Chairman, Blackstone, on succession planning and the importance they hold in managers who think seriously about this and act on this

We are constantly monitoring how our hedge funds are evolving their businesses. Have they gotten too big? Are the principals sharing the economics? How are they dealing with new lines of business? Are they embracing innovation or dismissive of it?

If a hedge fund manager is not actively thinking about how they are going to change their business model, they're standing still and may become obsolete. Hedge fund managers are very smart, but some struggle at creating going concern value, and others struggle at letting go of control, either of which can be fatal for their businesses.

JANE BUCHAN

Managing Director and CEO, PAAMCO; Co-CEO, PAAMCO Prisma Holdings, on diversity in the hedge fund industry

There's enough emerging talent for the industry. The sad thing, though, is that the industry is still very much an old boys' club. This problem is even documented in academic papers. A recent academic paper found that there was no difference at all in the way men and women manage money. The problem, though, is that the paper also found that women have to outperform men by a couple hundred basis points in order to get the same AUM. That's the real conversation. It's not raw skill, it's the way investors make their allocations.

People bring a presumption to the table that if someone doesn't look like them—if somebody is female or from an under-represented ethnic group—they must not do as well, so therefore 'I'm not going to allocate as much to you,' or 'I'm going to place you in a different role.' People get fixated on relatively meaningless things, like an Oxbridge degree or experience at Goldman Sachs. Again, the issue isn't where the better returns are, it's that people aren't allocating to people who don't look like them. That's the real conversation that needs to happen.

The industry should be open to everyone.

David Haley

President, HBK Capital Management, on how the hedge fund industry is moving towards a greater customisation of products

One of the great transformations in our industry is that we have gone from a manager-driven model to an investor-driven model. I think the customisation of products is healthy. I don't think it's going to eliminate the need for products that serve a broader need for investors.

To draw an analogy to the car industry, people are not going to a car lot to buy a car any more, they are going to buy something specific that suits their needs best.

PRODUCTS, PARTNERSHIPS AND PROCESSES

KEY TAKEAWAYS

Hedge fund firms will increasingly tailor their offerings to the portfolios of their investors, and create bespoke solutions.

Hedge fund firms will focus more on client service, and on providing value-added services to their clients.

Hedge fund firms will need to adopt new distribution models if they are to win retail investors.

Faced with what is fast becoming a buyers' market, hedge fund firms are becoming more responsive than ever. Investors are demanding more from hedge fund firms than ever before, through bespoke mandates, value advisory services and deeper partnerships; firms are having to find ways to meet those new expectations. While most hedge fund firms do not yet want to become part of the wider asset management industry, says Andrew McCaffery (Global Head of Client-Driven and Multi-Manager Solutions, Aberdeen Standard Investments) the industry is starting to shift in that direction for larger firms that manage a range of strategies. The hedge fund firms likely to be best positioned to thrive in the future will offer a hybrid service model, delivering the best of active investment management.

This transition is already underway, with the rise of unconstrained investment products that offer the potential to construct a superior portfolio and dynamically pivot its range of exposures, and with the emergence of smart and alternative beta, which deliver this value through research and risk-based portfolio analysis.

ANDREW McCAFFERY

Global Head of Client-Driven and Multi-Manager Solutions, Aberdeen Standard Investments, on the value provided by multi-managers to investors

The rationale for clients to allocate via a multi-manager offering hasn't changed and we do not believe it will in the future. However, allocators will only succeed and grow if we offer something that investors want and need. In order to compete, asset managers must have access to internal expertise that allows them to advise clients on construction and analysis of portfolios based upon a holistic risk-oriented approach, allowing for consideration of how alternative strategies sit with traditional asset classes reflecting similar factor exposures. We have a deep understanding of the difference between alternative beta and alpha and are able to use this knowledge to help investors allocate their fee budgets more effectively. We are also able to identify niche premia which are often hard to find or hard to access. Allocators that have created the resources, experience and infrastructure are well placed to seek out these opportunities. The need to identify these niche situations, higher alpha funds and systematic capture of alternative factor beta will remain at the forefront of the industry as it continues on its evolutionary path.

