



THE FUTURE OF ALTERNATIVES

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ALTERNATIVE ASSETS ARE CHANGING.

Preqin and our panel of industry-expert contributors take a five-year jump into the future, to gauge how the alternative assets industry will look in 2023...

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CONTENTS

4	ALTERNATIVES IN 2023
6	ASSETS UNDER MANAGEMENT The alternative assets industry is set to reach \$14tn in AUM by 2023, with both developed and emerging asset classes set for growth
24	SOURCES OF CAPITAL IN 2023 Capital originating outside North America and Europe will drive growth and provide a fresh source of fundraising for managers
38	A PORTFOLIO OF THE FUTURE Investors plan to shift their allocations away from traditional investments and towards alternatives in the long term, while also changing the way in which they access alternative assets
46	MARKETS IN 2023 Both fund managers and investors are looking to emerging markets for new opportunities over the coming years, particularly Asia
58	ESG AND ALTERNATIVES ESG investing will become increasingly important to the alternatives market in terms of both producing risk-adjusted returns and attracting investor capital
66	DIVERSITY IN ALTERNATIVES Fund managers and investors are united in the belief that diversity is beneficial to achieving investment objectives, as more institutions look to introduce policies
72	TECHNOLOGY AND DATA Technology will become more important to investment operations, with firms planning to use more sources of data and more advanced methods of analysis in the future

ALTERNATIVES IN 2023

Welcome to 'The Future of Alternatives', Prequin's crystal ball assessing the likely size, shape and make-up of the global alternative assets industry (meaning private capital plus hedge funds) in 2023. What will our industry look like in five years' time?

First, it will be significantly larger than today:

- 2023 global assets under management at \$14tn (+59% vs. 2017);
- 34,000 fund management firms active globally (+21% vs. 2018).

The drivers behind this growth are covered further in the report, and will be familiar to most of you:

- Alternatives' track record and enduring ability to deliver superior risk-adjusted returns to its investors;
- Investors' need for alpha, the aforementioned ability to find this in private capital vs. the difficulty of finding it in public markets, leading to widespread increases in allocations to alternatives;
- The steady decline in the number of listed stocks, as private capital is increasingly able to fund businesses through more of their lifecycle;
- The growing opportunities in private debt as traditional lenders decline;
- The massive opportunity in emerging markets.

Could the \$14tn forecast be too high? Possibly, but we believe there is significantly more upside risk than downside. There are several reasons for this; let me highlight four:

- **Technology (especially blockchain):** will facilitate private networks and help investors and fund managers transact and monitor their portfolios, and reduce costs vs. public markets.
- **Control and ESG:** investors increasingly want more control and influence over their



MARK O'HARE

CEO, Prequin

investments, and the ability to add value; private capital provides this.

- **Emerging markets:** the Chinese venture capital industry already matches that of the US in size; further emerging markets growth will be a 'double whammy' of GDP growth + higher penetration of alternative assets.
- **Private individuals:** the 'elephant in the room', as the mass affluent around the world would like to increase their investment in private capital if only the structures and vehicles (and regulation) permitted; technology will help.

Prequin will stick with the \$14tn forecast – but it is more likely to be too low than too high.

One factor in the success of the alternative assets industry in the past has been its ability to respond to change and evolve to meet new challenges. The next five years will likely see more rapid and significant changes than ever before, notable among which will be:

- **Routes to market:** investors and fund managers alike see an increasing role for co-investments, separate accounts, direct investments by LPs and other structures;

- 
- **Transparency and monitoring:** the ‘triple whammy’ of growing allocations to alternatives, greater regulatory and governance oversight, and new technological possibilities is driving the increasing granularity of information that investors expect on their alternatives portfolios;
 - **ESG:** is increasingly mainstream as investors’ expectations grow, and as fund managers engage with ESG as a performance-enhancer, not just an added cost;
 - **Emerging markets:** will account for 50% of global GDP growth over the next 20 years; they will likely account for more than 50% of alternative assets growth.

Preqin is investing heavily to evolve our offering to meet the growing needs of you, our customers, in the global alternative assets industry. Three particular themes:

- **Data:** is the core of everything we do, and we are investing globally to continue building and improving the dataset, most especially in emerging markets. (See page 26, Elias Latsis, Chief Data Officer.)
- **Technology:** we are investing in technology right across the value chain – data sourcing and management, our brand new ‘Preqin Pro’ customer platform, and data science to drive new insights for our customers. (See page 76, Darren Thorpe, Chief Operating Officer.)
- **Monitoring, Valuation and Fund Analysis:** through our Preqin Solutions business we are at the forefront of innovative new services to assist fund managers and investors. (See page 44, Chris Ferguson, CEO Preqin Solutions.)

Data is vital; but individual expertise and talent are what translate data into insight and value; we are extremely grateful to over 20 of our friends from across the industry who have kindly contributed their insights to this report – all of them experts in their field. Thank you to all. Their reflections are on the pages that follow, and a list of contributors is on page 1.

We hope you find ‘The Future of Alternatives’ useful and, as always, thank you for your continued support and engagement.

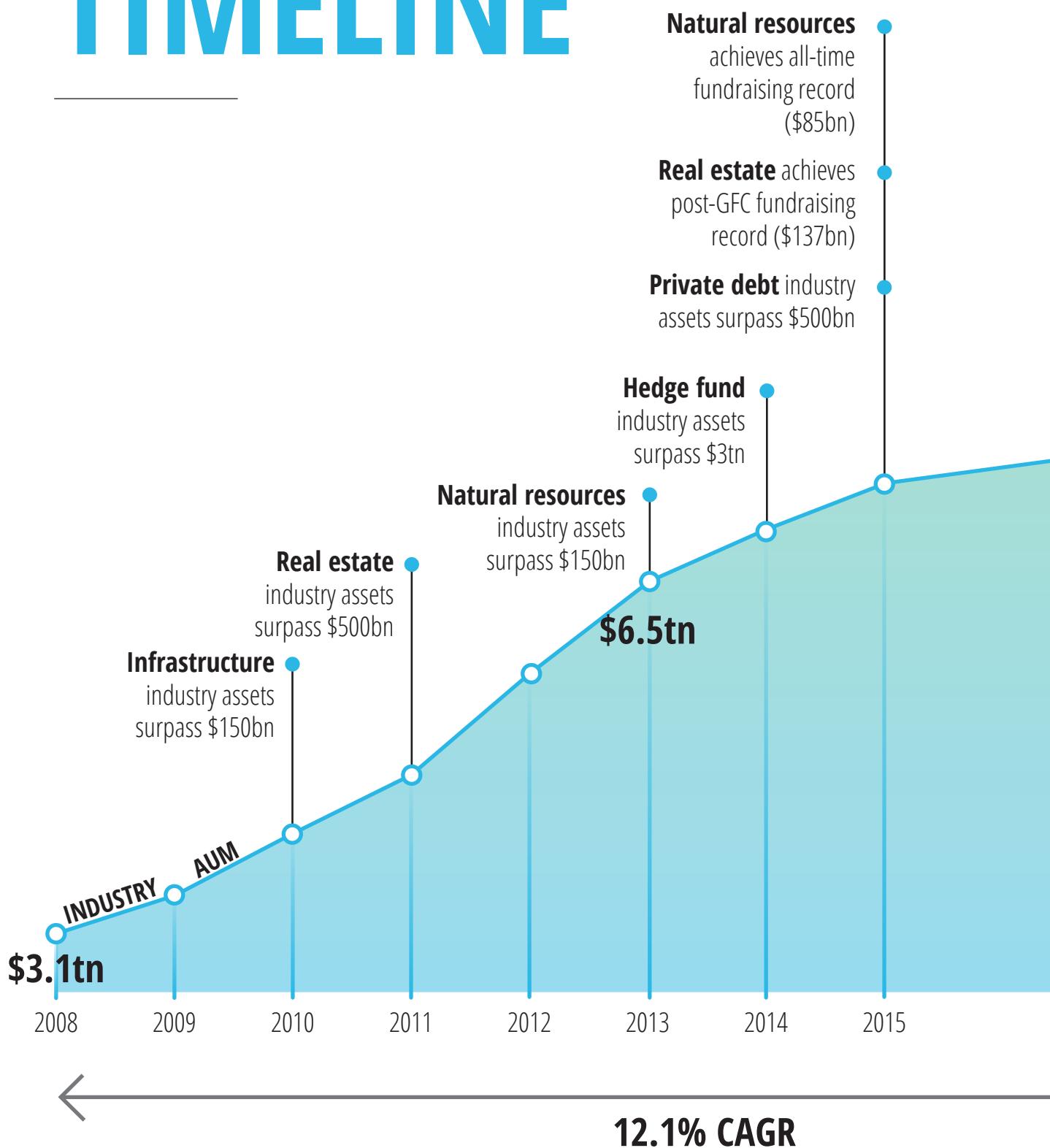
All survey results quoted in this report are from surveys with 300 fund managers and more than 120 institutional investors, carried out by Preqin in June 2018.

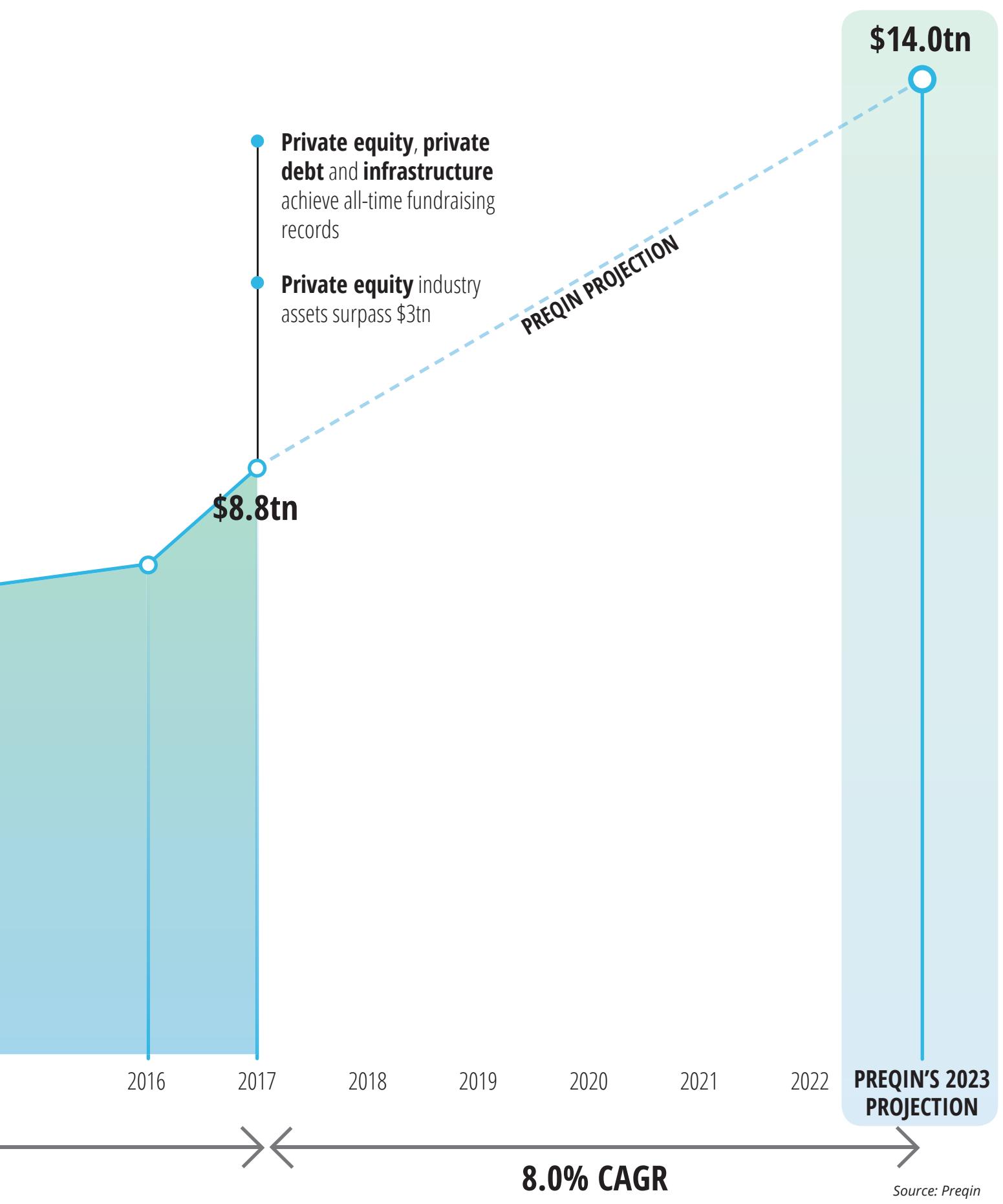
ASSETS UNDER MANAGEMENT

IN THIS SECTION:

8	AN ALTERNATIVE TIMELINE
10	AUM PROJECTION
12	THE CLASSES OF 2023
14	PERFORMANCE
16	FUND MANAGER LANDSCAPE
18	FUTURE RELATIONSHIPS
20	MANAGER EXPANSION
22	FUTURE FUNDS

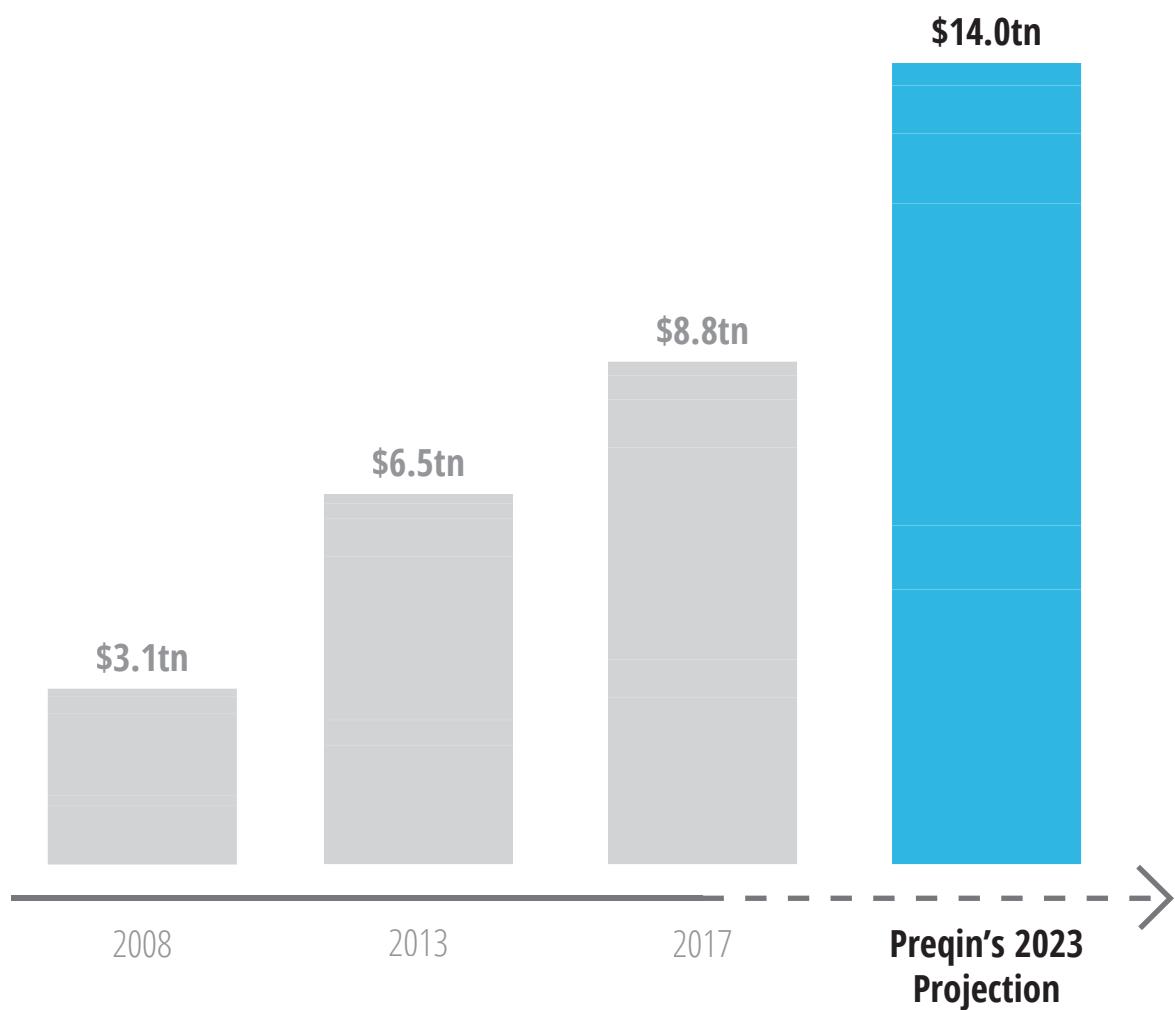
AN ALTERNATIVE TIMELINE





AUM PROJECTION

We predict that the alternative assets industry will grow to reach \$14tn in size by 2023. This is based on results from our surveys with 300 fund managers and more than 120 institutional investors, as well as our own proprietary data.



Source: Preqin

The outperformance of and demand for private funds will drive growth in AUM



MICHAEL MURPHY

Managing Director and Co-Head of the Private Fund Group,
Credit Suisse

In my role at the Credit Suisse Private Fund Group (CS PFG), I expect that growth in AUM for private funds will be driven by three factors over the next several years: first, a growth in investible assets generally; second, the outperformance that private funds continue to demonstrate compared with their public counterparts; and third, pension funds' persistent need to narrow their liability gap.

According to PwC, back in 2004 global AUM was a mere \$37tn; however, by 2025, they expect it to have reached \$145tn – quadrupling over 20 years. This is the first driver of increased AUM for private funds: even with a fixed allocation, a rising tide would lift all boats. However, allocations are not fixed.

Private funds have shown continued market outperformance for many years. Preqin estimates that buyout funds globally have outperformed

the S&P 500 PR Index by 5% p/a since 2000. As such, many investors have been increasing their allocations to the asset class or setting up an allocation to the asset class for the first time – I expect this trend to continue going forward. Indeed, as the secondary market continues to mature, thereby reducing the perceived illiquidity of the asset class, this may well accelerate further in the years to come.

Finally, pension funds continue to suffer from a chronic underfunding problem, with Citibank estimating that the total value of unfunded or underfunded government pension liabilities for OECD countries exceeds \$78tn. Given the demonstrated outperformance of private funds, I believe they represent one of the few tools that pension funds have for realistically closing that gap, which should result in increased allocations from pension funds over the coming years.

"Could the \$14tn forecast be too high? Possibly, but we believe there is significantly more upside risk than downside – it is more likely to be too low than too high."

MARK O'HARE
CEO, Preqin

THE CLASSES OF 2023

The alternative assets industry is set to expand across all asset classes over the next five years. The levels of growth expected within the asset classes understandably vary, with the smaller asset classes set for sharper growth, while the more established markets are expected to continue to attract larger amounts of capital.

As at December 2017, the **private equity** and **hedge fund** industries represent a combined \$6.7tn, or 75%, of the \$8.8tn alternative assets industry. While industry participants are predicting this share to decrease over the next five years to 69%, as other alternative asset classes look set for faster growth, these industries are expected to contribute the majority (56%, \$2.9tn) of the growth in dollar terms over the next five years.

The **private debt** market is predicted to double in size, reaching \$1.4tn in 2023 and, in doing so, overtake the **real estate** market to become the third largest alternatives industry. Only the hedge fund industry is expected to grow at a slower pace than the real estate industry over the next five years, at 31% and 50% respectively.