TAILORED SOLUTIONS

The hedge fund industry is increasingly moving towards an investor-driven model. This differs from how the hedge fund industry has traditionally operated. Previously, the industry focused on offering style and sector-focused products. Today, hedge fund firms partner with investors to understand their needs and create bespoke mandates. These mandates are tailored to the wider portfolio of an investor, and they will "increasingly be the business of choice for some allocators," predicts Tom Hill. Creating customised solutions to precisely meet an investor's individual risk and return targets can also deepen pre-existing relationships. As services such as managed account platforms gain more traction, the scope for tailor-made alignments of interest is likely to increase. Handled correctly, this should enhance the ability of hedge fund managers and investors to build mutually constructive partnerships.

PROFITABLE PARTNERSHIPS

As the hedge fund industry evolves and investor demographics become increasingly heterogeneous, multi-managers, with their resources, experience, and infrastructure, are well-placed to help investors access these new opportunities. Further, there will likely be a greater level of fund transparency, true knowledge sharing, and more co-investment options, as managers and investors align their interests more closely.[2]

Investors are increasingly turning to asset managers for access to intellectual capital that extends beyond the provision of individual products. Hedge fund firms that enhance the customer experience and offer advice, insight, and expertise to their investors should be able to distinguish themselves from their competitors. Knowledge sharing between a hedge fund firm and its investors can play a crucial role in any developing partnership. Indeed, hedge fund firms that are true thought-partners are arguably best positioned to both retain investors, and win new ones.

Hedge fund firms are increasingly realising this, and taking steps to ensure that their client investment teams and investment relations operations are of the highest quality. They are making significant, high-quality investor relations hires in order to be able to deliver expertise and solutions to their investors in a coherent fashion. These investor relations roles are structured so that they act as a nexus between the senior investment personnel of a fund and its investors.

Hedge fund firms are also reorienting their business models towards co-investing with their investors. Such co-investments, Omar Kodmani says, are a "major point of interest" for many investors, since partnering with hedge fund firms "enables investors to pursue higher octane returns through more targeted exposures." These co-investments can be one-time investment opportunities within the scope of a main fund, or they can be organised as separate or independent co-investment funds. By creating these arrangements, hedge fund firms can retain investors and build goodwill with them. Further, a firm's other investors may allocate to the flagship fund with an eye towards getting access to a co-investment opportunity. Given that this is a relatively new concept, hedge fund firms can still distinguish themselves from their peers by offering co-investment to their clients.

"Hedge funds need to have better alignment with their investors," argues Danny Yong (CIO and Founding Partner, Dymon Asia Capital). Flexibility is the key to the alignment of interests between hedge fund managers and their investors. This reflects a general trend within the hedge fund industry, as it moves away from pre-defined products, and towards variegated solutions. If handled correctly, these solutions should enhance the ability of hedge fund managers and investors to build sustainable mutually constructive partnerships.

REACHING NEW INVESTORS

With the hedge fund industry now responsible for a record-high level of assets under management, hedge fund firms are having to think hard about how to make sure their business model remains relevant.[3] In the first instance, success for any hedge fund firm starts with growing its assets under

[2] For further discussion on this topic, please see AIMA's "In Concert" paper https://www.aima.org/uploads/assets/uploaded/df23fb37-78ff-4d57-88859a7d70167d02.pdf

[3] At the end of December 2017, total hedge fund industry assets under management stood at USD 3.2 trillion. See: HFR, (2018). Investor Inflows Accelerate as Hedge Fund Capital Eclipses Milestone. [Online] Available at: https://www.hedgefundresearch.com/news/hfr-global-hedge-fund-industry-report-year-end-2017-published [Accessed 8 Mar. 2018]

Ken Tropin

Founder and Chairman, Graham Capital Management, on the value hedge fund firms provide to their investors

Investors appreciate that they have done really well being invested in equities over the past eight years and, as such, it may have cost them something to diversify, as diversification can be expensive when the asset that you're trying to diversify from is out-performing its historical benchmark.