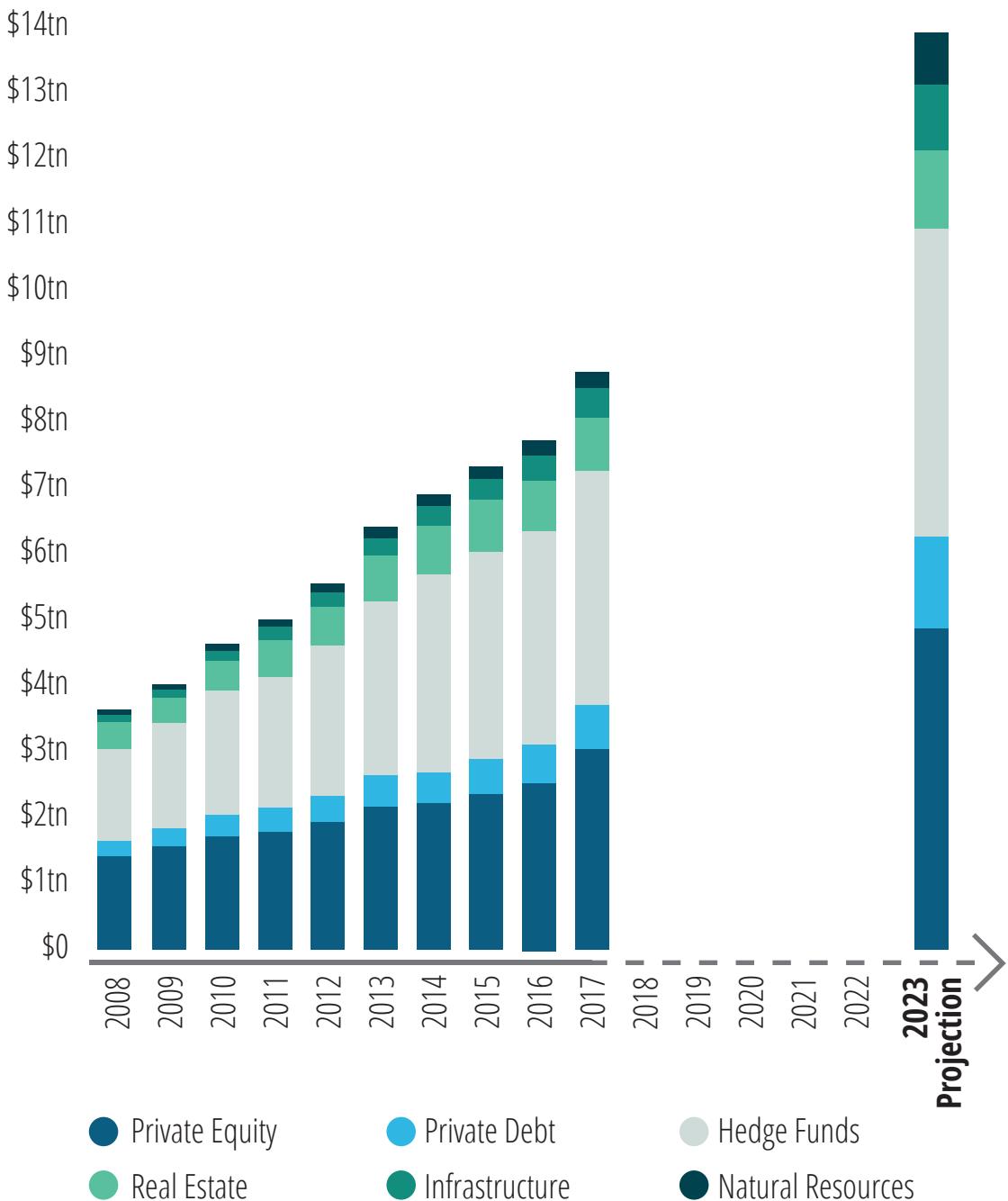
Representing \$0.7tn (8%) of the alternative assets industry, the real assets universe is predicted to be the fastest-growing area of alternatives over the next five years. Driven by **natural resources**, real assets are expected to represent 13% of the \$14tn alternatives industry by 2023 as an industry of \$1.8tn, 1.5x the size of the combined natural resources and **infrastructure** markets of 2018.

Projected Increase in Assets

	2017	2023
Natural Resources	\$0.2tn	+300% → \$0.8tn
Private Debt	\$0.7tn	+100% → \$1.4tn
Infrastructure	\$0.4tn	+150% → \$1.0tn
Private Equity	\$3.1tn	+58% → \$4.9tn
Real Estate	\$0.8tn	+50% → \$1.2tn
Hedge Funds	\$3.6tn	+31% → \$4.7tn

Source: Preqin

Assets under Management by Asset Class

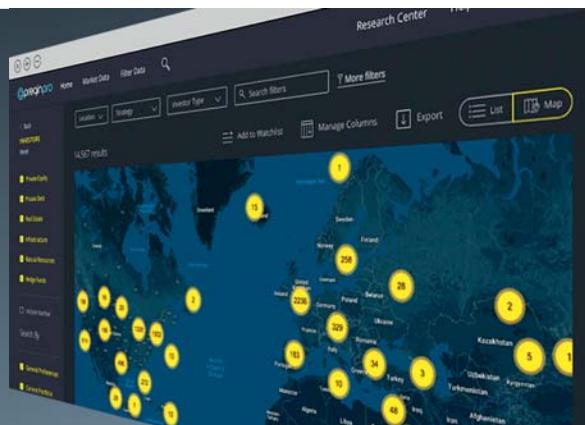


Source: Preqin

UNLOCK THE POTENTIAL

Preqin Pro provides access to the industry's most comprehensive private capital and hedge fund datasets and tools. Alternative assets professionals rely on it to make data-driven decisions throughout the entire investment lifecycle.

 **preqin** THE HOME OF ALTERNATIVES



PERFORMANCE

The performance of private vehicles since the financial crisis has been a key driver of the growth of the industry. For private capital funds of vintage 2008 and onwards, the net IRRs since inception have, on average, exceeded 10% (with the exception of natural resources strategies).

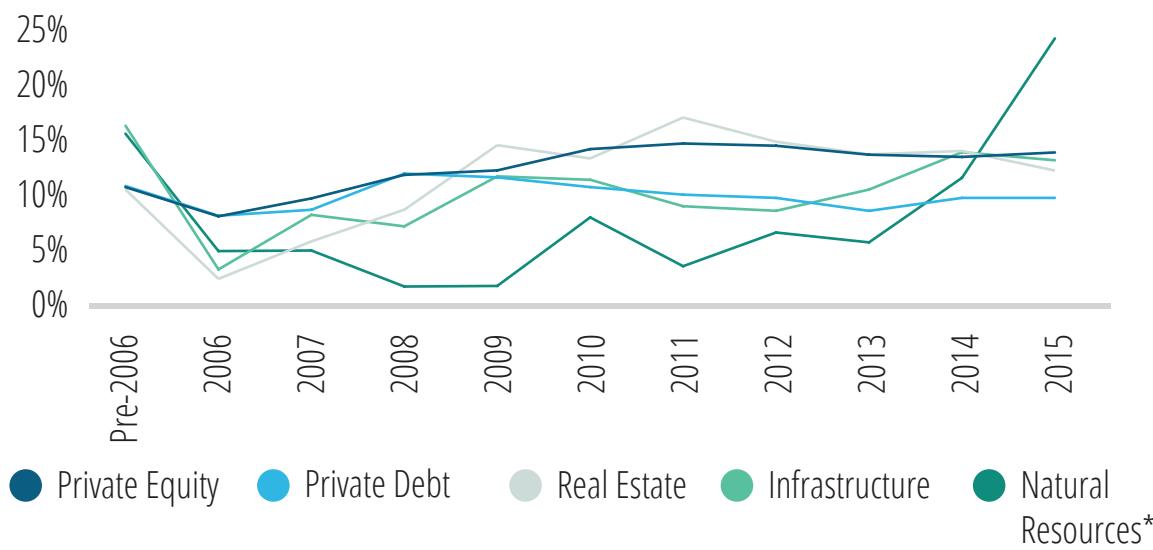
This consistent strong performance has led to record levels of distributions in recent years as the level of capital distributed by GPs to LPs has exceeded the level of capital called in each of the past five years. As investors continue to receive distributions, the challenge for LPs is how to re-invest this capital, and many look back to the private capital industry. It is this re-investment by liquid LPs that has driven up the level of capital available to fund managers and spurred further growth in the private capital industry's assets under management in recent years.

Given the greater liquidity in the hedge fund industry, asset flows are more volatile than those seen in the private capital market. After a period of

underperformance in the hedge fund market, 2016 saw investors withdraw a net \$110bn from hedge funds as they sought to evaluate their hedge fund holdings. It is this underperformance and negative sentiment that caused a slight tapering in the growth of the hedge fund industry, growing just 4% and 3% in 2015 and 2016 respectively, compared to growth of 8% in the private capital industry in each of these years.

However, as hedge fund performance improves – as it has done since the turn of 2016 – so too does investor sentiment, with investors allocating a net \$44bn to hedge funds in 2017. Investors may well be in doubt as to whether this improved performance will continue, as the hedge fund market is predicted to experience the slowest rate of growth in the next five years (see page 12). Meanwhile, the private debt and infrastructure industries are set for strong growth as liquid LPs look to increase their allocations to these areas of the alternatives universe (see page 41).

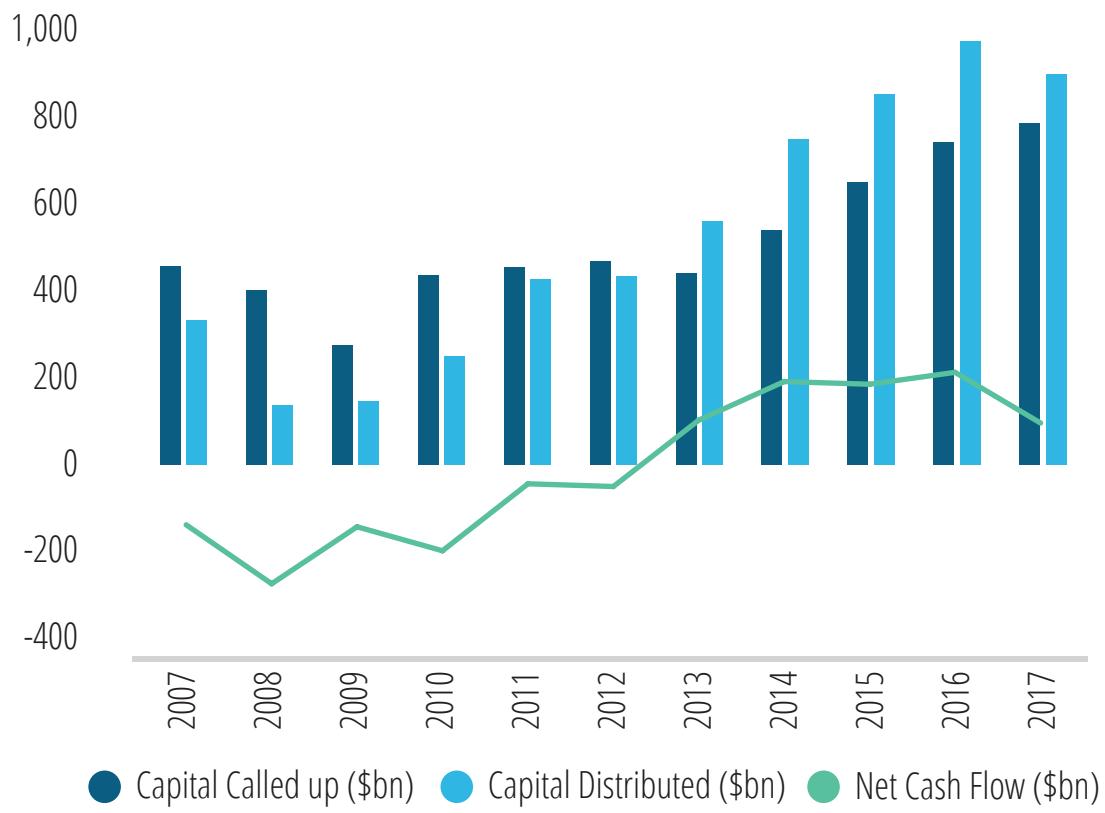
Private Capital: Median Net IRRs by Strategy and Vintage Year (Most up to Date)



*Natural Resources includes Natural Resources and Timberland funds only to avoid double counting.

Source: Preqin Pro

Annual Capital Called up and Distributed by Private Capital Funds



Source: Preqin Pro

Hedge Fund Asset Flows by Manager Headquarters

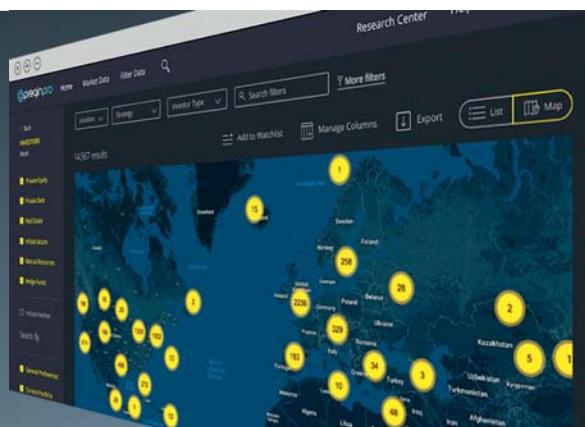
Manager Headquarters	2015 (\$bn)	2016 (\$bn)	2017 (\$bn)	H1 2018 (\$bn)
North America	79.6	-55.7	2.9	37.2
Europe	31.7	-35.4	32.4	-13.9
Asia-Pacific	-1.3	-18.3	-4.4	1.7
Rest of World	-38.6	-0.4	13.5	-9.3
Total Industry	71.4	-109.8	44.4	15.8

Source: Preqin Pro

KNOW WHERE YOU ARE

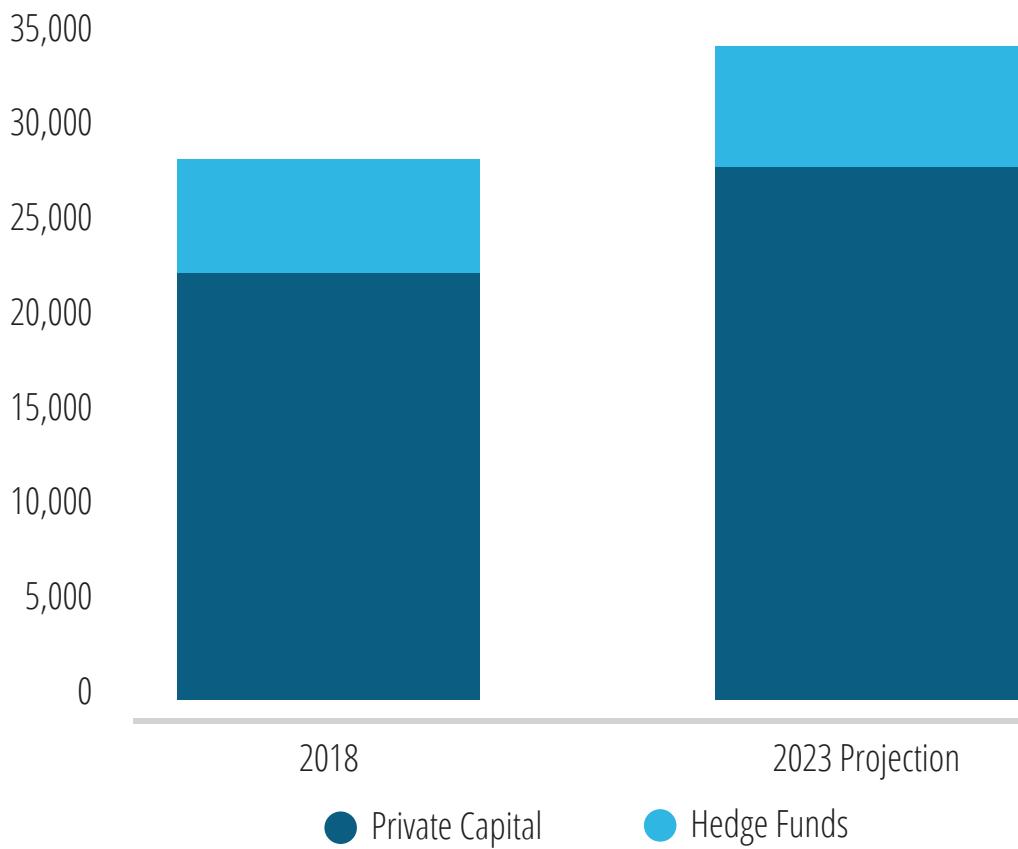
Accurately compare yourself against the competition so you can outperform your peers. Access private and public benchmarks, surveys and exclusive compensation and fund term benchmarks.

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FUND MANAGER LANDSCAPE

Estimated Number of Active Alternative Assets Fund Managers Globally

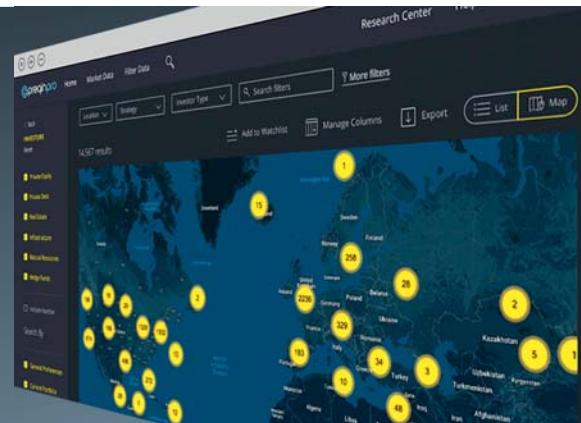


Source: Preqin Pro

FIND WHAT YOU NEED

Know the market with comprehensive data on institutional investors, fund managers, service providers and for each fund and transaction across all major asset classes.

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Preqin Pro currently tracks nearly 28,000 fund managers (firms managing third party capital) across all asset classes. Preqin predicts that by 2023 this number will be closer to 34,000, driven mainly by the private capital industry with the consolidation and slower growth seen in the hedge fund industry in recent years predicted to continue. Fund managers also believe that the number of alternative assets fund managers will continue to grow over the next five years, with 37% of respondents to our survey predicting an increase and a further 9% expecting a significant increase.

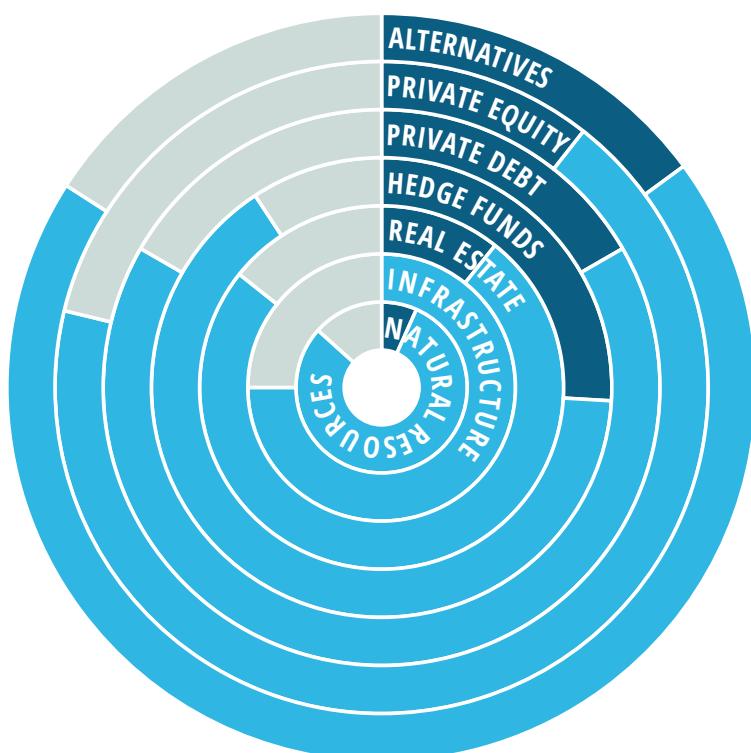
However, consolidation within the industry is also anticipated. Eighty-four percent of those surveyed believe some or significant consolidation is likely to occur by 2023 as fund managers look to strengthen their value proposition.

46%

of fund managers predict there will be more active managers in 2023 than there are at present

Technology will of course play a major role in shaping the alternative assets industry in the next five years, and we explore this subject further in **Technology and Data** (from page 72).

Consolidation in Alternatives within the Next Five Years, According to Fund Managers



● Significant Consolidation
Likely to Occur

● Some Consolidation
Likely to Occur

● Little/No Consolidation
Likely to Occur

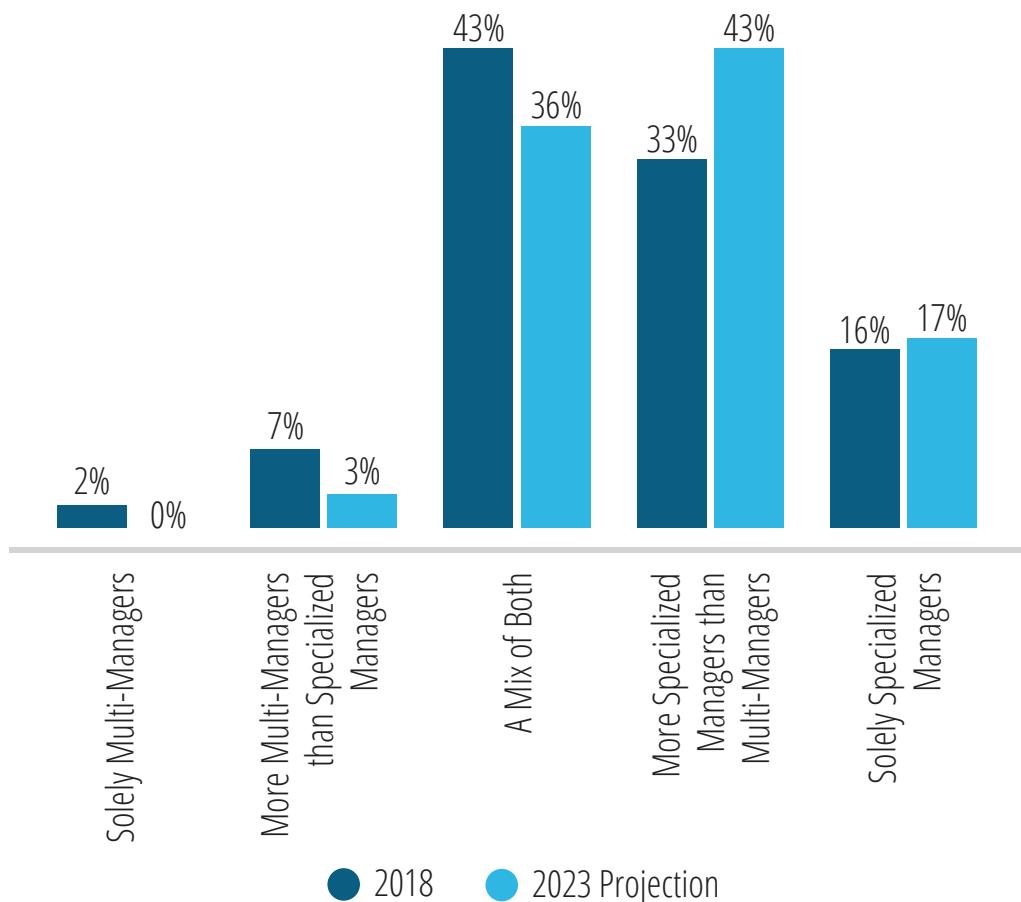
Source: Preqin Fund Manager Survey, June 2018

FUTURE RELATIONSHIPS

77%

of investors believe the number of fund manager relationships they have within their alternatives programs will increase over the next five years

Fund Manager Relationships Sought by Investors



Source: Preqin Investor Survey, June 2018

Strategic partnerships with large GPs can create alpha



HYUNG-DON CHOE

Head of Global Alternative Division,
National Pension Service of Korea

National Pension Service (NPS) has been investing in private equity for over 10 years, and as such, our portfolio is already maturing. Like other large LPs, NPS has a similar level of distributions and capital calls, and therefore we must make large, new commitments every year (\$5-6bn) to increase assets. However, due to the nature of Korean public pensions, there are many restrictions that we face in various areas, such as manpower.

To overcome these constraints and create alpha, we have been forming various strategic partnerships with large GPs, which has provided us with co-investment opportunities and reduced fees. We are also actively seeking mid-cap opportunities through our overseas offices. We work with fund of funds managers to invest with emerging managers, emerging market managers and small-cap managers, which we are not able to cover due to the limited resources in manpower.

Different investment objectives demand different fund manager partnerships

STEVE NELSON

Chief Executive Officer, ILPA



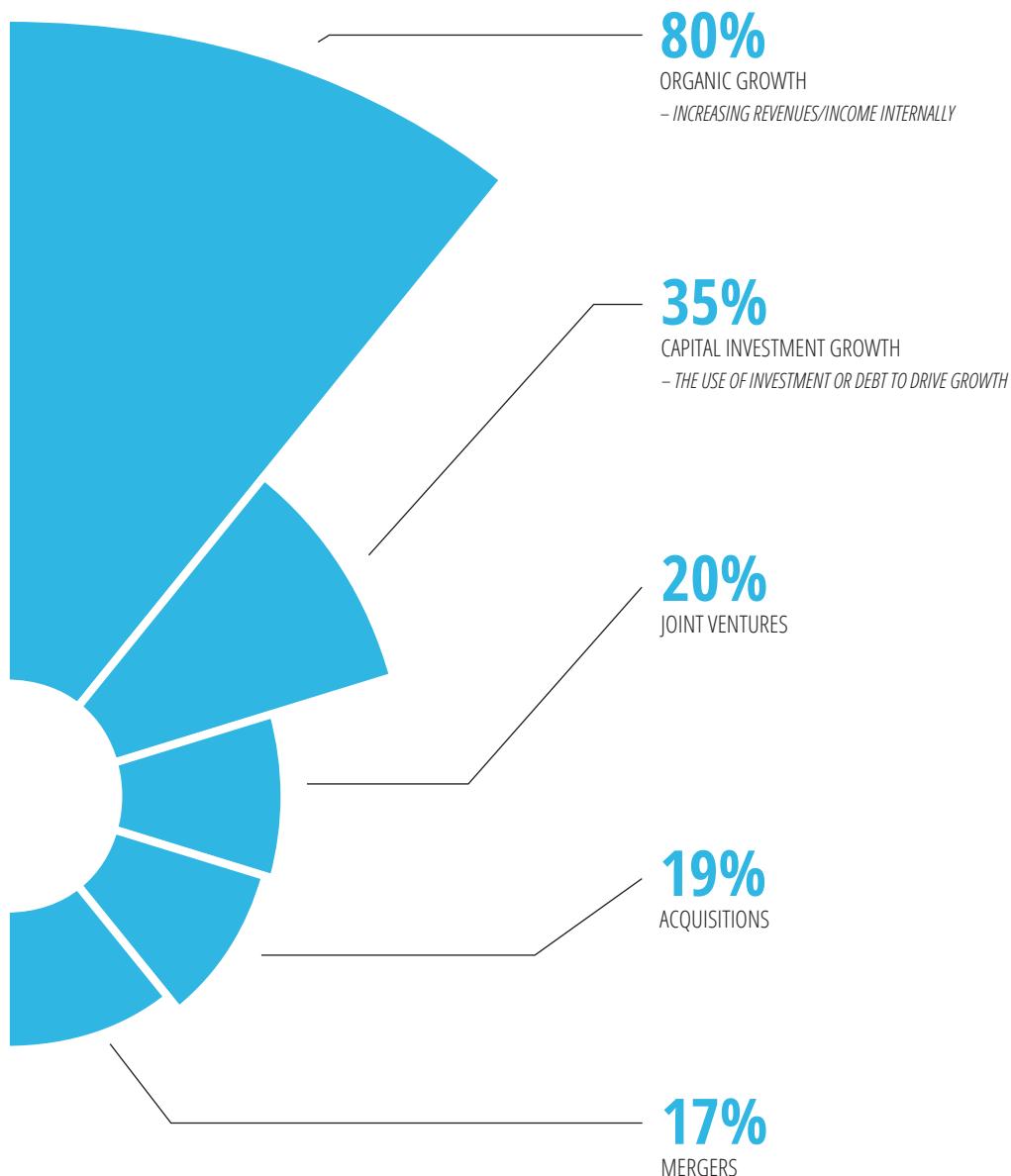
We regularly see LPs engage in portfolio review programs. And it often makes headlines when the largest LPs (usually the high-profile public plans) periodically initiate portfolio realignment or manager rationalization programs where they concentrate activities with a narrower set of managers. At the same time, the ceaseless quest for alpha drives all LPs to consider other vehicles like separate accounts, direct or co-investing or niche funds of funds to add non-correlated cash flows to their portfolios.

As Preqin data suggests, these allocations can go to specialized managers. However, many allocators may also choose to stay within the same fund family with whom they can negotiate preferential economics or reduce their monitoring costs.

A shift to specialist managers will also reflect the interplay of the investment teams and their board or trustees. Some leaders may have greater incentive to not “rock the boat” where before “few people got fired for hiring IBM”, or Blackstone or Carlyle. Other teams may have different incentives riding on an alpha calculation or relative benchmark, where the desire to dig deeper, to look further afield opens options for specialized managers. Finally, the push towards specialized managers may also reflect non-alpha-related objectives, such as the desire to seed emerging managers, invest in impact funds or to pursue a specific thesis to complement the balance of the portfolio, e.g. direct lending.

MANAGER EXPANSION

Fund Managers' Expected Source of Growth within the Next Five Years



Source: Preqin Fund Manager Survey, June 2018

The growing demand from institutional investors for alternative assets supports the outlook for the anticipated boom of alternative assets under management over the next five years: we expect the industry to expand by some \$5.2tn to \$14tn by 2023. In order to get a slice of this capital, alternative asset managers will need to adapt alongside their evolving client base, be it to move into new markets or launch new products. But will they buy, build or borrow to do this?

Perhaps unsurprisingly, given the strong appetite for alternative assets moving forwards, most managers are anticipating organic growth to form a significant part of their expansion plans over the next five years. However, delving further into the results reveals some interesting findings.

More than half (51%) of all **private equity** managers intend to seek capital investment to expand their offerings over the next five years – a trend noticeably more marked among venture capital managers (66%) than buyout managers (25%). Buyout managers, following strong fundraising in recent years, are expecting more of the same in future, with 94% anticipating organic growth off the back of strong investor appetite to drive their firm onwards and upwards.

In **private debt**, a sector in which we expect assets to double over the next five years, managers are similarly bullish on their individual prospects in regards to organic growth: 93% expect this to help them expand their offering as a result of continued strong and growing interest from investors.

Despite **hedge funds** expecting more consolidation in their industry than in other areas of the alternative assets world (see page 17), hedge fund managers themselves are not anticipating that consolidation to happen within their own businesses. No hedge fund managers that participated in the study plan to expand their products through acquisition, and just 7% expect to merge with another firm to meet their wider business objectives.

A large proportion of **real estate** and **infrastructure** managers are intending joint ventures with other alternative assets managers to form a significant part of their strategy in the next five years: 30% and 43% respectively anticipate this will help them expand their offerings by 2023, perhaps in order to gain access to bigger deals. In addition, large proportions of infrastructure managers (43%), alongside **natural resources** firms (40%), are also expecting to acquire other alternative assets businesses to expand their businesses.

FUTURE FUNDS

Esoteric alternatives will become a more meaningful focus for LPs, driven by idiosyncratic risk/return opportunities



ANDREW KOTLIAR

Partner and Portfolio Manager,
Magna Entertainment Partners

Over the next five years, generating alpha through alternatives will require investors to sharpen their pencils on esoteric asset classes and off-the-run strategies. Those who rely solely on traditional private market strategies risk leaving their portfolios exposed to commoditization.

All markets tend to close up mispricings, inefficiencies and arbitrage opportunities, and alternative assets are certainly no exception. Venture capital, private equity and hedge funds increasingly face similar overcrowding trends that allocators have gotten to know well in the long-only public equity and debt markets. Commensurately, some savvy allocators are turning to orphaned or non-market assets and esoteric strategies off the beaten path.

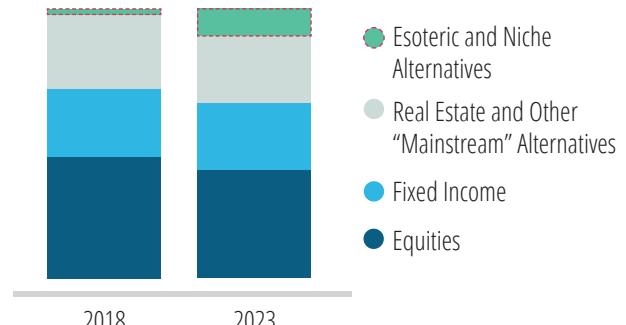
Intellectual property royalties, life settlements and specialized farmland are all examples of such exotic asset classes, providing investors with uncorrelated sources of alpha if executed properly.

On paper, the allure is simple: less competition, less market efficiency and greater competitive advantage, driven by a high requirement of domain knowledge. At the core: it is value investing in the most obscure corners of private markets.

In practice, devoting the resources required to evaluate opportunities in these niches is frequently a challenge for LPs. Few investors have or can afford to dedicate the in-house manpower to become experts in, for instance, structured credit collateralized by portfolios of music royalties.

Hence, a “time vs. alpha” dilemma emerges.

Average Institutional LP Allocation



Source: Magna Entertainment Partners

Investors have a choice of homing in on specific narrow niches or canvassing the esoteric space more broadly. For example, our team originates high-yielding, orphaned cash flow streams across the media industry's middle market. Meanwhile, a larger manager such as Cordillera Investment Partners can provide allocators with a diversified exotics portfolio by aggregating several strategies from litigation finance to boat marinas and spectrum licenses.

Today, we estimate that exotic asset classes represent less than 5% of the portfolio of an average institutional LP, while many family-office LPs have no allocation at all. We firmly believe that by 2023, a 10% allocation will be much more prevalent, at the expense of broad-based private equity and private debt strategies. It will simply become too challenging for allocators to ignore strategies that generate attractive, idiosyncratic risk/return profiles.

LPs demand greater transparency; how GPs provide it will differentiate them



CHAD ERWIN

Senior Vice President, Asset Owners, Backstop Solutions

Yes, LPs are demanding greater transparency, and to a large extent, they are getting it. But how GPs provide this transparency can make life more or less painful for their LPs...and drastically differentiate them against their competitors as a result.

The first element is timely and consistent reporting to investors. Providing the information LPs require without them having to ask for it is immensely valuable for their diligence and operations teams.

The second is providing the information in a centralized location. LPs get many quarterly letters, usually via an investor portal that they must log into

in order to extract it. When multiplied by the number of portals an LP must access, this can quickly get unwieldy. (Sidenote: asset owners can look at [IntelliX](#) as a potential solution).

Finally, and most importantly, GPs should think beyond the quarterly letter. LPs are looking for more than just information about returns; they are looking for insights, research and other nuggets that can help them assess their portfolio and its risks. They rely on information gathered from their underlying managers to build their investment "worldview", and GPs that provide this value will stand out, especially if they are performing inline or even slightly underperforming.

Some of the less 'eye-catching' terms could catch the eye of investors



AMALA EJIKEME

Investment Funds Partner, Kirkland & Ellis

When setting the terms for a new fund, private equity sponsors and their advisors need to be very thoughtful about making changes to the current terms, as well as how such changes, if proposed, will be presented to investors.

While the temptation to seek to 'ratchet up' headline economics may be real in an environment where there may be over-subscription, any changes will need to be capable of support in order to be palatable to investors (whether by reference to peer group funds, the overall 'package' of fund terms taken as whole or otherwise). This is particularly

important because private equity is a relationship-driven business, where the continued support of investors over economic cycles is essential to firms.

With respect to the current market opportunity, sponsors may wish to consider focusing on improvement of some of the less 'eye-catching' terms in the first instance and many have done so in the area of capital deployment in particular (including with respect to 'recycling' arrangements). Some of these more 'under the bonnet' improvements may nevertheless confer significant economic benefits and they also have the advantage of being less likely to provoke a negative reaction from investors.



SOURCES OF CAPITAL IN 2023

IN THIS SECTION:

26	THE CHANGING INVESTOR MAP
28	CAPITAL BY REGION
30	EMERGING MARKETS CAPITAL
32	ALLOCATORS IN 2023
34	THE RISE OF DEBT
36	HOW TO SOURCE CAPITAL

THE CHANGING INVESTOR MAP

Intelligent data is key to building business and sourcing opportunity



ELIAS LATSISS

Chief Data Officer, Preqin

Over the past decade, the number of investors allocating to the alternatives industry has grown from 3,500 in 2008 to more than 11,000 in 2018. Allocators have also grown in their sophistication, accessing different alternative strategies via different structures in different geographies. Along with this growth in number and sophistication, the Information Age continues to evolve at an unimaginable rate – according to research group IDC, by 2025 the world will be creating 163 zettabytes of data, 10x more than was generated in 2016.

Given that 84% of investors surveyed for this report state they will increase their allocation to alternatives in the next five years, those seeking allocations, or looking to partner with these allocators, will have to face the challenge of understanding the needs of

each individual investor as the universe expands, while also collating an ever-growing amount of data in a period of data revolution.

But are fund managers equipped to make use of all this data to identify opportunities and be more effective in their decision-making?

The key to successfully sourcing capital and building new partnerships will depend on having access to the data and intelligence that matters most. Preqin will continue to collect and curate such information – from mature developed markets to less transparent emerging markets, from the myriad of publicly available sources to our specialist researchers engaging directly with thousands of industry participants across the globe. The value of decisions will remain in actionable data.

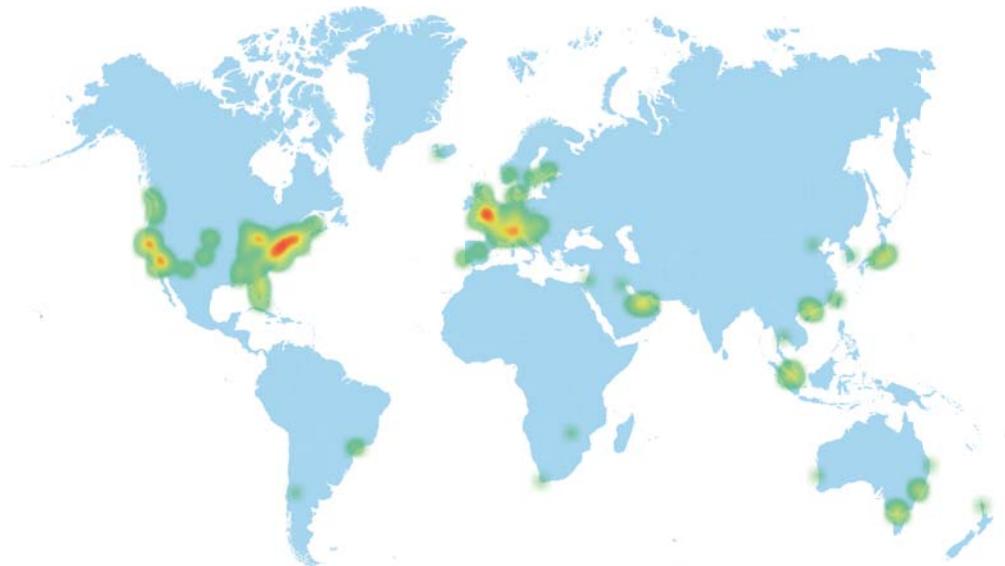
500,000 REASONS WHY

With the largest global network of alternative assets decision-makers, Preqin Pro allows you to build connections and collaborate with half a million curated professionals.

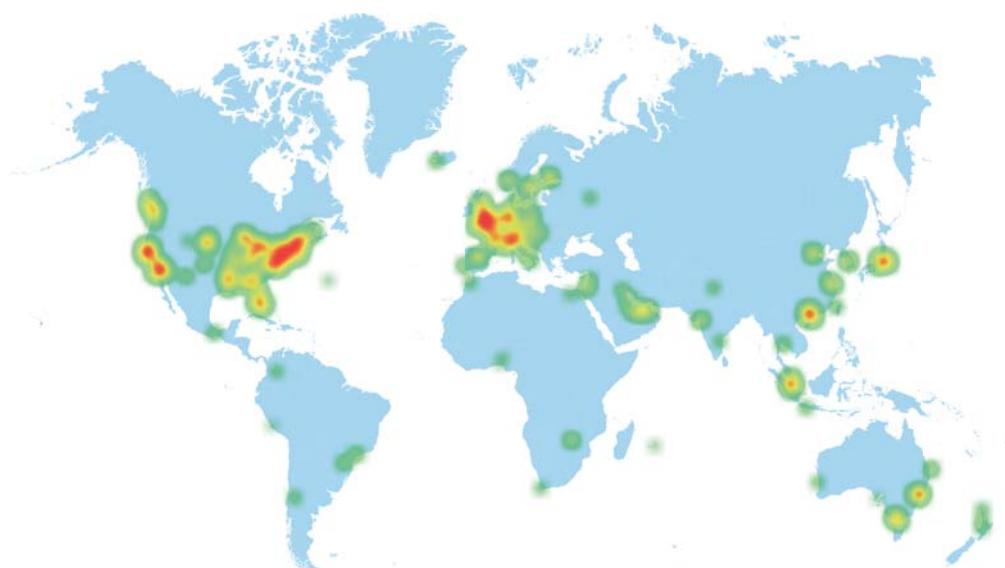
@preqin THE HOME OF ALTERNATIVES



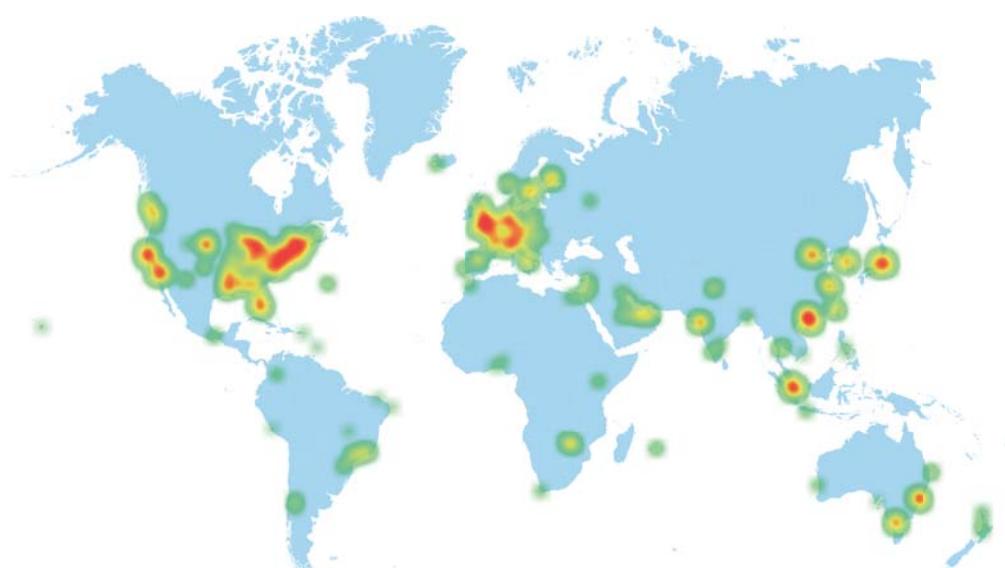
The Global Growth of Investors



2008



2013

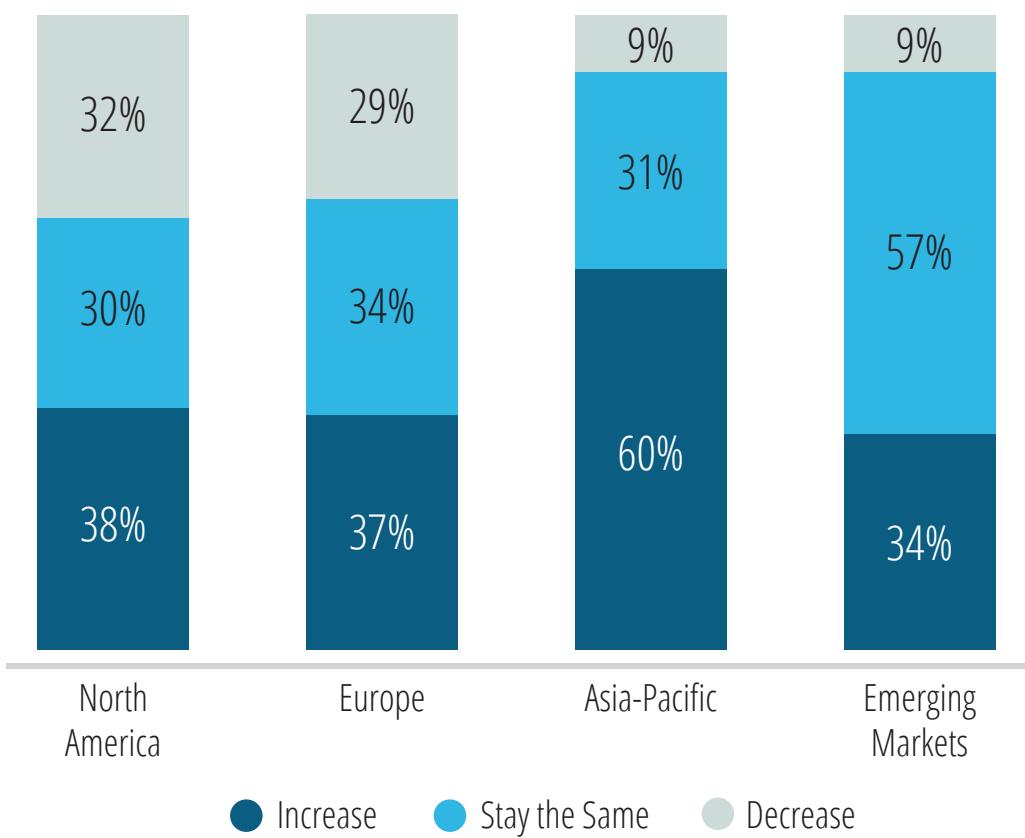


2018

Source: Preqin Pro

CAPITAL BY REGION

Fund Managers' Projected Change in Level of Capital Sourced from Each Region over the Next Five Years



Source: Preqin Fund Manager Survey, June 2018

A balanced source of capital mitigates regional macro risks



GIANLUCA D'ANGELO

Head of EMEA, Eaton Partners

With Asia an emergent yet unproven player across multiple cycles, Europe still dogged with stagnant growth and fears of an EU break-up, and the prospect of insular US domestic trade policy, GPs will be well placed to ensure that they are not overexposed to any one region. Overexposure to any one region could lead to regionally driven macro events causing a big hole in their assumed re-up rate come the next fundraising.