Investors then have to ask themselves what the value of diversification will be to them in the foreseeable future, and whether it will be worth paying for—especially in light of global central bank policy changes, higher inflation, and political uncertainty in certain regions—as the global economy is unlikely to repeat the same cycle of the recent period.

Leda Braga
Founder and CEO, Systematica Investments,
on widening the distribution of hedge fund products

One of the biggest structural challenges for our industry is how do you get the types of product that we and other hedge funds produce to be distributed more widely, and that in doing so, we recognise that some of these products that are more dynamic in their nature than a long-only product ought to be priced at a premium.

management; that usually means finding new investors. More than ever, if hedge fund firms wish to expand their assets under management, they must differentiate themselves and innovate by having robust business strategies. To do this they need to think about how best to bring in the capital they need to implement new ideas. This change—moving away from focusing on the investment strategy towards thinking more about how to best run an asset management company—is a significant one. There is a trend towards moving away from the closed shareholder, largely 'founders only' approach, according to Andrew McCaffery.

As competition for institutional flows intensifies, attracting retail investors may become an increasingly important growth strategy for hedge fund firms. Individual investors have expressed an interest in obtaining exposure to quality hedge fund strategies. When Tom Hill and others at Blackstone Alternative Asset Management discussed launching retail products to hedge fund managers, many of them thought it was a great idea. "Retail products are beneficial for both individual investors who want exposure to the hedge fund industry and for managers who are thereby able to diversify their revenue streams," notes Mr Hill. The combination of new technologies and a new set of client demands are spurring new market entrants to try to win market share.

Without changing their distribution models, hedge fund firms are less likely to be able to win retail business. To position themselves to do so they will need to embrace digital and mobile technology in order to engage a wider investor audience. Doing so will allow them to have the scalability, accessibility, and transparency retail investors expect, as well as the opportunity to service those investors at a much lower cost than has historically been possible. This technology will also offer hedge fund firms the opportunity to better understand an investor's preferences, measure the sales effectiveness of investment solutions, and help tailor products to address different investor appetites.

DRIVING FOR EFFICIENCY

As profit margins continue to be pressured, hedge fund firms may seek additional operational efficiencies by outsourcing non-core activities, particularly from their middle and back offices. In doing this, more hedge fund firms may partner with specialist service providers and financial technology firms.

Professor Lasse Pedersen

John A. Paulson Professor of Finance and Alternative Investments, New York University Stern School of Business; Professor of Finance, Copenhagen Business School; Principal, AQR Global Asset Allocation, on the public perception of hedge fund firms

The public often has a negative perception of intermediaries (used car dealers, real estate brokers, bankers, etc.) so the hedge fund industry needs to try to convince the public that it is an innovative industry that seeks to deliver better portfolio performance for the benefit of a large number of savers (e.g., through pension fund investments), that hedge funds play by strict rules under supervision, and that their work ultimately helps the functioning of the capital markets by making markets more efficient such that the most productive firms are allocated capital, benefitting economic growth.

The future hedge fund model will leverage technology, people, and processes to ensure a sustainable competitive advantage. This business model hinges on a world-class infrastructure and innovative ways of managing costs that enhance scalability in order to appeal to the wider investor universe interested in hedge funds and alternatives.

ENDURING VALUE

Hedge fund firms must continue to differentiate themselves in the eyes of investors if they are to flourish in the future. Between their individual pension obligations, university budgets, philanthropic goals, or insurance payment schedules, the liability streams of investors are as varied as the colours in a rainbow; so are their expectations from their hedge fund allocations. Further, the cyclical nature of investing means that fund managers will have to better understand market trends, and develop business strategies for both the short-term and medium-to-long-term investment horizon, providing products for both the decumulation phase of life, and for when investors desire to accumulate assets.

The high beta environment—and the challenges that traditional investment strategies have had in delivering alpha—has only increased the tailwinds for investing in alternatives, as investors place a greater emphasis on the ability to deliver better risk-adjusted returns, as well as on portfolio diversification. When markets become more volatile and beta returns deteriorate, investors will need to look beyond asset managers who provide investment returns that simply beat an equity benchmark, predicts Kyle Bass (Founder and CIO, Hayman Capital Management), “and hedge funds will do very well in that environment.” Consequently, there is likely to be a greater separation between active managers, passive managers and rule-based managers, with managers who offer risk mitigation becoming more valuable to investors than has been the case in recent years.