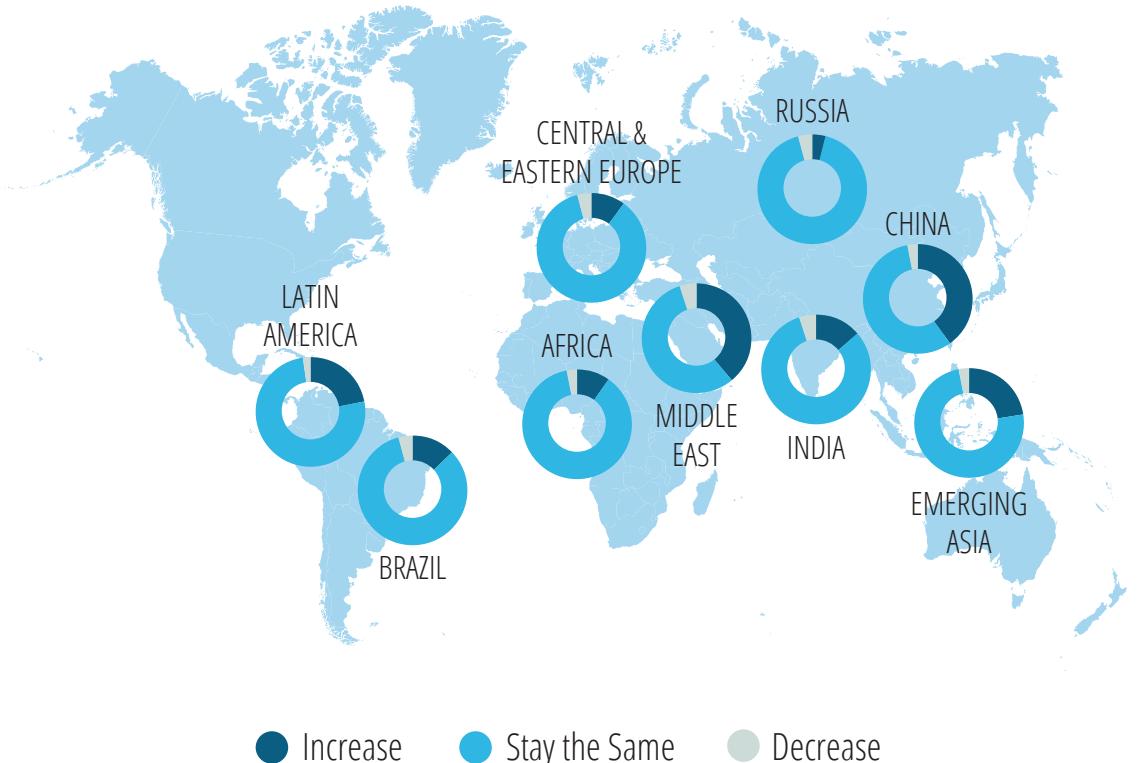
However, with many European and US managers' investor bases underweight to Asia, fund managers risk missing out on the Asia growth story and the

ability to form relationships with investors who can commit in size over the long term and contribute to a material proportion of an investor base.

Furthermore, with consultants becoming increasingly global in their footprint and expanding their discretionary relationships with sources of local capital, managers are now able to diversify their investor base geographically and by type in an efficient manner through a relatively concentrated number of interactions with consultants rather than having to always build fresh relationships with client-end capital in new regions.

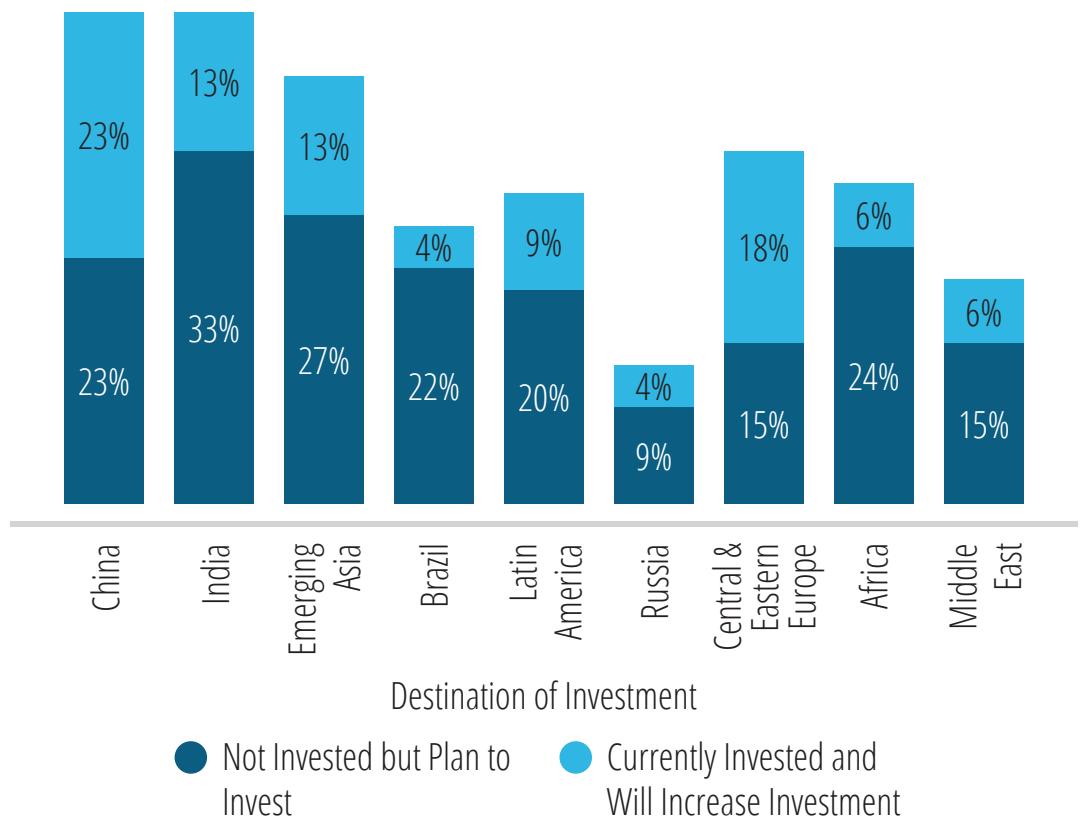
EMERGING MARKETS CAPITAL

Fund Managers' Projected Change in Level of Capital Sourced from Emerging Markets over the Next Five Years



Source: Preqin Fund Manager Survey, June 2018

Investors Planning to Increase Investment in Emerging Markets in the Next Five Years



Source: Preqin Investor Survey, June 2018

Asia will increase its share of global capital over the next five years

GIANLUCA D'ANGELO

Head of EMEA, Eaton Partners



We are seeing the emergence of Asia as a source of long-term and scalable capital for closed-end funds. Increasingly, we are seeing managers incorporating Asia into their pre-marketing roadshows to develop relationships and build their footprints. The benefit of investing time in Asia well in advance of a fundraise can result in the payoff of securing a material amount of capital from the region.

Japan's institutional investors, in particular, have started to invest in size in the hunt for yield after years of ultra-low domestic interest rates. With other countries with powerful investor bases like Korea and emerging players like Taiwan and Malaysia, we expect Asia to continue increasing its share of global capital concentration over the next five years.

ALLOCATORS IN 2023



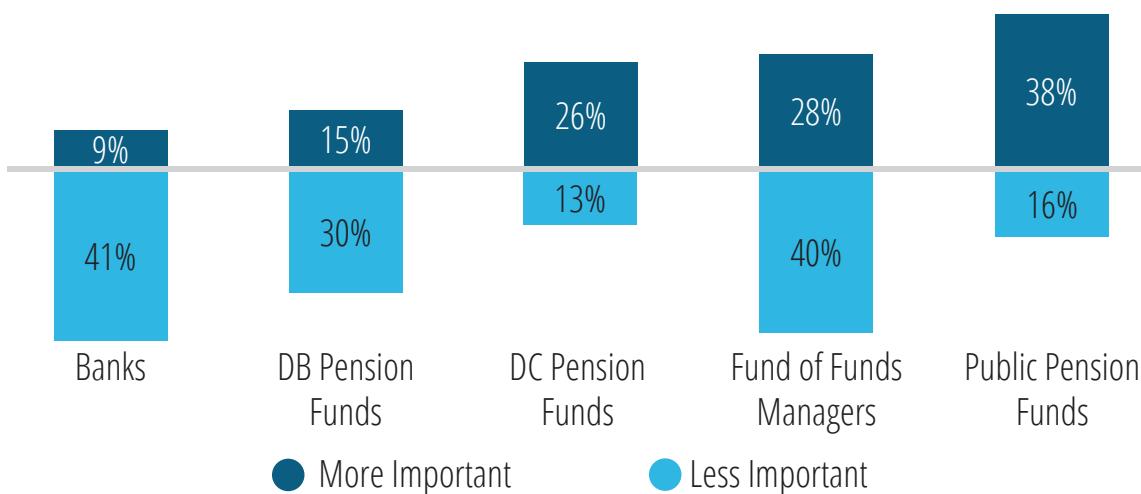
MICHAEL STIRLING

Chief Executive Officer, Stirling Infrastructure

The sources of capital are being broadly more fragmented globally as a greater volume of sovereign wealth funds and family offices believe they can run their own investment strategies and recruit their own in-house teams rather than relying on the larger investment banks or traditional managers. This shift has been materially caused by the regulations imposed on financial institutions following the Global Financial

Crisis (GFC). Many bankers set up their own strategies and offered their services to family offices and sovereign wealth funds. Since the GFC, we have seen more family offices and sovereign wealth funds in the market globally. They manage more capital, are more sophisticated and broadly have greater expertise in-house than was the case prior to the GFC.

Fund Manager Views on Investor Types as Sources of Capital in 2023





ALLAN SWARINGEN

President & CEO, JLL Income Property Trust

Institutional investors have generally allocated 8-12% of their portfolio to real estate, while the typical individual investor in the US has less than 2% allocated to all alternatives, let alone real estate.

We have observed a shift in the high-net-worth private client space, with investors and their advisors more focused on investing like institutions: pursuing a long-term asset allocation decision when constructing portfolios, rather than solely focusing on income and yield.

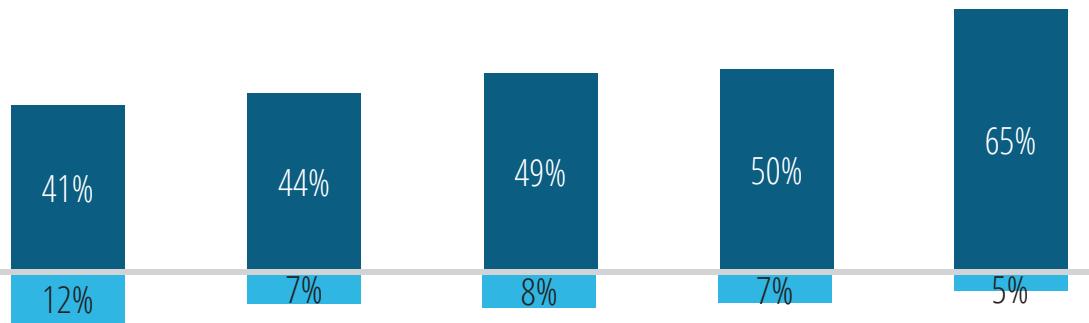
Investors are choosing perpetual-life, NAV REIT products for diversification, the benefits that come from a non-correlation to other investments within

their portfolio, as well as potential inflation-hedging. These investment vehicles are intended to be held for at least 5-7 years, and to provide stable value as a balance and complement to the listed securities portion of a portfolio, which can be subject to more frequent market volatility.

There has been a wave of new perpetual-life, NAV REIT products brought to market in recent years, as traditional institutional managers have realized the immense opportunity and pools of capital in the defined benefit and high-net-worth private client universe. As a result, there has been improvement in the structuring, liquidity provisions and overall institutional quality of the advisors to these offerings, relative to legacy products.

"As the industry has continued to mature, we have seen a reduction in the source of capital from funds of funds. LPs have become more sophisticated and have looked to make more direct fund commitments to reduce their cost base and manage their own portfolios."

GIANLUCA D'ANGELO
Head of EMEA, Eaton Partners



Private Sector
Pension Funds

Endowment
Plans

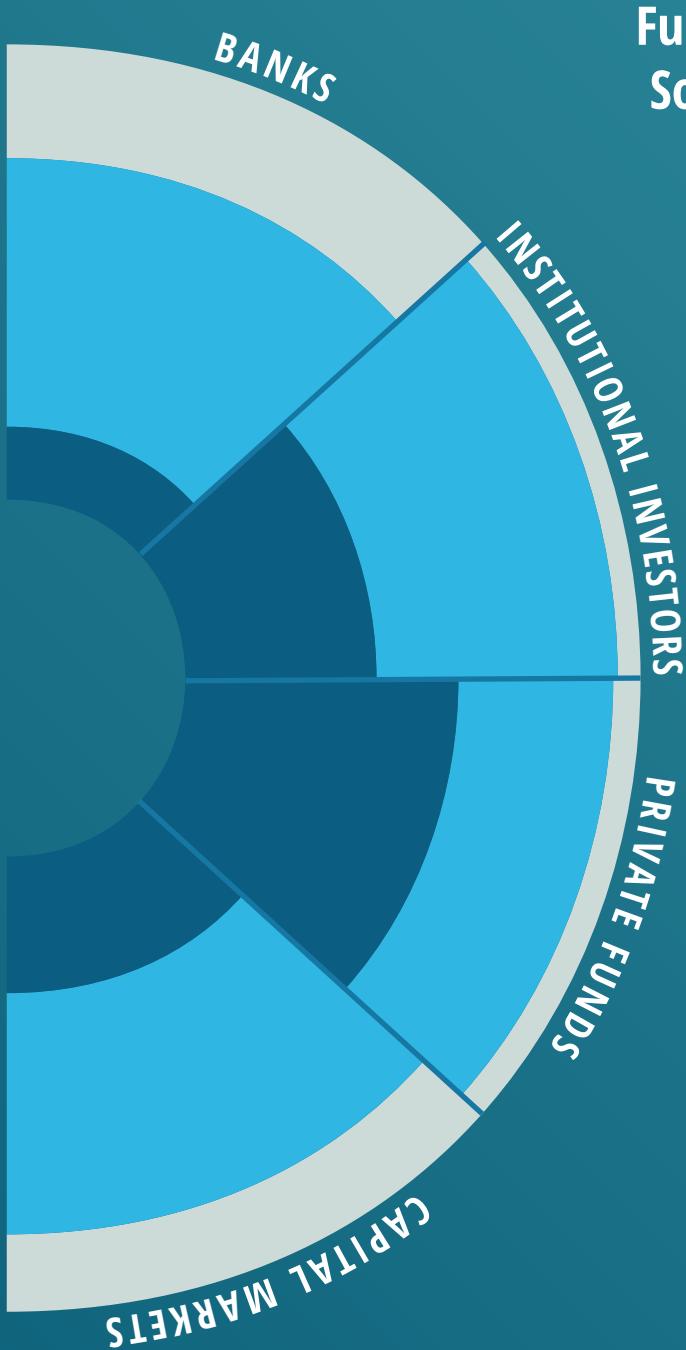
Foundations

Sovereign
Wealth Funds

Family
Offices

Source: Preqin Fund Manager Survey, June 2018

THE RISE OF DEBT



Fund Manager Views on
Sources of Debt in 2023

- More Important as a Source of Debt
- Equally Important as a Source of Debt
- Less Important as a Source of Debt

Source: Preqin Fund Manager Survey, June 2018



JENS ERNBERG

Managing Director and Co-Head of Private Credit,
Capital Dynamics

We believe delivering creative financing solutions to private equity-backed lower-middle-market companies represents one of the more compelling opportunities in private debt today. Two important drivers of growth in private debt have been (i) capital inflows from investors seeking compelling risk-adjusted returns; and (ii) a shortage of lenders serving the capital needs of middle-market companies. These secular trends are expected to prevail, driven by demographics – demand for income-producing assets with downside protection – and market dynamics that are causing traditional lenders to exit the lower middle market.

At the same time, we expect debt demand from private equity-backed companies to accelerate over

the next few years as managers deploy record levels of dry powder, estimated at \$1.0tn at the end of June 2018. The result is lower-middle-market companies – those generating EBITDA of less than \$25mn – have fewer options when seeking capital to finance growth initiatives or liquidity needs. Reduced competition allows lenders serving that market to secure more advantageous terms, including higher rates, lower leverage ratios, greater equity contributions and, most importantly, more robust investor protections – like financial maintenance covenants – than those seen in the upper-middle and broadly syndicated loan markets. These dynamics translate into compelling risk-adjusted return opportunities for investors.



SYLVIA OWENS

Senior Portfolio Advisor,
Aksia LLC

As the private credit asset class matures, investors are contemplating whether it deserves a dedicated allocation. Many investors still have private credit as part of fixed income, private equity or real estate allocations, but more recently, investors have consolidated private credit investments into a dedicated bucket as these investments have grown to be a significant allocation. However, given the diversity of the asset types that are included in the opportunity set, one of the biggest challenges of a dedicated bucket is choosing an appropriate benchmark.

Over the past few years, a number of investors have received approval for dedicated opportunistic private credit buckets. While many had, and will continue to have, exposure to private credit through the other asset classes, for many, the primary motivation for a dedicated allocation is to capture strategies that could otherwise be missed because they do not fit neatly in the other asset buckets. We typically find that another key motivation is to create a well-diversified opportunistic portfolio with its own benchmark and clear staff accountability. Particularly in the low expected-return environment, an increase to private credit is viewed as additive to other available return streams.



TED KOENIG

President & Chief Executive Officer, Monroe Capital

The capital inflows into the asset class over the past few years, with over \$100bn raised last year alone, demonstrates how private debt continues to attract investors. Relative performance has been, and will continue to be, the biggest driver. Consensus is a low return environment across other asset classes ahead, making the private debt risk/return profile look particularly inviting given lower volatility and position in the capital structure. Private debt can also serve as an interest rate hedge, especially beneficial in the US as the Fed continues to push a hawkish policy. For investors with more pressing liabilities the current cash yield is appealing, mitigating the J-curve while still capturing an illiquidity premium.

Given the cyclical nature of credit markets and the lack of a downturn in the last decade – expectations are for bumpier roads ahead. Focus will shift to how credits were underwritten, which managers can execute workouts and defend their portfolios. This will help investors identify visitors and asset gatherers in the asset class from true credit specialists that can manage through the bottom of a cycle. This will potentially lead to some consolidation and the true stalwarts of the industry pushing the asset class along for the longer term.

HOW TO SOURCE CAPITAL

How Are Fund Managers Planning to Source Capital?

With a growing number of investors headquartered in emerging markets, fund managers need to adapt to these changing sources of capital to make the most of these burgeoning opportunities. Sustainable access to new markets is difficult to achieve without boots on the ground, so it is unsurprising that to take advantage of these opportunities, one in 10 fund managers surveyed plan to open offices in a new international market. However, while fund managers based in developed markets are looking to establish themselves in other areas of the world, emerging markets-based GPs are also looking to extend their reach and access investors in developed markets.



Source: Preqin Fund Manager Survey, June 2018



HYUNG-DON CHOE

Head of Global Alternative Division,
National Pension Service of Korea

Although we are based in Asia, the majority of National Pension Service's (NPS) private equity capital is invested in developed markets, such as the US and Europe. Due to the nature of the private equity market, it is important to communicate with GPs frequently and create strong relationships. NPS has been expanding

our overseas offices, with new offices opened in New York and London. We have been trying to provide more responsibilities and capital ownerships to those overseas offices. But as an Asian LP, there are still challenges in building personal relationships with overseas GPs.



*Source: Preqin Fund Manager Survey,
June 2018*

"Raising capital is tough. In 2023, fund marketers will be an essential resource for many alternative assets managers to connect with the complex web of investors globally."

AMY BENSTED

Head of Fund Manager Products, Preqin



MICHAEL MURPHY

Managing Director and Co-Head of the Private Fund Group, Credit Suisse

I expect that placement agents will continue to play an invaluable role for fund managers. In a role more suitably described as a private capital advisor, the value they add will be in capital diversification, investor suitability and sequencing, and process management.

With experience across hundreds of fund raisings raising hundreds of billions of dollars of capital, established placement agents like the Credit Suisse Private Fund Group (CS PFG) have a wealth of knowledge they can leverage to advise on market positioning and differentiating a manager's investment approach. The value a placement agent can bring to a first-time fund is evident, but the value for more established managers is also considerable. GPs typically seek to build a diversified pool of investors as they become more established, but will often have little knowledge of all but the largest LPs outside their home geography. A global placement agent is able to introduce US private debt funds to Australian superannuation plans, Asian growth funds to European family offices, and European buyout funds to South American pension plans – linking GPs to LPs in less familiar geographies.

30%
Plan to Use Placement Agents to a Greater Extent

32%
Plan to Begin Using Placement Agents

*Source: Preqin Fund Manager Survey,
June 2018*

Placement agents also leverage their intimate knowledge of LP programs to advise GPs on investor suitability and sequencing, making fundraising processes more streamlined and efficient. The knowledge placement agents can offer regarding which of the 2,500+ active LPs globally have an open slot in their program and which of those can make a first closing is essential in constructing a fundraising strategy. Moreover, for GPs with limited IR professionals, the project management resources a placement agent provides can make a significant difference to the speed with which investors can be processed and closed.

Finally, placement agents also add significant value for investors. In an environment where Preqin records over 4,500 private funds currently in market, a close relationship between investors and an established global placement agent enables investors to have pre-vetted funds in the strategies and asset classes they are looking for funnelled directly to them, helping them build out their programs in a more time-efficient manner.

A PORTFOLIO OF THE FUTURE

IN THIS SECTION:

40

TRADITIONAL vs. ALTERNATIVE

42

ACCESSING ALTERNATIVES

44

PORTFOLIO MONITORING

TRADITIONAL VS. ALTERNATIVE



HELEN STEERS

Partner, Pantheon

Preqin data suggests that 84% of investors plan to increase their allocation to alternatives over the next five years. Alongside the pursuit of higher returns, a contributory driver is likely to be the profound shrinkage in many key global public markets over the past two decades, coupled with the increased access companies have to private market capital.

In 2017, private equity AUM grew to a record \$3.1tn – compare that to \$587bn in AUM in 2000. While traditionally public markets have been the only source of capital at scale, today that is not so. In 1996 the median amount raised prior to IPO in the US was just \$12mn. But by 2016, that had shot up to

nearly \$100mn, easily within the range of capital that public markets would traditionally provide.

We believe that access to private funding allows companies to continue pursuing their business objectives without the costs and distractions associated with operating in the public spotlight. More than ever before, the rapid growth companies experience, and the value created by that growth, is occurring before IPO. Private equity investors have been direct beneficiaries of this trend. That the private equity model focuses on highly active ownership, where managers and investors are aligned to create long-term value, is an additional bonus.

84%

of investors plan to increase their allocation to alternatives in the next five years



ANDREW MOYLAN

Global Head of Product Management, Preqin

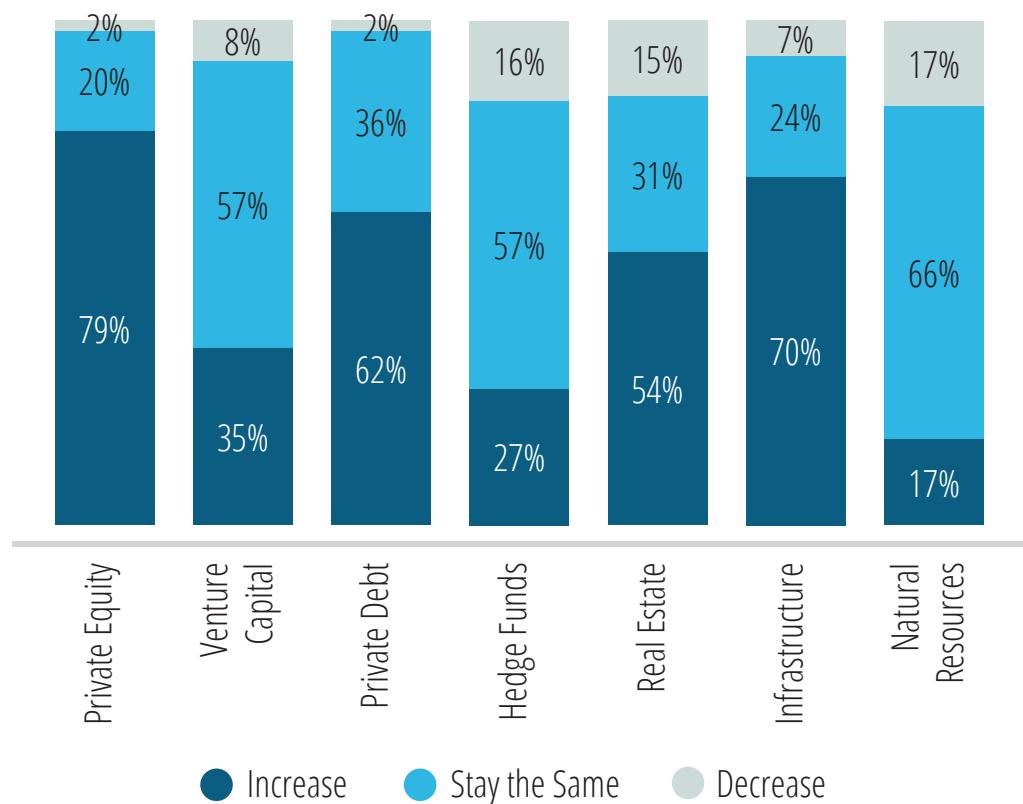
That alternative assets are no longer 'alternative' is something of an industry cliché, but it is also undoubtedly the case. Eighty percent of institutional investors have an allocation to at least one alternative asset class, while more than half have allocations to at least three.

Alternative assets are a vital part of the portfolios of the vast majority of sophisticated institutional investors. These asset classes can provide diversification, offer high absolute returns, offer returns with low correlation to other asset classes, reduce volatility, generate reliable income, offer an inflation hedge and fulfil many other important

roles within an institution's portfolio. Quite simply, most investors could not hope to meet their return expectations without alternative assets.

In the next five years, alternative assets will play an even more important role in institutional portfolios. Growth in allocations is set to be most marked in private equity, while infrastructure and private debt, which are already growing rapidly, will become ever more important to investors' portfolios. The growth may not be as notable for other alternatives; however, there are no alternative asset classes where a sizeable proportion of investors expect to shrink their allocations.

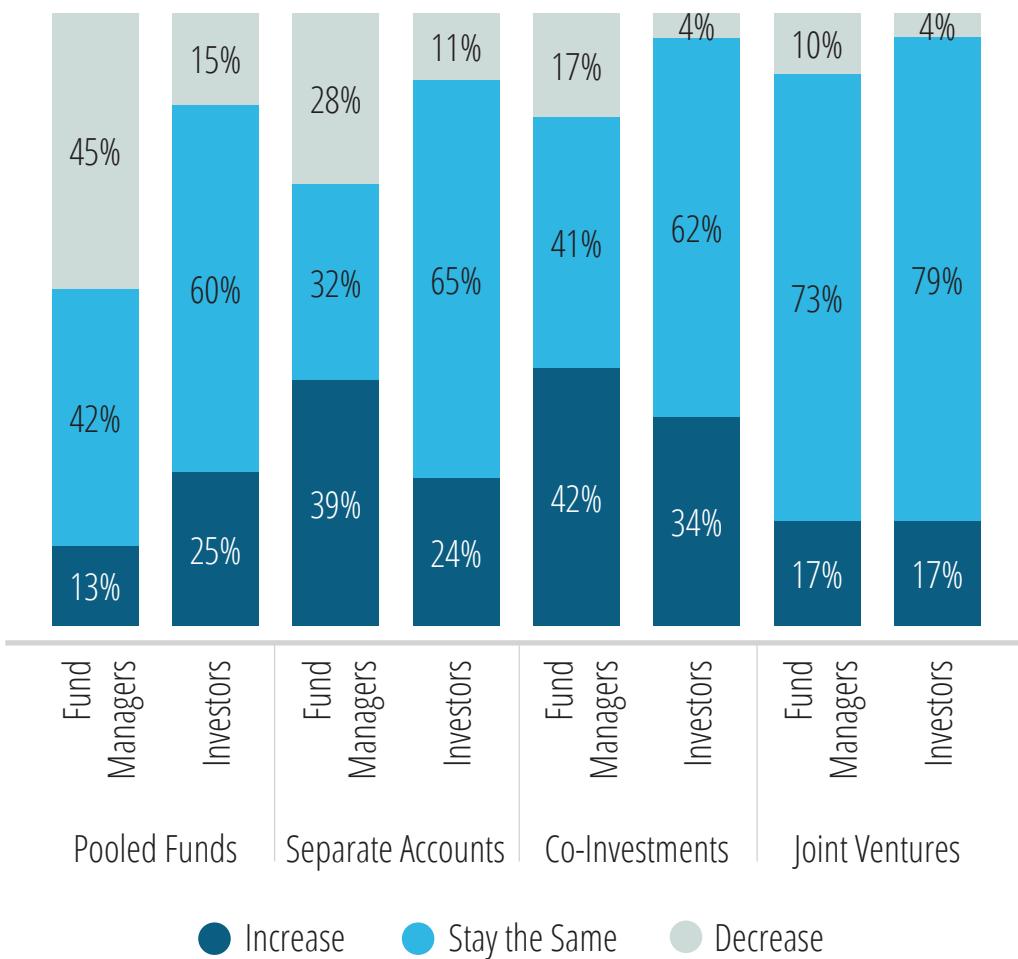
Investors' Projected Change in Allocations over the Next Five Years



Source: Preqin Investor Survey, June 2018

ACCESSING ALTERNATIVES

Projected Change in Route to Market over the Next Five Years



Source: Preqin Fund Manager and Investor Surveys, June 2018



HYUNG-DON CHOE

Head of Global Alternative Division,
National Pension Service of Korea

We have seen one notable difference before and after the Global Financial Crisis: LPs are more actively co-investing to reduce fees and generate additional returns. In terms of co-investment strategy, National Pension Service

prefers businesses that are resilient in economic cycles, as well as companies with high EBITDA margin and high free cash flow (FCF) conversion rate. We found that our investments in such companies produced outstanding returns.

JIM CASS

Senior Vice President and Managing Director,
SEI Investment Manager Services



Over the past decades, we have seen investors shift capital to managed accounts from pooled products. As the alternatives industry has evolved and become more institutionalized, this trend has moved from hedge funds to private equity and other private capital products. This is predominantly used by large investors as the minimum size to participate is substantial, but it gives the investor more bargaining power, increased transparency,

a higher degree of customization and better risk controls.

That being said, the cost of doing business also increases as the GP has to split trades, report separately, manage the specific customization requirements etc. and thus cannot offer economies of scale that LPs would typically benefit from in a pooled vehicle.



ROB VANDERPOOL

InfraHedge President of N. America and Global Head of Business Development, State Street

The growth in separately managed accounts (SMAs) is primarily being driven by investors increasingly being able and willing to demand greater customization from their fund programs, as investment teams become more refined in both tactical and strategic allocations.

Commingled funds have historically worked well for investors looking for simple exposure to a manager's reference fund, but when the time comes

to negotiate terms, customize mandates or further tailor product solutions, both clients and managers turn to SMAs to facilitate this.

Investment teams, in the pursuit of alpha, have and will continue to widen their appetite to become more exclusive or inclusive of security selections through SMAs beyond index products, therefore leading to investment teams turning towards tailored product solutions in SMA structures.

PORTFOLIO MONITORING



CHRIS FERGUSON

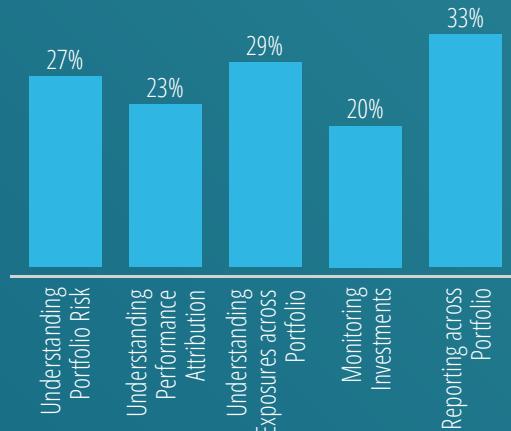
CEO, Preqin Solutions

Over the past few years, the private equity middle office has changed: alternative fund management is undeniably moving towards full reporting automation and data-powered decision-making. Looking at examples within the bulge bracket firms, both Blackstone and Apollo have launched internal data science initiatives focused on extracting further value from their portfolio data and enhancing their investment process.

While the broad applications of data-driven decision-making and artificial intelligence might seem far off for the average private equity fund, there is certainly an opportunity for funds to enhance the level of insights they are obtaining from a relatively smaller pool of data. The standard portfolio management systems of tomorrow will deliver more than analytics driven off simple operating metrics: enhanced connectivity will allow for the incorporation of real-time social and website analytics to drive forward-looking insights; ESG metrics will be rolled into financial analysis to derive impact alpha; and advanced scenario forecasting will facilitate exit planning and fee & carry trade-off decisions beyond the capabilities of Excel. Given the growing concentration of capital in larger managers it seems prudent for managers of all sizes to be defining a more robust data strategy if they wish to remain competitive.

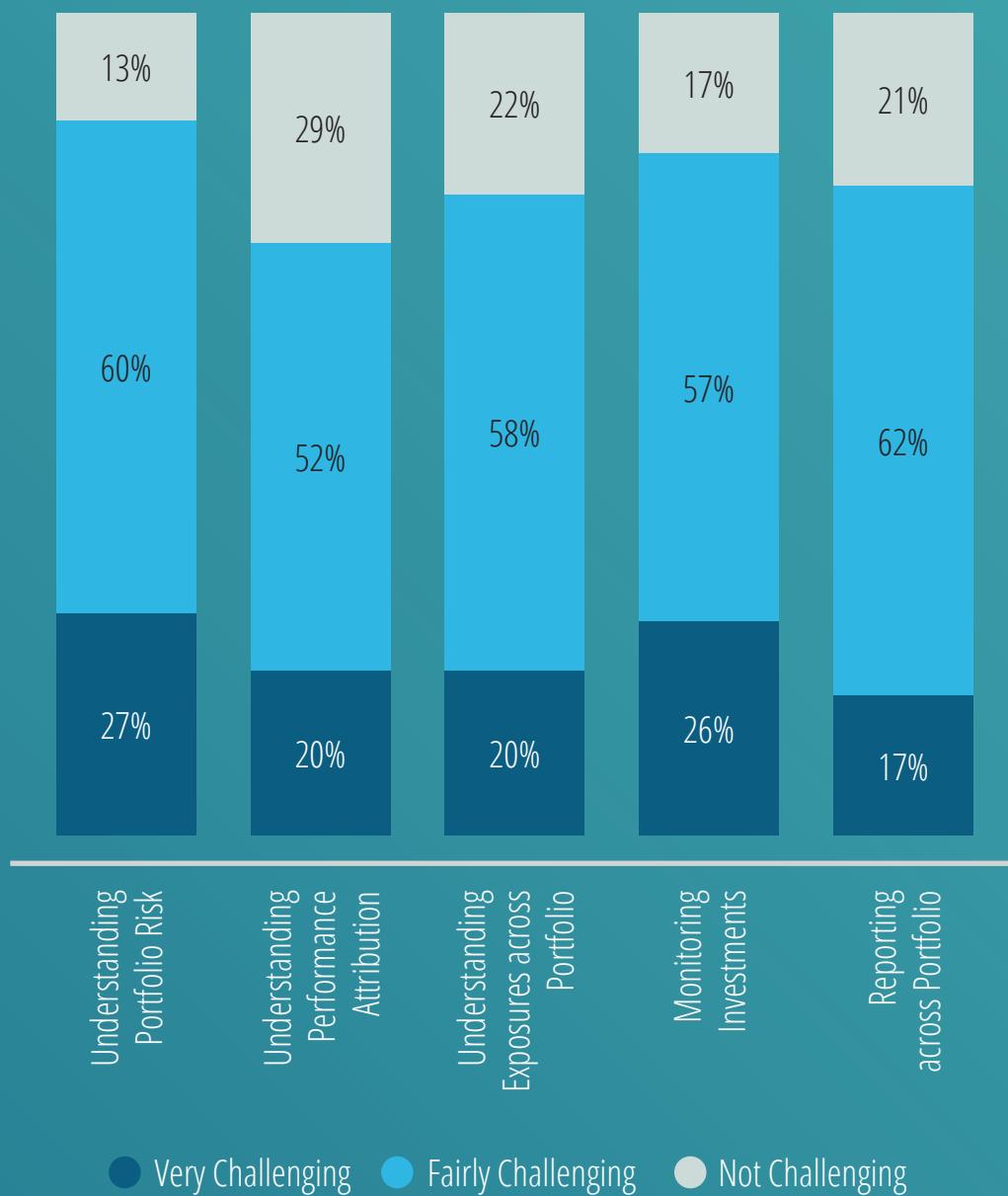
An assessment of middle-office technology based on today's reporting efficiency betrays the longer-term reality that the number of data points requested by LPs is set to significantly grow, best practice and process are increasingly valued as differentiators by LPs, and most importantly, only firms that can harness the value of their data assets are likely to remain top-quartile performers given the growing competition in the asset class.

Benefits of Software Usage, According to Investors



Source: Preqin Investor Survey, June 2018

Challenges of Software Usage, According to Investors



Source: Preqin Investor Survey, June 2018

39%

of investors currently use portfolio monitoring software, with a further 35% planning to implement it within the next five years



MARKETS IN 2023

IN THIS SECTION:

48

OPPORTUNITIES IN 2023

50

TARGET MARKETS

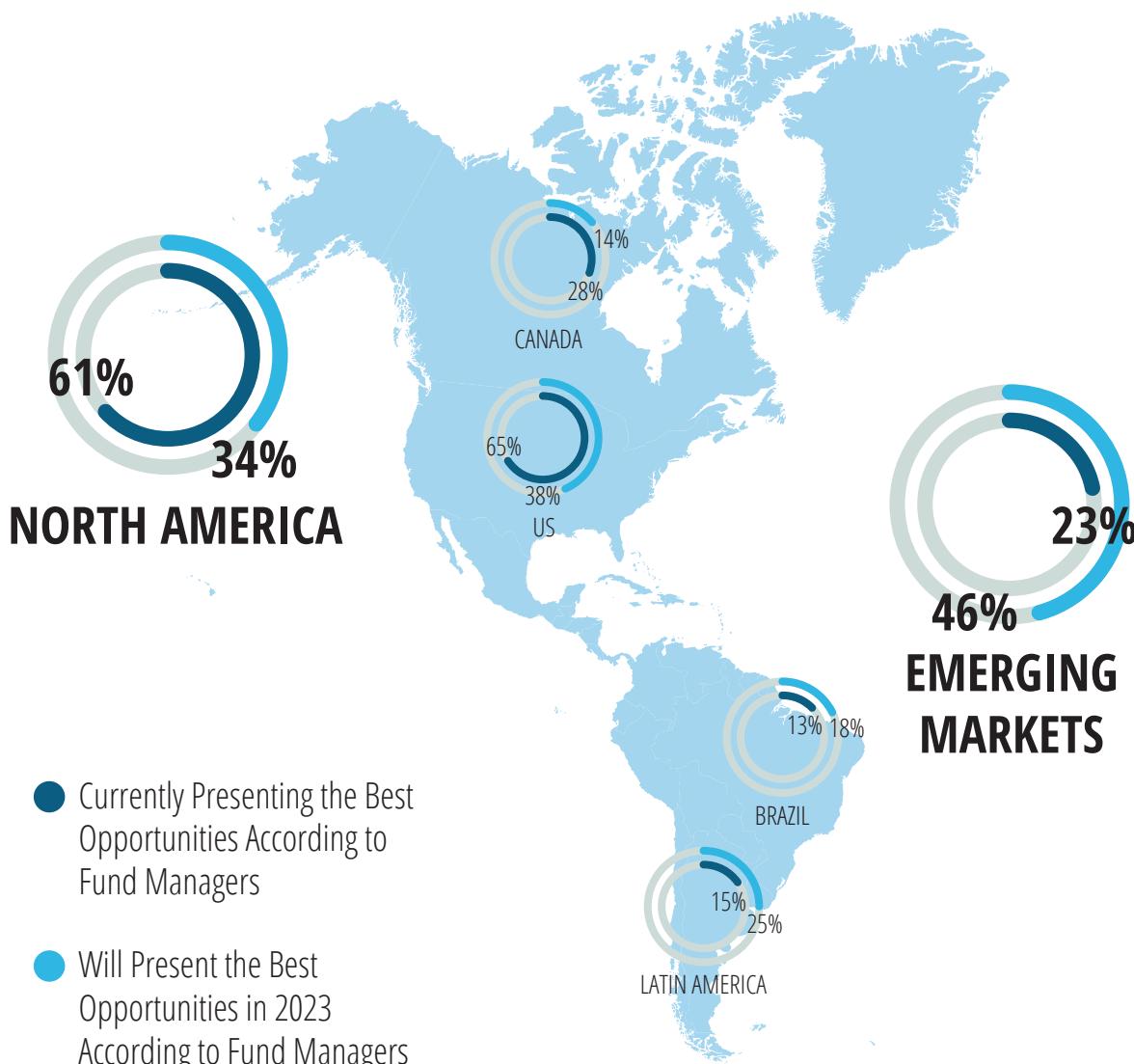
54

EYES ON ASIA

56

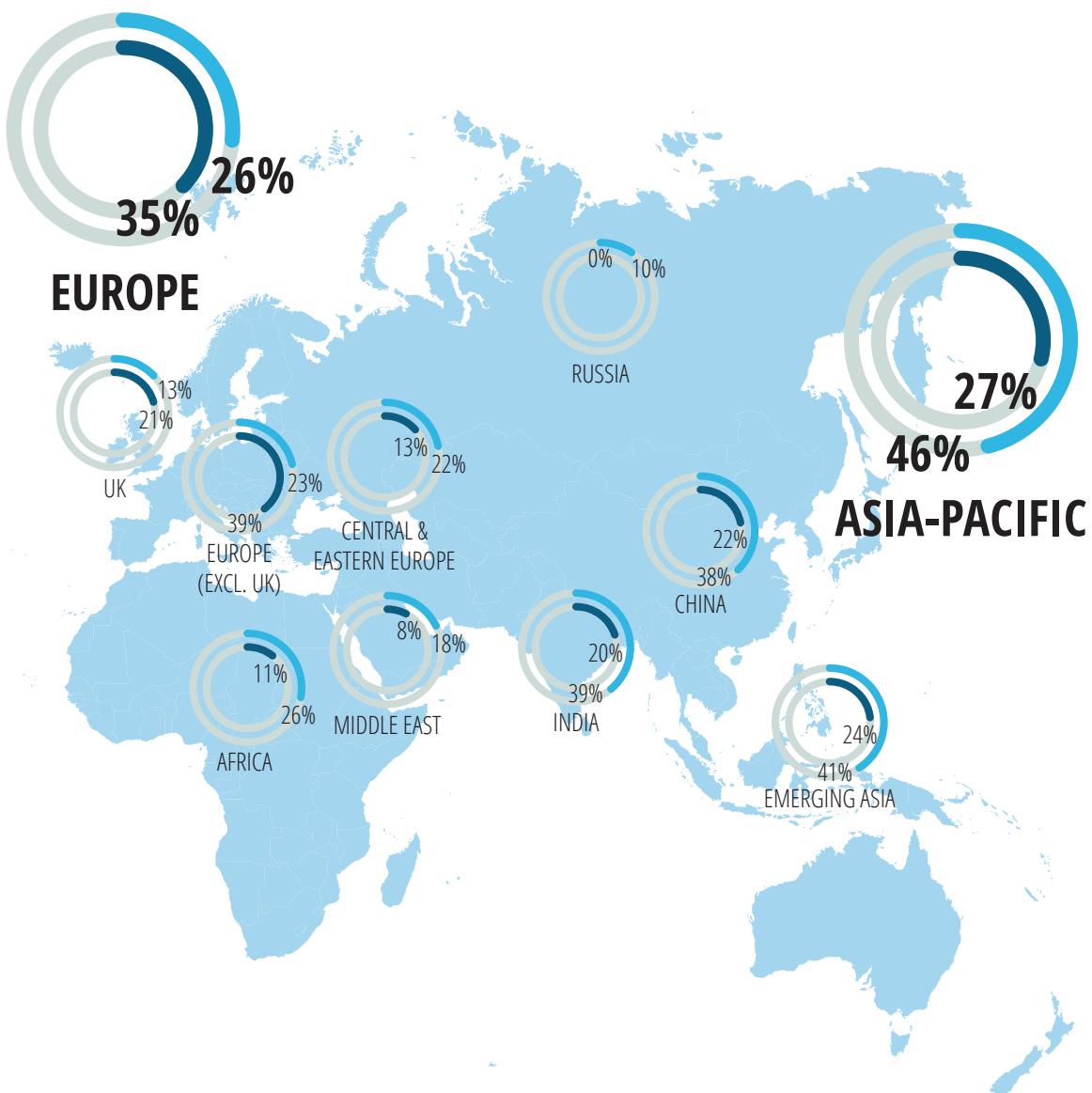
COMING TO AFRICA

OPPORTUNITIES IN 2023



46%

of fund managers feel emerging markets will present the best opportunities in 2023



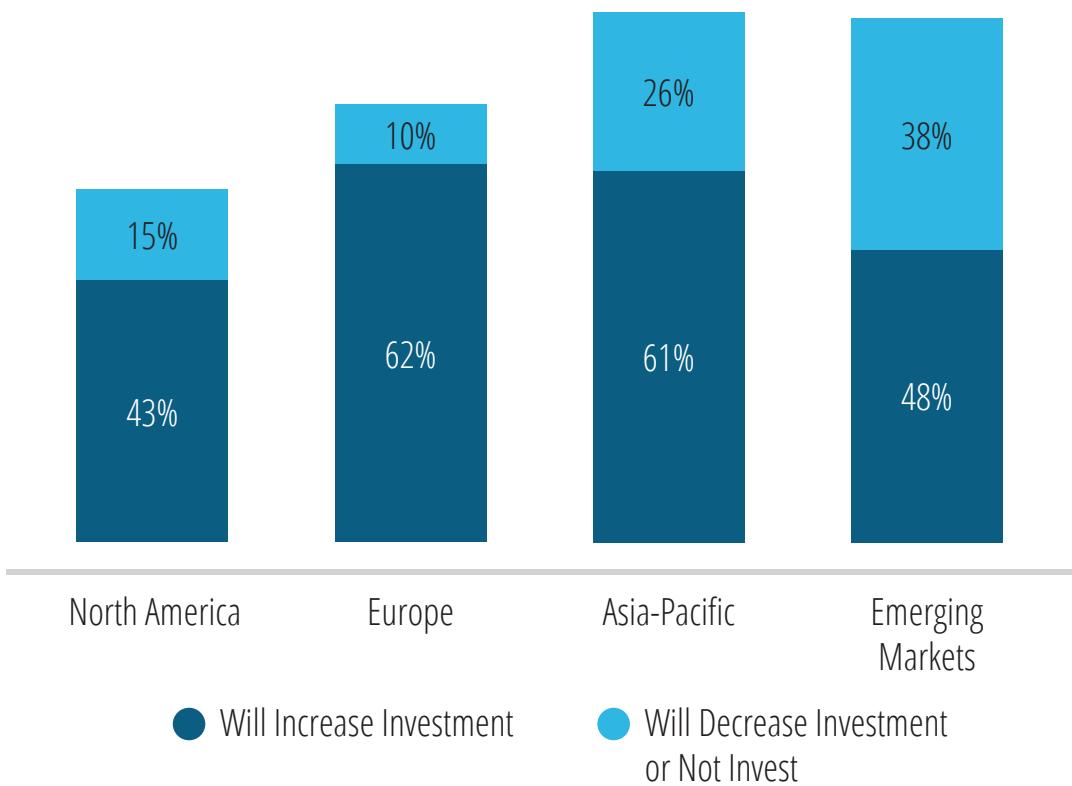
Source: Preqin Fund Manager Survey, June 2018

TARGET MARKETS

19%

of investors are not currently invested in emerging markets but plan to be by 2023

Markets Investors Are Targeting over the Next Five Years



Source: Preqin Investor Survey, June 2018

Emerging markets have the potential for greater returns as well as greater risk



RAGAVAN SIVANESARAJAH

Portfolio Director, Fortius

With the larger valuation discount in emerging markets we continue to see a better outlook for returns. Emerging markets have the potential for greater growth than their developed markets counterparts due to ongoing urbanization combined with a larger and younger labour force.

Our research finds that a valuation-driven process works well in emerging markets. We look for undervalued stocks, that are growing their cashflows and distributions. We are not constrained by benchmarks and as a result continue to invest a significant proportion of our portfolios in emerging markets.

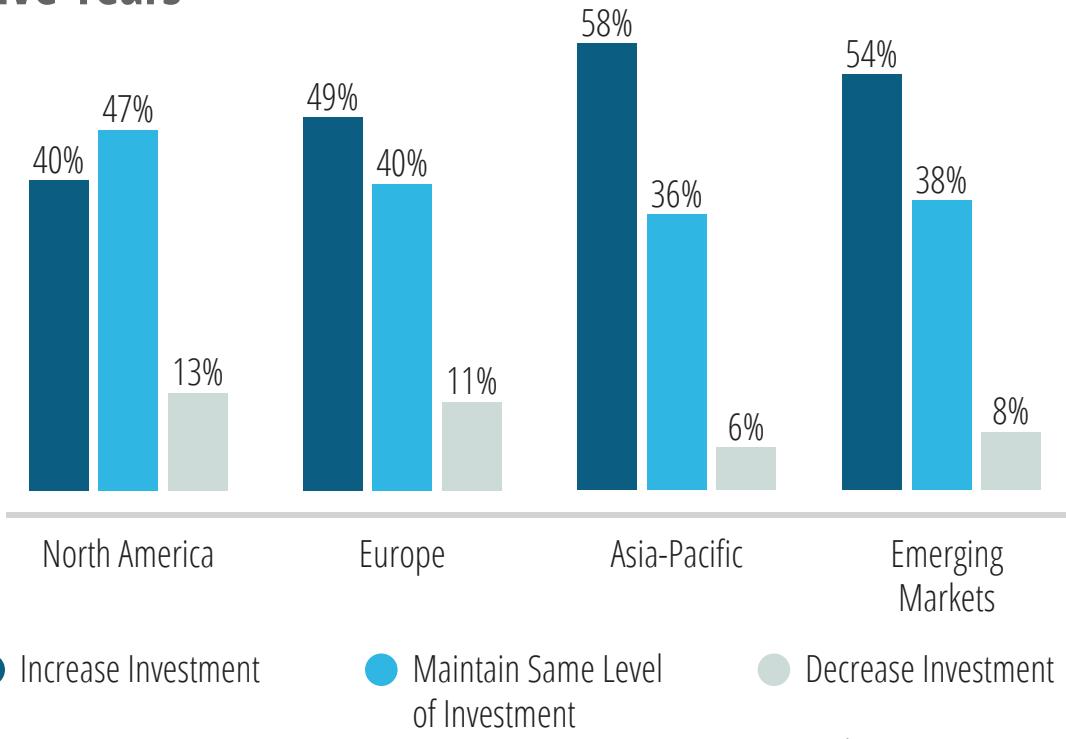
The key advantages for investing in emerging markets include higher-yielding investments

combined with lower financial gearing, attractive demographics and diversification when combined with developed markets.

However, emerging markets can also include an element of higher political risk. In addition, banking systems are more vulnerable compared to developed markets. Finally, given the export dependence of a number of emerging markets, they can be more susceptible to a slowdown in global growth and trade.

In our experience utilizing a value investment process mitigates a number of these risks, and to date has enabled us to construct portfolios with lower volatility compared to purely developed markets exposure.

Markets Fund Managers Are Targeting over the Next Five Years



Source: Preqin Fund Manager Survey, June 2018

Economic growth in emerging markets will continue to outpace developed markets



RAGAVAN SIVANESARAJAH

Portfolio Director, Fortius

We continue to see attractive opportunities coming from emerging markets with the rise of the region as we see it:

- The world is in the middle of an economic and political shift globally. The US dominance of global economics and investment will continue to decline.
- By 2020, emerging economies will likely make up over 60% of the world's GDP.
- Emerging markets are not well represented in major indices.

- We currently see good value in emerging markets with significantly higher yields combined with lower financial gearing.

We currently see sizeable potential arising in parts of Emerging Asia, for example in Thailand, which has a large population and an economy almost the same size as that of Australia. Real estate in Thailand and Bangkok in particular has gone through significant changes. Retail shopping centres have significantly improved, and foot traffic continues to increase.

Investor demand for niche strategies is becoming more mainstream

SYLVIA OWENS

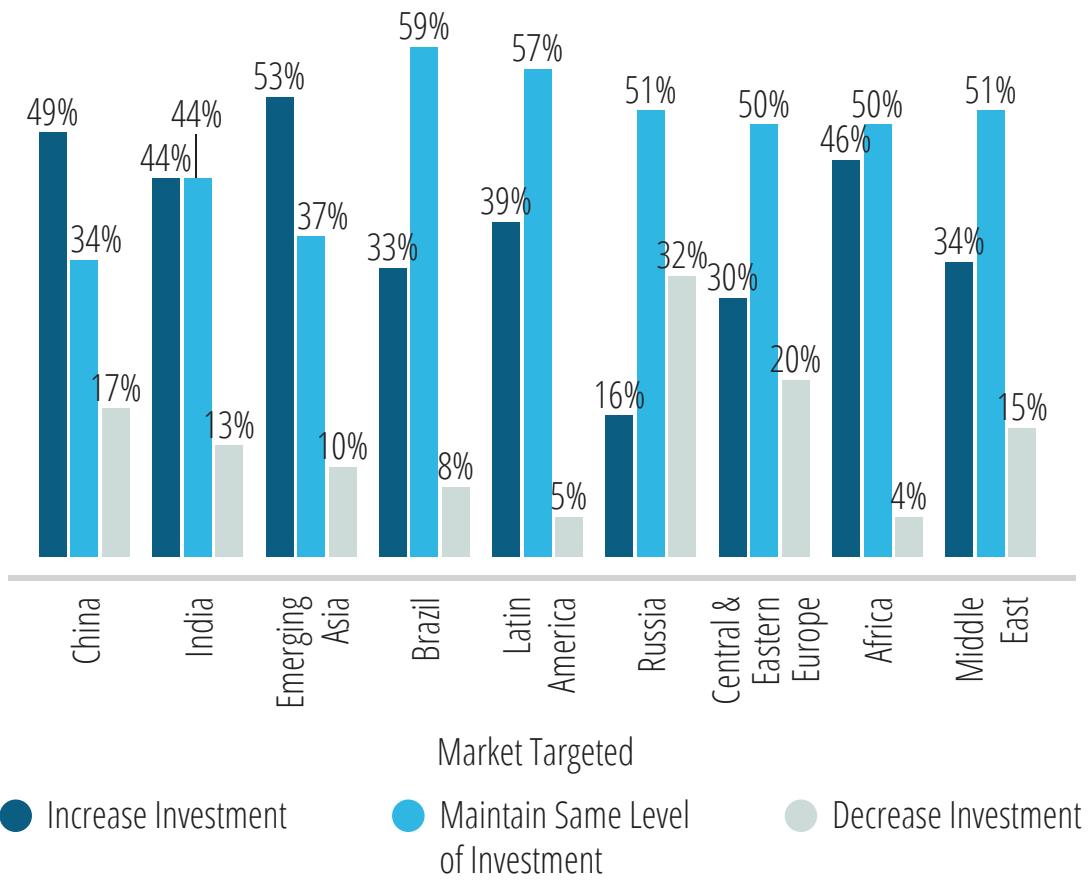
Senior Portfolio Advisor, Aksia LLC



Over the past few years, the landscape has shifted from investors primarily focused on traditional forms of private credit such as distressed, direct lending and mezzanine, which have become relatively crowded, to increased appetite for niche exposures, where the supply/demand can be more balanced. Niche exposure can be implemented through investing in managers with a particular specialty and/or looking at markets outside of the US and Western Europe. This shift is a function of investors' private credit portfolios maturing; now that they have their core investments in the larger direct lending or cross-asset GPs, they are ready to consider less mainstream strategies.

One example of this evolution is Pennsylvania Public School Employees' Retirement System (PSERS), which recently made its first dedicated investment in Asian private credit via a global GP with which it had an existing relationship. This fund allowed it to gain exposure to the region (Southeast Asia, China, India, Australia etc.). PSERS had a relatively mature private credit program, with the first private credit investments taking place in 2007, so it was selectively adding exposure that complemented its existing managers. According to James Del Gaudio, portfolio manager for the ~\$5bn private credit portfolio, it may add additional Asian exposure, most likely in the form of a dedicated regional player. In addition, PSERS is actively considering real estate credit as well as niche specialty finance strategies.

Emerging Markets Targeted by Fund Managers in the Next Five Years



Source: Preqin Fund Manager Survey, June 2018



MICHAEL LINTS

Partner, Golden Gate Ventures

You can look at investment opportunities in Asia from two different angles. The first is from a market and industry point of view. There are industries that have not been exposed to the latest technology trends in Southeast Asia such as education and healthcare. We foresee more founders starting companies in these industries and taking market share from or adding value to current incumbents.

Besides these industries we still see a lot of opportunity in existing spaces such as Fintech. We

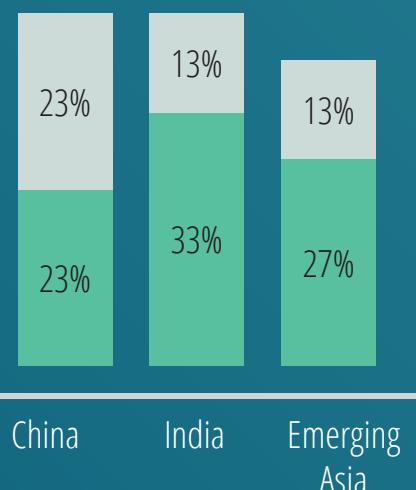
are currently scratching the surface in the Insurance and Payments industry. Full stack online insurance companies and seamless cross-border payments are some of the trends for Asia. The second angle is the stage of investments. As companies have progressed through the seed and Series A stages there is more opportunity for late-stage capital to play a role in the ecosystem. Although there are big differences on a country-by-country level, there is more need for Series B to D capital as start-ups are expanding at a more rapid pace.

EYES ON ASIA

Fund managers predict that by 2023 the level of alternative assets capital coming from China, India and the remainder of emerging Asia will have increased by:



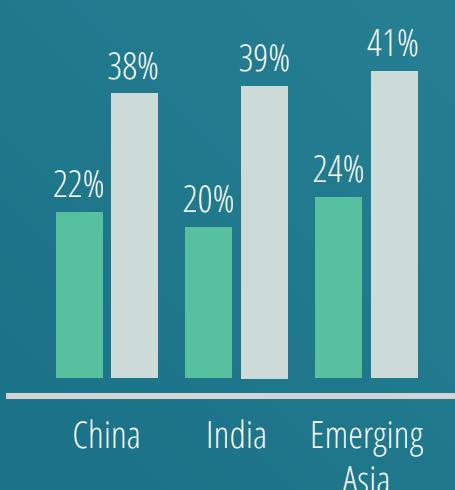
Investors' Target Markets over the Next Five Years



- Not Invested but Plan to Invest

Source: Preqin Investor Survey, June 2018

Markets Presenting the Best Opportunities to Fund Managers in 2018 vs. 2023



- Currently Presenting the Best Opportunities
- Will Present the Best Opportunities in 2023

Source: Preqin Fund Manager Survey, June 2018



RAGAVAN SIVANESARAJAH

Portfolio Director, Fortius

We believe the rise of India, China and ASEAN will see a large shift over the next five years, in terms of Asia increasing significantly by GDP and more importantly in its share of the world's GDP. We see the increased importance of alternative assets as investors seek sustainable, long-term alpha, and diversified returns for ageing populations, amid an environment of low interest rates.



MICHAEL MURPHY

Managing Director and Co-Head of the Private Fund Group,
Credit Suisse

The Asian market continues to provide attractive opportunities for investors, both GP and LP alike. With strong growth in GDP, the continued emergence of a middle class and their associated disposable income, and a transition to a more design-driven R&D economy, there are manifold opportunities that will continue to drive investor interest in the Asian market.

The IMF estimates that China's economy will grow c.6.6% in 2018, India's at c.7.4% and Asia-Pacific's economy in total at c.5.5%. In such an environment, investing holds a clear and present attraction in my view. This growth is significantly driven by the continued emergence of urban, middle-class consumers with disposable incomes and a preference for branded products in which consumers have confidence; private equity investors will look to target these themes by investing in

companies and sectors that enjoy particular benefit. This may include TMT subscription companies that expect to see a rapid increase in their user base; 'affordable luxury' consumer goods companies who might see an expansion of their potential customer universe; or financial services companies experiencing strong growth in assets under management.

In terms of the alternative asset landscape, the last five years have seen a slow but steady development in Asia from growth investing to buyout investing, mirroring the development of economies in the region. I believe this trend will likely continue and that experienced, independent private equity firms in the region with a track record of successful buyout investments and exits will see particular interest from investors and success going forward.

COMING TO AFRICA

Africa is set to receive increased investment from the alternatives market as both investors and fund managers plan to increase their exposure to the region:

24%

of investors will make their first investment in Africa over the next five years...

...While a further

6%

currently invest in Africa and will increase their investment

Fund Managers Seeing/ Expecting Attractive Opportunities in Africa



46%

of fund managers plan to increase their investment in Africa by 2023



THOMAS LIAUDET

Partner, Campbell Lutyens

The strength of fundamental factors pointing toward the emergence of the African market as an opportunity to deploy material levels of institutional capital has never been stronger. With an undeniably increasing level of understanding of the continent, global investors facing maturity and scale in LP portfolios cannot ignore it.

With concerns over correlation among OECD markets and return compression – as well as true ESG and impact investing objectives – most investors should have Africa in their sight. No real surprises in terms of sectors – those expected with emerging middle classes such as financial services, technology, consumer goods and services.