Investors continue to view the key attraction of allocating to hedge fund strategies as “the ability to provide better diversification and improved risk adjusted returns for their overall portfolio, through utilising different risk and return drivers,” says Andrew McCaffery. The variety, fluidity and sheer creativity of these investment strategies provides the flexibility to adapt to any uncertain liability stream of any investor.

Professor Robert Merton

School of Management Distinguished Professor of Finance, MIT, on how building a better reputation for the industry starts with improving its trust

The trust between the provider and the consumer in finance, between the consumer and the regulator, and between the provider and the regulator has broken down. It used to be that the regulator would be able to call on a hedge fund manager to help them understand better the mechanics behind the investment strategies that they pursued. But now any time a manager talks to a regulator they are treated with suspicion, as if they are trying to cheat them in some way and harm society. That’s a lack of trust, and there’s a big cost attached to it.

The financial services industry, and all actors who participate in this industry, must find a way to rebuild this breakdown of trust, and regain the value lost for the industry as a result.

Kyle Bass

Founder and CIO, Hayman Capital Management, on how it is the wrong time for investors to exit hedge funds

I think it is absolutely the wrong time to get out of hedge funds. I think we have had eight years of an unprecedented bull market, and we’ve had very little to no volatility in long-only strategies, so history will prove this is the wrong time.

Sir Paul Marshall

Chairman and CIO, Marshall Wace, on his optimism for the future of the industry

There are two big reasons for the industry to feel very positive about the future. One is that we are in an era where there is an unparalleled explosion of the availability of information, which you can use in new ways to generate alpha. Whoever embraces that opportunity will do extremely well. It does require a complete shift of your mind set and your business model. And it requires significant investment in resources.

The second reason is that there is an explosion in the growth of fintech and in ways of delivering financial products to people, particularly, the emergence of the private credit sector.

LUKE ELLIS

CEO, Man Group, on how hedge funds are building lasting partnerships with their clients

What people often forget is how fundamentally Darwinian the hedge fund industry is; if you don't perform or serve your clients' requirements, you obviously don't survive.

As I see it, there are two key factors that enable managers to evolve and stay ahead of the curve in delivering results for clients. The first is real innovation, underpinned by technology. Generating alpha is possible but it is hard work, and sources of alpha degrade over time. In parallel, new technologies and techniques create new opportunities for those investors able to take advantage of them.

The second is forming true strategic partnerships with clients, based on a detailed understanding of the client and their needs. Ultimately, our purpose is to help those global institutions meet their investments needs, to deliver better pensions to the fireman in Idaho, the bank teller in Hull, or the factory worker in Osaka. As an industry, we need to stay focused on that purpose, looking outwards rather than inwards, listening to clients, and always thinking about how we can best help them. We mustn't take anything for granted – but continually invest in innovative talent and cutting-edge technology, while building a deep understanding of clients' needs. This is how the industry will progress and survive.

TRUST

The factors shaping the future course of the hedge fund industry should lead to greater transparency, enhanced governance, better talent management, and an even closer alignment of incentives and objectives between hedge fund managers and their investors. These forces will also place an even greater premium on trust not only between hedge fund firms and their investors, but also between firms and the wider public. In an age of data privacy and public scrutiny of investment decisions, trust will be critical to the running of any hedge fund firm. As Professor Robert Merton (School of Management Distinguished Professor of Finance, MIT) argues, "while public perceptions may matter more for retail funds, the financial industry, including the hedge fund industry, needs to be mindful of the need to restore trust with the general public."

Hedge fund firms are increasingly recognising the need to build trust. As David Haley observes, "the industry's reputation among investor decision makers is as good as it has ever been. But outside of those decision makers, the industry's negative reputation has an impact on the decisions of a subset of investors. AIMA and MFA have a special role to play in reshaping the narrative about the industry with the broader media, and more widely with policymakers and investors."