When one looks beyond the horizon, a particularly exciting area is infrastructure. Africa's critical need for infrastructure means that projects typically have an extremely strong economic rational. Interestingly, those are often significantly less risky investments than one would expect from a Frontier Market – project finance default rates in Africa (6.1%) are below those seen in Europe (6.4%) and North America (7.8%). Some of the winners are likely to be aggregating, or regional, GP platforms requiring real investment specialists, yet able to provide LPs access to local, uncompetitive markets mitigating country-specific political risk to deliver attractive returns to investors.





ESG AND ALTERNATIVES

IN THIS SECTION:

60
64

ESG INVESTING
ESG MONITORING

ESG INVESTING

The leaders in private capital will carry the torch of impact investing, driving greater ESG adoption among mid-market companies



DMITRI SEDOV

Chief Product & Marketing Officer, Preqin

The topic of ESG, or more specifically integrating environmental, social and corporate governance principles into investment strategies, has become one of the most talked-about areas of asset management across public and private markets in recent years, in keeping with the soaring demand from asset owners for impact and responsible investment alternatives.

In private markets, the UN Principles for Responsible Investment (PRI) reports that two out of every three LPs consider responsible investment in their selection of fund managers, while Preqin's data shows that nearly half of alternative fund managers will consider ESG principles in every investment they make by 2023.

By stewarding an ever-growing universe of companies, the private capital industry is uniquely positioned to bring greater transparency and information symmetry to ESG policies across the company spectrum, from start-ups to SMEs to unicorns. Through better data, disclosure and reporting, private capital will be a driving force in bringing ESG investing to light.

With that, here are my **five predictions** for ESG investing in 2023:

1. All fund managers will be expected to have clearly articulated policies and procedures for addressing ESG risks and opportunities, putting greater focus on an asset/portfolio company's license to operate.
2. Disclosure regulations and tax incentives will help direct capital to more ESG-friendly investments...

3. ...but regulatory frameworks will fall short of becoming a global ESG standard, shifting the onus onto market-leading GPs to set the tone for the level of transparency in ESG disclosure and technology adoption to aid ESG reporting to their LPs.
4. In private capital, ESG will become more polarized around "E" and "G", casting light on managing environmental and climate-related risks and governance issues.
5. Green and specialized ESG funds will proliferate, many seeking to meet growing demand from LPs for such "clear-cut" ESG investments.

Proportion of Fund Manager Investments that Implement ESG Policies



Source: Preqin Fund Manager Survey,
June 2018

ESG integration can enhance the long-term value of assets



NEHLA KRIR

Global Head of Sustainability, AXA Investment Managers - Real Assets

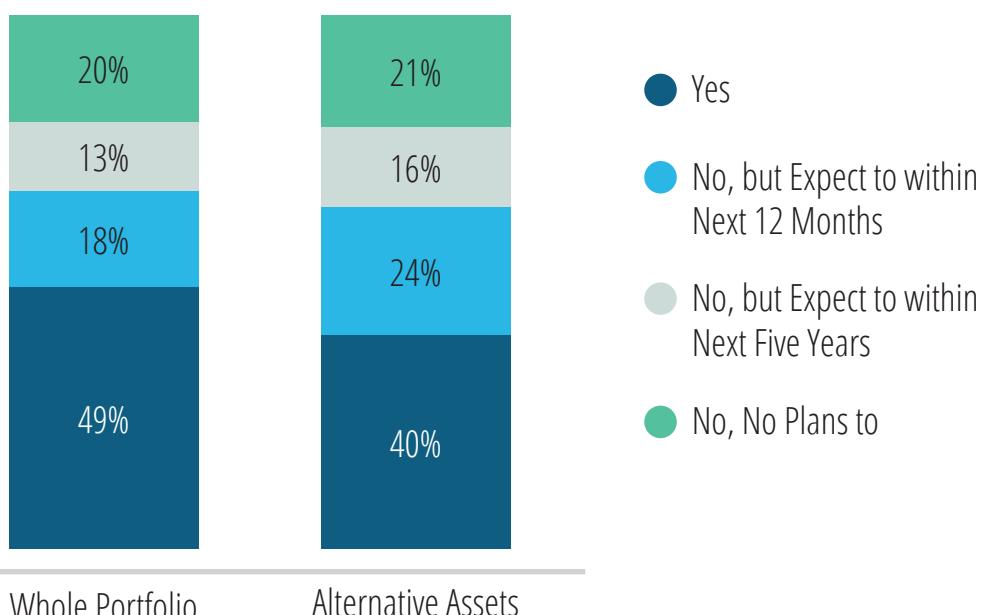
We strongly believe ESG integration is crucial in order to preserve and enhance the long-term value and liquidity of our assets under management for investors and tenants alike. Integrating ESG criteria into our investment strategies aims to enable us to anticipate risks and seize opportunities due to increasing environmental regulations and ESG market standards.

Investors are becoming increasingly conscious of ESG themes that can affect the sustainability of their assets, from environmental performance to wellbeing and impacts imposed on local communities. It is therefore critical that as a responsible asset manager we incorporate these elements into our investment strategies to drive

value. Real assets present a real opportunity to increase exposure to asset classes where positive impacts can be measured, particularly with our infrastructure equity investments, where we aim to make a positive contribution to a low carbon future.

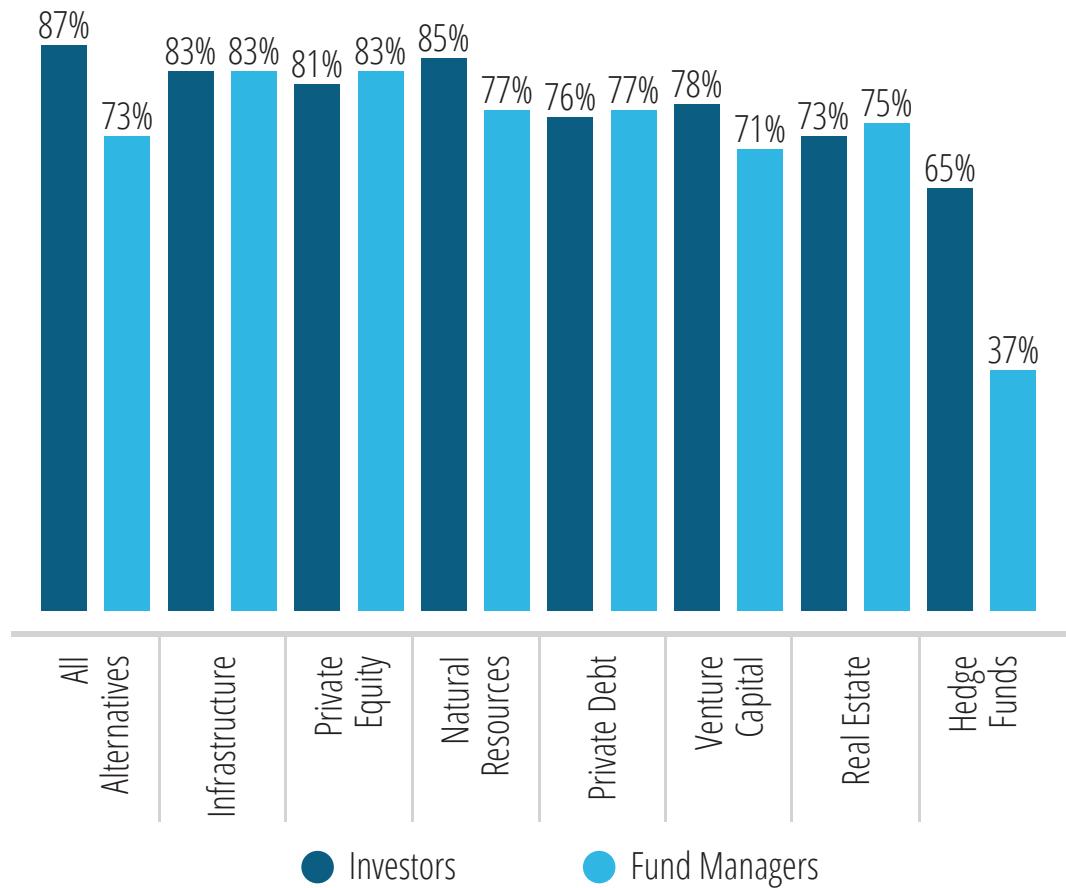
AXA Investment Managers - Real Assets is a responsible asset manager that considers ESG integration as an important driver in risk and asset management practices. In our Direct Real Estate investments, we actively manage the ESG performance of our assets under management throughout the asset lifecycle with proprietary tools and methodologies developed to measure the performance of our assets and set out short-, medium- and long-term objectives.

Investors with an ESG Policy in Place



Source: Preqin Investor Survey, June 2018

Investors and Fund Managers that Believe ESG Will Become More Important over the Next Five Years



Source: Preqin Investor and Fund Manager Surveys, June 2018

Investors and fund managers alike see ESG practices and policies becoming ever more important to the alternatives industry over the next five years. This being said, the role of ESG in the investment decision-making process varies from asset class to asset class.

The private equity, infrastructure and natural resources industries recorded the greatest proportions of respondents that foresee ESG becoming more important to their markets over the next five years. Market participants are agreed that ESG policies will play a more important role in these industries in the years to come, and the policies relating to E, S and G impact the entire alternatives market:

E – Private capital firms can guide portfolio companies/assets on how to reduce their environmental footprint, whether that is considering their acquisition's energy use or levels of pollution,

for example. Environmental governance can also include mitigating environmental risks, such as complying with environmental regulation.

S – Social considerations can be particularly important to alternative assets fund managers operating in emerging markets or markets with less emphasis on human rights than their domestic market. By raising social standards in acquired or partnered firms, alternative assets fund managers can strive to improve the quality of life in the communities of their investment targets.

G – Private equity and venture capital fund managers are able to influence the governance of their portfolio companies, providing guidance on creating robust governance structures. Areas such as anti-bribery and anti-corruption are focused on the alternatives industry by implementing transparent and accepted accounting methods.

Extra-financial factors can protect financial, reputational and shareholder value



PAULINE FIASTRE

Senior Portfolio Manager, Infrastructure Debt,
BNP Paribas Asset Management

Long established within 'traditional' investments, the increasingly widespread recognition of environmental, social and governance criteria within alternatives should come as no surprise to anyone who believes that an assessment of such characteristics will play an important role in being able to access the best-quality assets in tomorrow's world. ESG analysis is integral to the decision-making processes within our real asset financing strategies, as well as forming a key part of our fiduciary duty to our investors.

We adopt a multi-criteria approach that can be adapted across asset classes to effectively assess ESG impact when property- or project-related information is more difficult to access. Components include implementing a taxonomy specific to each

asset class to identify the impact on energy transition or social issues; evaluating the ESG performance of projects both qualitatively and quantitatively; and commissioning independent environmental and climate impact assessments.

We expect similar approaches to be adopted more broadly across the industry in the coming years as investors and asset owners alike recognize the extent to which incorporating extra-financial factors can help prevent risks and avoid assets that are potentially controversial, or which may have a negative social and environmental impact, thereby protecting financial, reputational and shareholder value.

Addressing ESG issues can have a material impact on value creation

ALEX SCOTT

Partner and ESG Committee Member, Pantheon



Pantheon is driven by the conviction that addressing ESG issues is a crucial part of investment risk management; and effective mitigation of these issues can have a material impact on value creation in the alternative assets market. We believe that mitigating ESG risks provides downside protection for investment returns and can add value through brand strengthening.

Pantheon is a signatory of the Principles for Responsible Investment ("PRI") and has used these

principles as a framework to develop its ESG policy across all its investment activities. We take an active role in promoting responsible investment across the global private markets investment arena through our roles on fund advisory boards and industry bodies. We formally incorporate ESG factors into our investment due diligence process and proactively monitor our 5,500 underlying portfolio companies for ESG risk using third-party data providers which supports regular engagement on ESG issues with underlying managers.

ESG MONITORING

ESG reporting will become a fundamental expectation of fund managers



DANIELLE PEPIN

Global Head of Product & Consulting, Preqin Solutions

Over the last few years we have seen a strong and growing focus on socially responsible investing, both among our clients and in our broader research on investors and fund managers. The focus on impact and ESG investing is strengthening beyond LPs with prohibitive mandates, and many traditional buyout fund managers are expanding ESG programs or raising impact funds.

Beyond the factor of social responsibility, ESG is now a hallmark of operational excellence. Being able to consistently generate KPI reporting in this area indicates the fund manager and asset operators have the fundamentals in hand. Over the next few years, as the marketplace of impact funds and the number of well-documented ESG programs expands, this trend seems likely to transition from being a differentiator to becoming a fundamental expectation of fund managers.

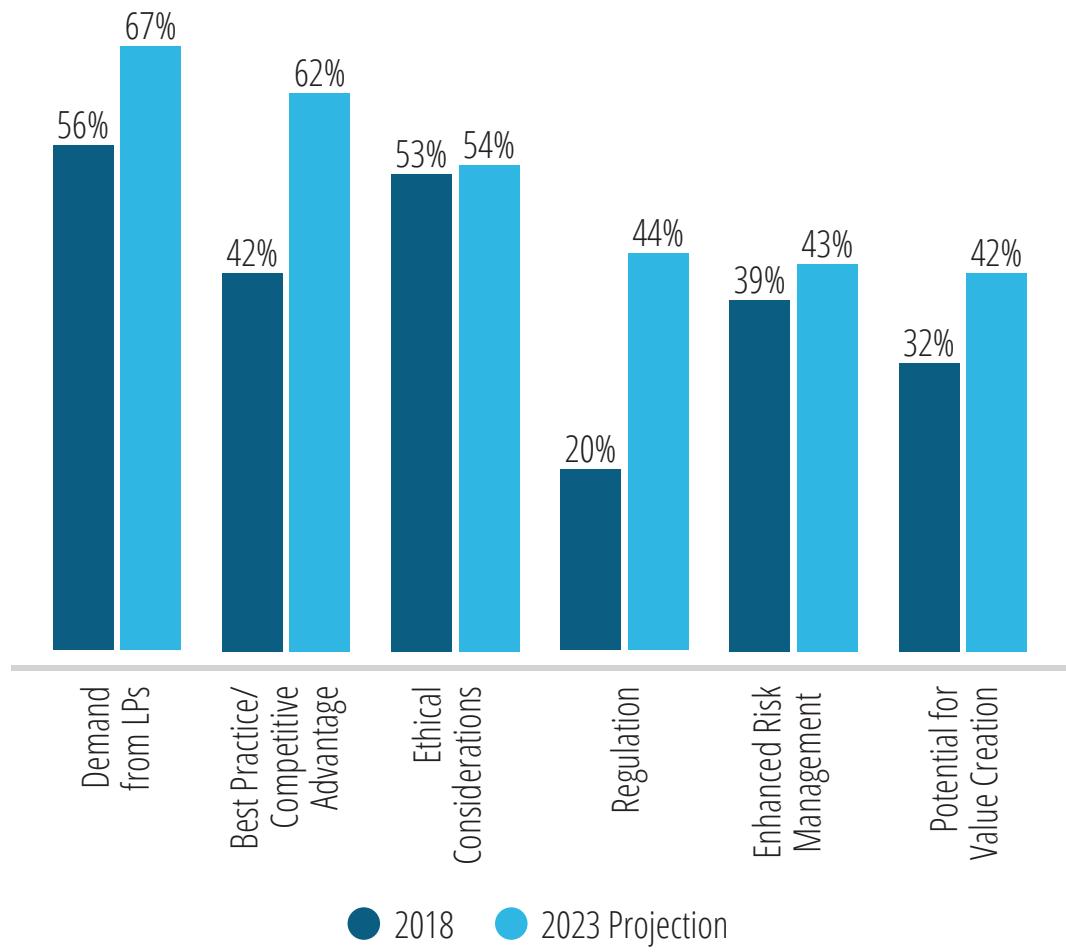
Good ESG reporting is not without challenges. It is easy to become daunted looking at the many

acronyms and inconsistently taxonomized data, and standards are different across different industries and geographies. We have taken on a lot of these challenges in our software solution, particularly on the data organization and collection side, since this is our particular area of expertise. There are also some great organizations out there, such as The GIIN and the UN PRI team, which are starting to provide more detailed guidance to fund managers, and we work with a lot of skilled consultants in the space as well.

The next challenges we anticipate for responsible investing, ESG and impact programs will be to increase the cross-referencing between different taxonomies, improve the quality and quantity of data, and build meaningful stories out of cross-portfolio metrics using case studies and benchmarks. We are looking forward to learning more from our research and that of our partners so that we can continue to serve our clients in meeting these challenges as they ramp up or maintain their responsible investing programs.



Drivers of ESG Monitoring for Fund Managers



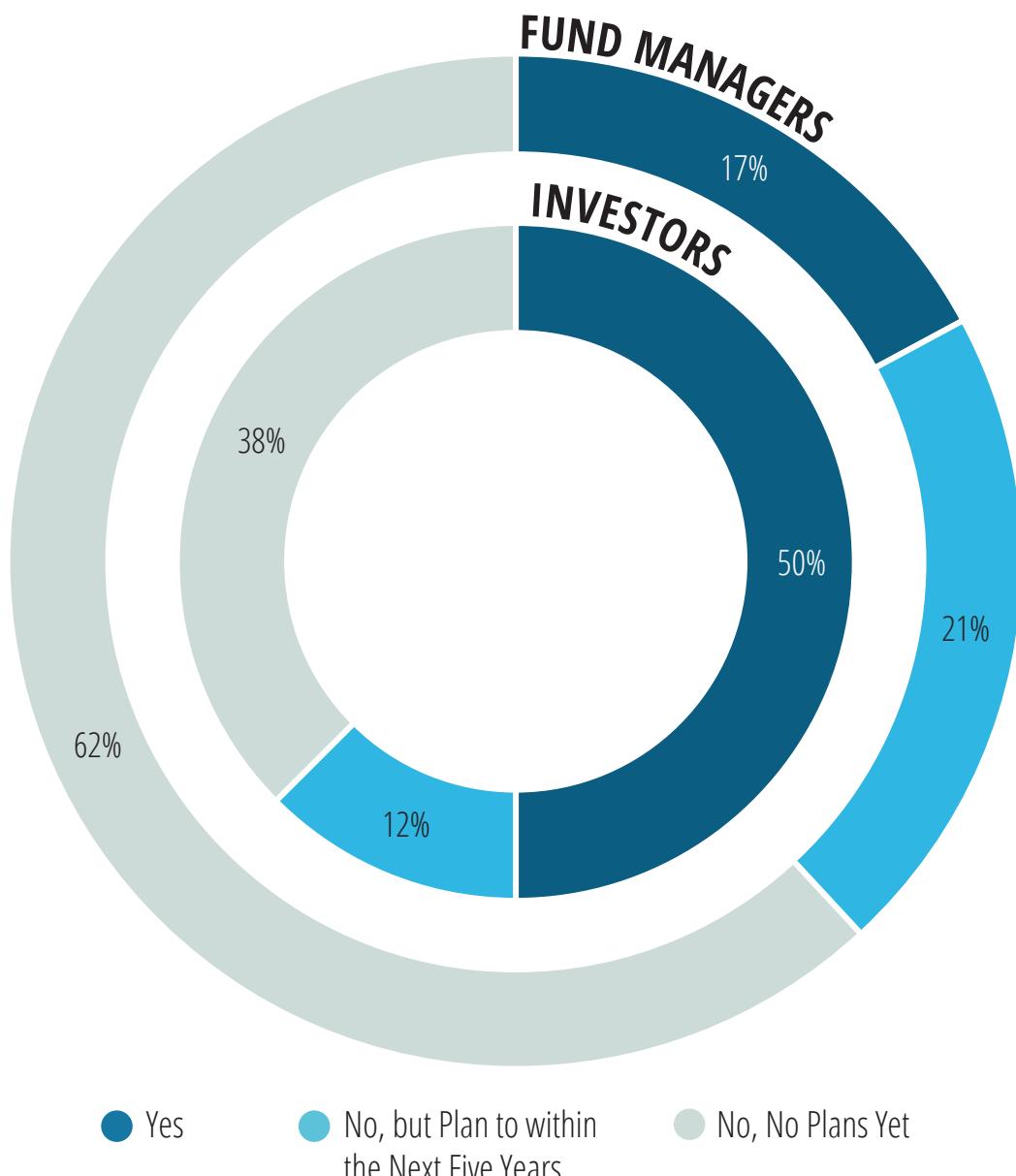
Source: Preqin Fund Manager Survey, June 2018



DIVERSITY IN ALTERNATIVES

DIVERSITY IN ALTERNATIVES

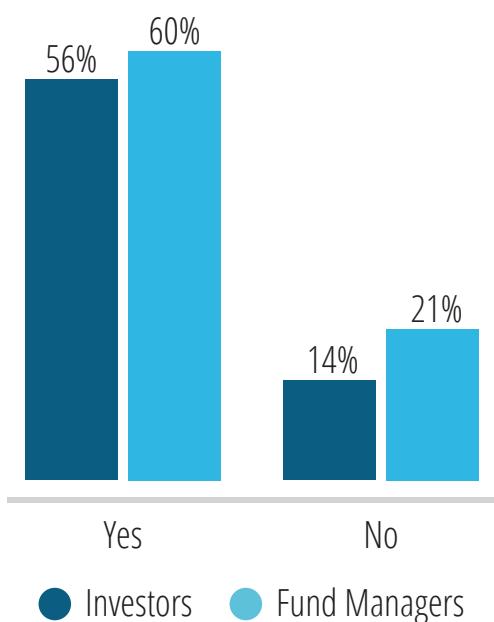
Fund Managers and Investors with Diversity Policies in Place for Their Workforce



Source: Preqin Fund Manager and Investor Surveys, June 2018



Is a Diverse Workforce Beneficial to Achieving Investment Objectives?