Despite all the changes that will affect hedge fund firms over the coming years—from new products and technologies that could not even have been imagined when Alfred Winslow Jones first opened the doors of A.W. Jones & Co. in 1949, to new types of talent and investment structures, to new expectations of what can and cannot be invested in—one thing will not change. Investors will still need to trust hedge fund firms to do what they do best: deliver risk-adjusted returns, efficiently allocate capital, and guard the public's savings. ■

Professor Campbell Harvey

Professor of Finance, Fuqua School of Business, Duke University; Research Associate, National Bureau of Economic Research; Investment Strategy Advisor, Man Group, on how the hedge fund industry needs to do a better job of managing public perceptions

The hedge fund industry doesn't do a good job managing public perceptions. Consider private equity and hedge fund management. Private equity people have done a better job of managing public perceptions, even though they often go in and lay off half of a company and introduce draconian changes. Yet hedge funds, because of a few bad apples, suffer from a worse reputation.

Sir Paul Marshall

Chairman and CIO, Marshall Wace, on repairing the industry's reputation

The hedge fund industry is facing a combination of reputational issues. Ethical issues coupled with mediocre performance are a problem. The response from the industry must be to help investors and others understand what it does and to articulate the social purpose of hedge funds. Hedge funds need to see themselves as stewards of other people's capital. We are looking after the savings of these people and carrying out a very important function. The industry needs to be aware of this and articulate it more often.

Seth Fischer

Founder and CIO, Oasis Capital, on the hedge fund industry's reputation

I wish the general public saw what hedge funds are doing—exploring how to produce higher rates of returns for all shareholders in the market by making the markets more efficient. Their actions are helping equity prices in general be higher and they are providing capital and wealth for everybody. If most people understood this, there wouldn't be so many TV shows about the hedge fund industry, because it would just be boring.

The viewer would see an industry that is full of people who are actually producing something—producing cheaper capital for every company in the world by making markets more efficient, and while doing so they produce excess returns that end up being able to help firefighters' pensions and the endowments of young students. All those people need investment returns, and hedge funds are helpful to them. We need to be telling that story.

TOM HILL

Chairman, Blackstone Alternative Asset Management; Vice Chairman, Blackstone, on the future of the hedge fund industry

The industry will continue to grow because hedge funds still provide the opportunity to source differentiated investment exposure with non-correlated returns. The industry may not grow at the rate it witnessed between 2000 and 2017, but we are going to see net gains. So, all the cries that it's the end of the line for the hedge fund industry—we're certainly not seeing that.

We are witnessing the evolution of the industry, where hedge funds that innovate and are flexible will become asset managers that succeed and grow.

WHY BE OPTIMISTIC ABOUT HEDGE FUNDS?

Lee Ainslie

Founder, Managing Partner and CEO, Maverick Capital

The good news is that the conditions that have perpetuated a multi-year headwind are starting to reverse, with the result being a possible multi-year tail wind for hedge funds. Looking forwards, we're entering a period where the possibility for alpha generation should be more rewarding and beta exposure will likely be less rewarding. When it comes to timing these opportunities, it feels like we have passed an inflection point where the environment is becoming more conducive for alpha generation, and, this contrast will be accentuated if there's a market correction.

Ken Tropin

Founder and Chairman, Graham Capital Management

The hurdle for the industry to perform in a more compelling way compared to the last eight years hopefully shouldn't be that high. We've had an absolutely perfect environment for traditional passive investing, with the Sharpe ratios for passive investing near all-time highs. So, if you were to say that a similar environment is going to continue, then challenges for the hedge fund industry will also likely continue. But if you expect that there will be an increase in directional volatility and bumps in the road for stocks and bonds as we have started to see in early 2018, then the opportunity set for macro hedge funds is very likely to improve.

Kyle Bass

Founder and CIO, Hayman Capital Management

My own view is that volatility returns to financial markets. We've had tremendous political volatility, and geopolitical volatility, and whether it's contained within one nation or whether it's global, the markets haven't reacted to that volatility at all yet.

What therefore makes me optimistic about this business is that unfortunately world history will end up repeating itself and we'll have some geopolitical risk really enter investment portfolios again accompanied by increased volatility.

With the introduction of those two ingredients our business should thrive, because the passive long-only investors will not do well in that environment in my opinion, and hedge funds will do very well in that environment, on a relative basis.

Omar Kodmani

SEO, EnTrustPermal

I am cautiously optimistic about the future of hedge funds. I have been in this business for over 17 years. 2000 to 2008 was a period during which hedge funds looked smart. 2009 to 2017 was an environment where hedge funds as a group did not add much value. Given the environment and valuations in which we find ourselves today, we can expect a better relative experience for hedge fund investment over the next five years. I would rank my optimism as 4 out 5.

Andrew McCaffery

Global Head of Client-Driven and Multi-Manager Solutions, Aberdeen Standard Investments

I've really believed in the growth trajectory for the last few years. I do believe there's a structural trend of investors increasingly allocating to alternatives. It isn't purely cyclical: it's here to stay and I believe will increase. I don't know whether hedge fund strategies are going to take the lead in this process again, or whether it's private equity, or real assets, or the gaps in between them.

However, I think alternative assets as a whole will become a much larger part of the investor portfolio over time. Investors are becoming more comfortable with the characteristics and enhancements different alternative assets and strategies bring to their portfolios. These changes can deliver greater robustness in return profile over the longer term. This is a structural trend that has been developing, and it is going to continue to gather pace. The likelihood is that we will see allocations across hedge fund strategies, private capital and real assets increasing to being between 25—50% of many major institutional investors' portfolios, as some already are. Hedge fund strategies are increasingly being integrated as part of this mix, rather than being purely a ring fenced allocation.

Jane Buchan

Managing Director and CEO, PAAMCO; Co-CEO, PAAMCO Prisma Holdings

People need alpha. Given the current environment of low interest rates, investors can't make the returns they need without alpha. Passive investing is good in a lot of places, but investment portfolios need alpha. I think you are going to see more passive investing, but you will also see more active asset management; people will be more interested in the active asset management part that is adding value.

We just finished a study where we examined the annual accounts of several corporate US pension providers. One of the things we saw is that there has been a 20% increase over the past three years in the amount of pension plans allocating to hedge funds. They are going to continue to increase their exposure to hedge funds for all sorts of reasons. The primary reason is that their capital pool is not going to exist 50 years from now, as that capital will have been paid out in retirement benefits. So, pension funds are taking money out of private equity, real estate, and other illiquid assets, because they are in a negative cash flow position, and they are moving that capital into hedge funds, which are much more liquid.

You are going to see more and more of that happening. Five years from now, I believe the passive investment guys will be bigger, the alpha creators will be bigger and the active long-only universe will be a lot smaller.

David Haley

President, HBK Capital Management

In the past, I've communicated that, as an industry, I think we are close to being mature. The shakeout hasn't completely happened yet, and it's only when this does happen that you can say we have matured. My expectation is that we will see the assets under management of our industry drift higher roughly in proportion to the aggregate industry returns. The times when the industry could grow 25% per annum when returns are up 8% are probably behind us. That said, there are many large pensions that are going to wish that they had alternative allocations. And the hard questions being put to CIOs are going to go from 'why are you paying so much in hedge fund fees?' to 'why did you only have a 4% allocation when the market went down 18% and all your competitors had 20% allocated to hedge funds?'

Seth Fischer

Founder and CIO, Oasis Capital

I look to the Asia-Pacific region as being a key catalyst for growth for the industry. Corporate governance for the region is improving with local governments taking the lead to effect positive change in this area. Consequently, I believe Japan, Korea and China will all benefit from the improving levels of corporate governance. In particular, the more that China aligns its governance to that of countries across the developed world, the bigger the market becomes as an opportunity set.

In addition, volatility and interest rate levels which have been so low for so long will also inevitably reverse. I don't know when that will be, but that situation will undoubtedly change, which will help to boost good returns for the industry again.

Danny Yong

CIO and Founding Partner, Dymon Asia Capital

Hedge funds need to have better alignment with their investors. They need to lower management fees to lower the carry cost for investors. It is in their best interest to ensure that everybody can afford to stay in the game, because at some point a reversion in the current market conditions (that we are experiencing) will occur, and that is when hedge funds will demonstrate their value.

Robert Koenigsberger

Founder, CIO and Managing Partner,
Gramercy Funds Management

I'm very optimistic for the future. If you look at other industries, either you evolve or you die. The 2-and-20 hedge fund compensation is over, and I don't just mean the fee structure. Real industry leaders over long periods of time are adapting to market conditions. I love looking at companies that have done a really good job at adapting. Is Apple about computers? Because that's what it looked like in 2006. The iPhone's only been around for a decade. Or the design of consumer products: I love to look outside of the industry for failures, people who didn't adapt. Take for example, Blockbuster versus the guys who figured out online movie streaming. Or the railroads: Were they in the railroad business or the transportation business? They decided that they were in the railroad business and they died. But they were ahead of the curve in transportation. Our core offering is really in the business of providing risk-adjusted returns in emerging markets for our clients. It will evolve around structures and market conditions but I don't think the desire for good risk-adjusted returns from emerging markets or risk management is going away anytime soon.

THE HEDGE FUND INDUSTRY WAS BORN OF DISRUPTION

Hedge fund firms have always been at the forefront of investment, embracing change and constantly innovating in order to deliver superior returns to their investors.

We live, however, in an era of profound disruption. Economic and social megatrends are reshaping societies and markets across the world, as old certainties fade and entire industries are imperilled. These changes are so profound that some have doubted the ability of even hedge fund firms to adapt quickly enough.

The hedge fund industry leaders with whom we spoke recognise the challenges they face. They know that they will have to embrace innovation in order to survive. They will need to harness artificial intelligence and respond to public opinion; reach out to new investors and offer new solutions to existing ones. They are confronted with phenomena that have toppled corporate titans and rent societies. Yet, they are optimistic.

Hedge fund firms have never had the luxury of standing still. The industry has had to justify its existence every step of the way, with investors constantly challenging managers to match their highest expectations.

This has bred an industry conditioned to innovate. Hedge fund leaders have always kept an eye on the horizon—they cannot afford to be behind the curve on anything. We saw the results of this attitude first-hand when we spoke to those leaders. Never did they hesitate when answering our questions, or tell us they were not familiar with a subject we raised. They had already thought about how artificial intelligence would be integrated into their firms; they could explain how they would reach new investors in minute detail.

In doing so they answered a question that went unasked in our conversations: are hedge fund firms ready for the future?

The answer they gave was simple and unequivocal: ‘yes.’

Seth Fischer
Founder and CIO, Oasis Capital,
on working in the hedge fund industry

There's nothing better than this job. I love it.

When I heard about hedge funds and looked at hedge funds 23 years ago I said, 'let me get this right: you have a pool of capital and you can just try to make money with that capital?'

It's all I wanted.

When I was in college I was trying to buy things and sell things and now all of a sudden I have capital and I can scour the world for opportunity, and use that capital to pursue opportunities. Not only that, but I have a large amount of resources to analyse those opportunities and execute those opportunities. Every day is a new day, and every day you have to be learning. It's endlessly interesting, and I think it's great.

This is what I want to do.

The Alternative Investment Management Association (AIMA) is the global representative of the alternative investment industry, with more than 1,900 corporate members in over 60 countries. AIMA's fund manager members collectively manage more than $2 trillion in assets. AIMA draws upon the expertise and diversity of its membership to provide leadership in industry initiatives such as advocacy, policy and regulatory engagement, educational programmes and sound practice guides. AIMA works to raise media and public awareness of the value of the industry. AIMA set up the Alternative Credit Council (ACC) to help firms focused in the private credit and direct lending space. The ACC currently represents over 100 members that manage $350 billion of private credit assets globally. AIMA is committed to developing skills and education standards and is a co-founder of the Chartered Alternative Investment Analyst designation (CAIA)—the first and only specialised educational standard for alternative investment specialists. AIMA is governed by its Council (Board of Directors).

For further information, please visit AIMA's website, www.aima.org.

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