Source: Preqin Investor and Fund Manager Surveys, June 2018



KELLY RAU

Audit Partner, KPMG

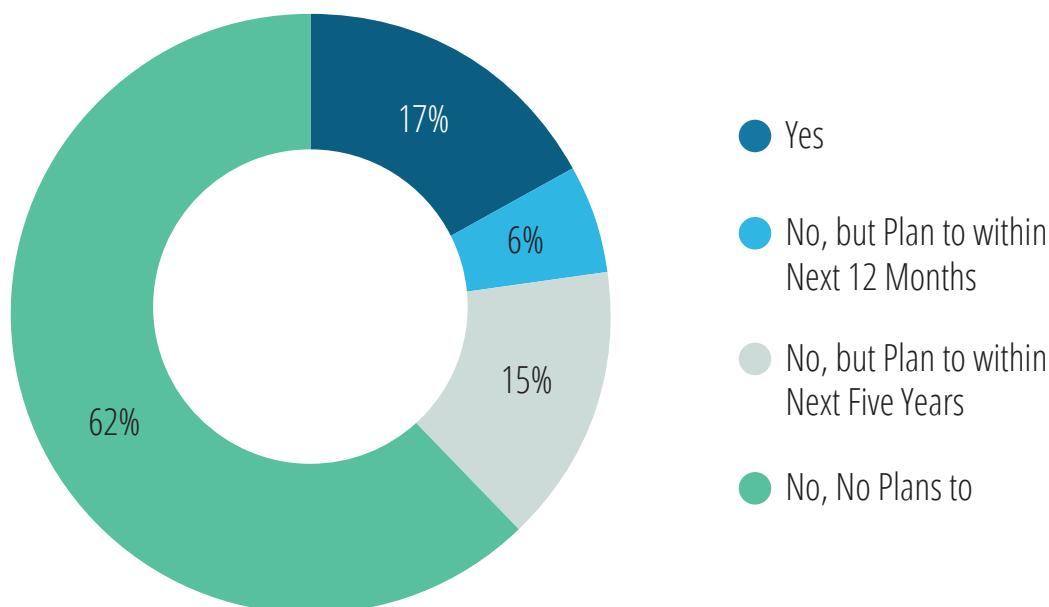
The alternative investment industry has begun to recognize the business imperative for diversity, and that different backgrounds lead to different thoughts and opinions, which lead to better decision-making. I think we all recognize that it is still a slower process than hoped for, but we have seen the change from where diversity was not even discussed, to now, where those conversations are not only being had but driving decisions.

Additionally, larger organizations have realized that they must add diversity to their conversations or they will not retain their top talent. So, part of this conversation is about the bottom line and superior returns, but I think part of it is also about the extraordinarily talented female portfolio managers that exist. If the conversation and the need for diversity is not being talked about and prioritized within their firms, then those top talents will find firms where diversity is a top conversation.

I think it is vital that senior leaders recognize, whether they are male or female, that they need to nurture the relationships with their highly talented women professionals and give them the opportunity to grow in their careers. It also takes having senior men in our industry to sponsor women and help them progress inside of their organizations. Given the number of firms that are run by men, it is vital they be involved, to enable this process to happen much faster.

Over the next five years I would like for the conversation to move from what the issues are towards how to change the industry and attitudes, and what organizations can do to change it. This is not just a localized problem, this is a worldwide conversation.

Fund Managers with Diversity Policies in Place for Their Investment Practices



Source: Preqin Fund Manager Survey, June 2018



CAMILLE ASARO

Audit Partner, KPMG

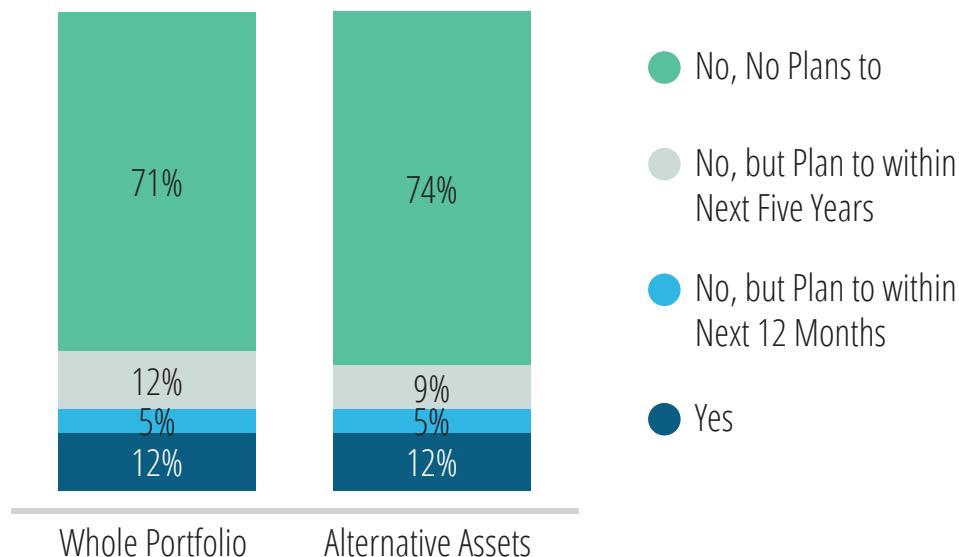
When you look at the data, it shows that incorporating diversity at the decision-making level leads to better results, minimized risk and stronger returns. Investors are increasingly concerned about diversity – some allocators have begun to incorporate diversity-based questions when evaluating their alternative investment managers. Similarly, management firms themselves and their leaders are trying to make a difference by actively trying to educate their professionals on what inclusion looks like and what it means. In addition, the leadership teams are starting to hold their people accountable when they are going out to recruit to ensure they are looking at diverse candidates.

We can see that there is an increased focus on building the pipeline of talented women in the industry as well as nurturing and elevating the

seasoned professionals to ensure they reach the next level. Some firms are building an internal mentor model, while there are a growing number of external organizations that are volunteering senior-level women to be role models. The other piece that is really important is sponsors, male or female. Having a sponsor who will advocate for you and who understands who you are and what you are capable of is a critical part of advancement.

It is difficult to have solid insight on the future, but based on what we are seeing since our first Women in Alternative Investments Report in 2011, more and more people are talking about the topic. Firms are embracing it as a business imperative and people are going public about wanting to make a change. So, in my opinion, it is going to be trending in the right direction. Will we be at the place we would like to be in five years' time? I am not sure and only time will tell.

Investors with Diversity Policies in Place for Hiring Investment Managers



Source: Preqin Investor Survey, June 2018

Addressing diversity at lower levels is key to a diverse future in alternatives



SANDRA LEGRAND

Country Executive Luxembourg and Member of the Group Executive Board, Alter Domus

Today, women account for less than 10% of senior positions in the private equity industry: a lower proportion than that of other alternative asset classes with no apparent reason. In an industry so vast in terms of investment opportunities and nature, any increased diversity – not just in gender – in management should be of benefit to the whole industry.

In recent years, however, there has been a shift in diversity, and the main difference I see in today's private equity industry is the increasing number of hugely successful private equity firms managed by women. This shift is significant, and I see these women-led firms driving more positive change in

the industry than imposing quotas through board committees or talking about the benefits of diversity.

This being said, we need to showcase the positive impact women are having throughout the whole private equity industry and not just focus on the number of women at the C level. Diversity begins at the lower levels, starting with private equity education programs in universities to build up a pipeline of talent. Stirring up the curiosity of young women by sharing knowledge and experience, as well as participating in coaching and mentoring programs, will lead to increased diversity within our industry.

TECHNOLOGY AND DATA

IN THIS SECTION:

74

USE OF TECHNOLOGY

76

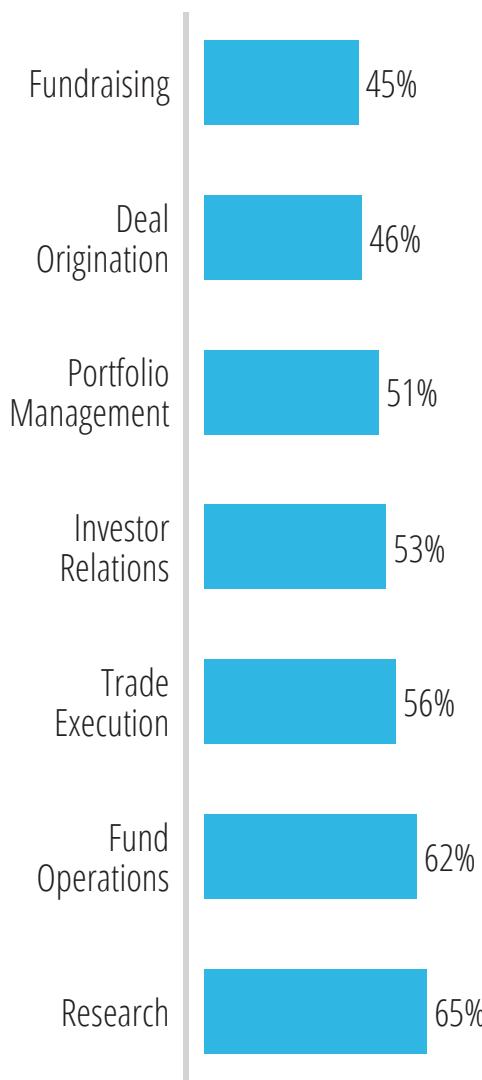
AI AND MACHINE LEARNING

78

BIG DATA

USE OF TECHNOLOGY

Fund Manager Views on Where Technology Could Benefit Their Operations in the Next Five Years



Source: Preqin Fund Manager Survey, June 2018



"We use Preqin data within our machine learning model as it has become a strong source of meaningful data. Today we use close to 10 data sources that are public and subscription based to ingest data into our models on a continuous feed."

PURVI GANDHI
CFO and Partner, Hone Capital

Embracing changing technologies can lead to smarter decisions



CHRISTIAN SINDING

Deputy Managing Partner and Head of EQT Equity

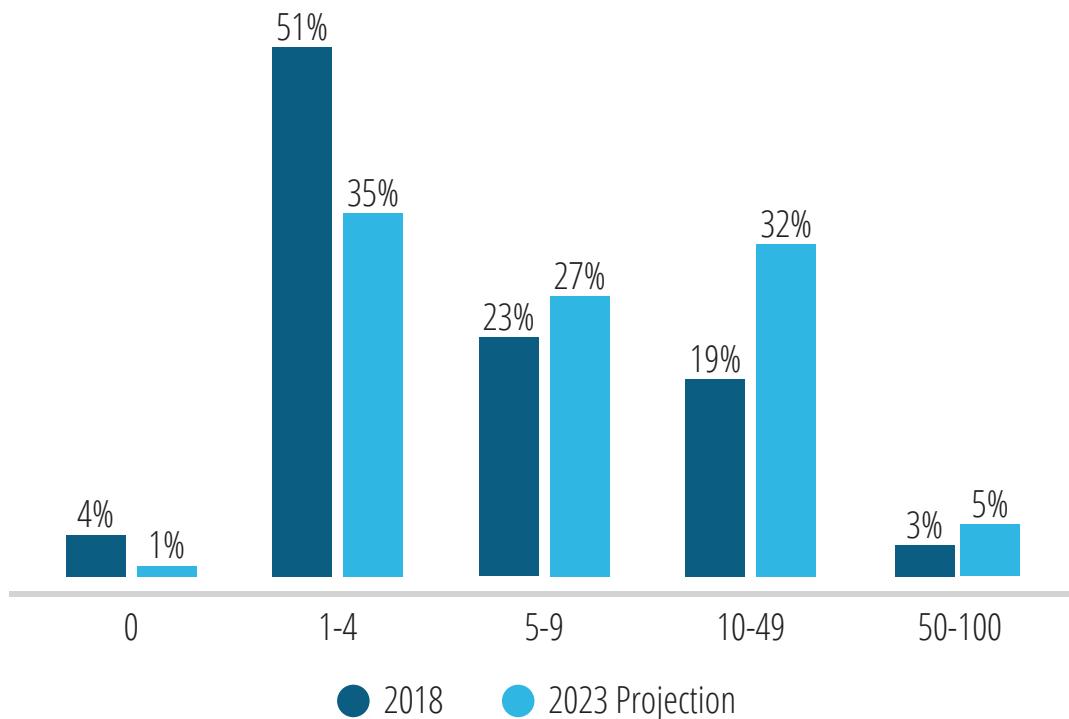
QT believes that every industry in the world is either being disrupted, or will soon be disrupted, by changing technology – even ourselves in the investment management business. Since 2015 we have had a dedicated Digital Team of technology professionals, data scientists and venture capital experts, who have a dual role of helping to future-proof EQT's own business and also that of our portfolio companies.

Within EQT, we are using technology to improve internal processes, communication and due diligence – for example we are now using big data and artificial

intelligence as part of our deal origination processes. When it comes to working with portfolio companies, the Digital Team helps throughout the investment process, from providing insights during due diligence to adding value via improving products and services, transforming business models, launching new marketing campaigns and making operations more efficient.

Investing is still fundamentally a people business, but new technology and better data can make us smarter.

Number of External Data Sources Used by Fund Managers



Source: Preqin Fund Manager Survey, June 2018

AI AND MACHINE LEARNING



DARREN THORPE

Chief Operating Officer, Preqin

When DeepMind's AlphaGo beat the world's best Go player, a wave rippled through the industry. Yet, as exciting as it was, the truth is these moments owed their success more to computational brute force than true intelligence. We were throwing computer power at the problem and letting machines do what they do best: explore vast combinations and permutations with the advantage of faultless memories and no fatigue to deal with.

There is no doubt that using AI to solve bounded problems is valuable though; with sufficient training data, the machine can outperform human intelligence. But the machine fails quickly when the problem is unbounded; the machine really struggles to generalize its intelligence and solve new problems. Therefore, where does it make sense to deploy AI? Where will AI have an impact? AI-enabled machines will help us become more operationally efficient, and therefore timelier in our decision-making. They are outstanding at spotting human errors and speeding up the process of experimentation and discovery.

This is exactly how Preqin is deploying AI: we are using machines to complete tasks that are bounded; we are using AI, machine learning and data science to deliver richer, more comprehensive content for a lower operational overhead. Ultimately though, it is people, smart people, that are pushing the boundaries of business forward.

Most important of all, it is the successful combination of human experience and intuition together with the processing and memory power of computers (the 'centaur' model for the geeks among you) that will deliver the greatest benefits in both cost-effectiveness and insightfulness. This is where Preqin is investing for the future.

Fund Managers Using AI/Machine Learning Processes



- Yes
- No, but Plan to within Next 12 Months
- No, but Plan to within Next Five Years
- No, No Plans to

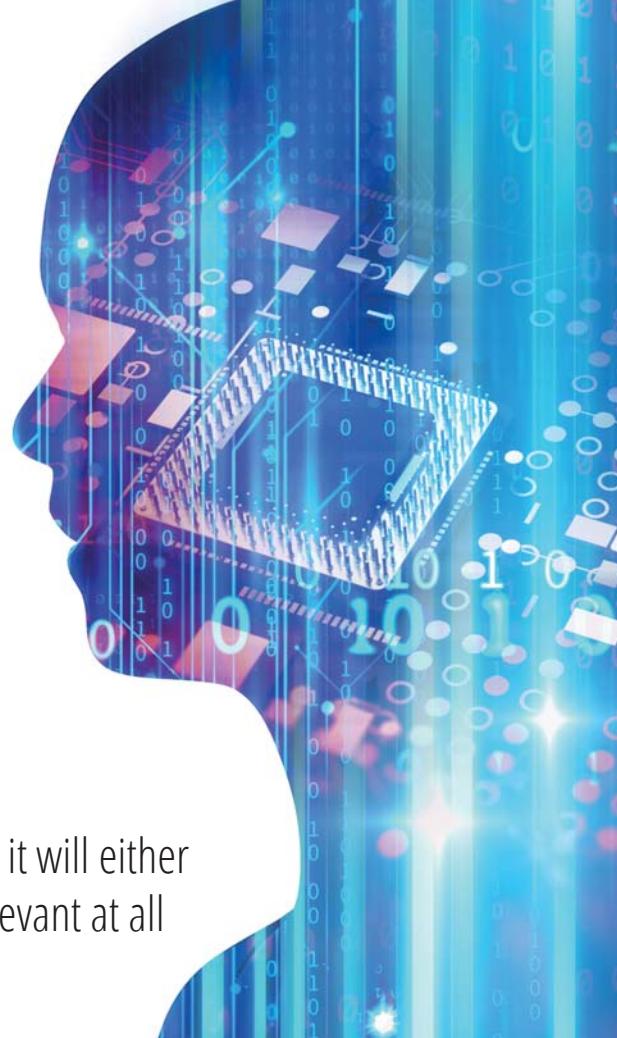
Source: Preqin Fund Manager Survey, June 2018

Will AI/Machine Learning Be More Relevant to Alternatives in 2023?

89% of investors believe it will be more relevant

75% of fund managers believe it will be more relevant

10% of fund managers believe it will either be less relevant or not relevant at all



PURVI GANDHI

CFO and Partner, Hone Capital

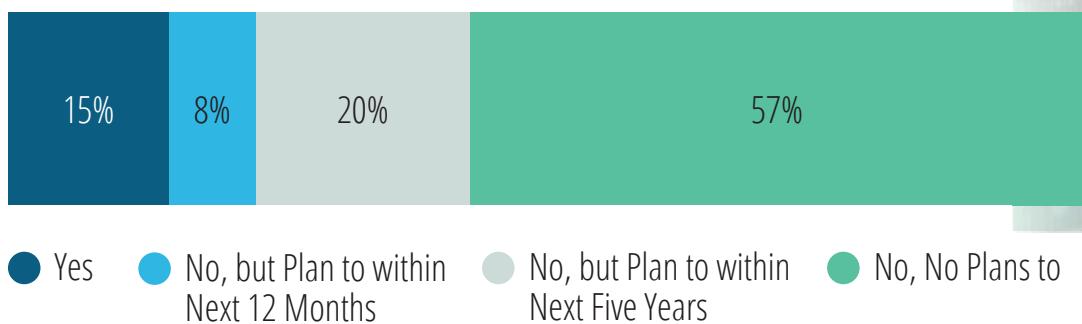
At Hone we leverage machine learning primarily to accomplish consistency in reviewing deals as opposed to gut feeling only which enables us to build a high-quality portfolio and achieve scale quickly.

Some leading indicators our machine learning model provides are a detailed view of the founder(s) profile, the lead investor profile and their historical deals/ performance among other information. This allows us to assess with consistency a vast number of deals quickly, allowing us to build a wide portfolio especially given our deep syndicate lead network and AngelList partnership without building an internal base of general partners and analysts.

AI and machine learning not only enables scale but more importantly allows the human to be augmented with the machine more consistently (as opposed to gut feeling only) when ranking companies. This view is critical to delivering a consistent and strong return to institutional investors from venture. Post-investment, we also use technology tools to persistently track the performance of the company based on publicly available data and information we gather through our own network. This enables us to track a company's progress, especially at the early stage where you have to take a multitude of datapoints to hone in on how the company is performing.

BIG DATA

Fund Managers Using Big Data Processes



Source: Preqin Fund Manager Survey, June 2018



PURVI GANDHI

CFO and Partner, Hone Capital

The higher the number of available data sources, the more robust the machine learning models. Thus, big data directly supports stronger machine learning which in turn leads the machine to generate even better output. This is how we see big data impacting private equity investment over the next five years.

When I joined venture in the late 1990s we hardly had meaningful sources of data about early-stage/private companies so building robust machine learning models would not even have been possible.

From a deal-sourcing and discovery perspective, as well as the selection side, I believe big data can also help both identify and assess opportunities more efficiently – similar to what many hedge funds do today. Trades would not be done at the scale that they currently are if not for machines. At Hone Capital, we believe that through leveraging technology and data, deals can be sorted for quality and evaluated more efficiently allowing us to maximize returns potential. Our use of data is helping us stay ahead in a competitive industry.

"As data and technology continue to play an increasingly important role in investment decision-making, the methods used to extract value from both structured and unstructured data will become increasingly more sophisticated."

GARY BROUGHTON

Head of Data Science, Preqin

Tackling big data is the holy grail, but innovate from a solid foundation first



CLINT COGHILL

CEO, Backstop Solutions

Today, the amount of information a person is exposed to in a single day is equivalent to what a person 100 years ago would have experienced in a lifetime. Data comes in from various channels – emails, texts, Slack, news feeds – and in various formats, both structured and unstructured. Many of the technologies designed to collect and process information were not created with this relentless onslaught of data in mind, leading to stress and strain on many investment management organizations.

Before these organizations can move to a reality in which they can confidently make sound business and investment decisions based on their data, they need to solve for the four elements of creating a solid data foundation first: data management, data governance, data mobility and data analytics.

- **Data management:** create a holistic view of how data is going to flow within the organization.
- **Data governance:** focus on solving for compliance (especially GDPR), security, privacy and quality, with data quality being key.
- **Data mobility:** determine how people, devices and systems will be connected.
- **Data analytics:** architect for the specific insights desired, and build a business intelligence system that will automate workflows while continuously bringing in additional information for analysis.



COMING SOON

THE HOME OF ALTERNATIVES

We're excited to unveil Preqin Pro, a new experience for the industry's most comprehensive data and tools. Built around your workflow, it's now easier and faster to find what you're looking for to make data-driven decisions.



GET TO WHAT YOU WANT, 5X FASTER

Lightning-fast search and performance upgrades



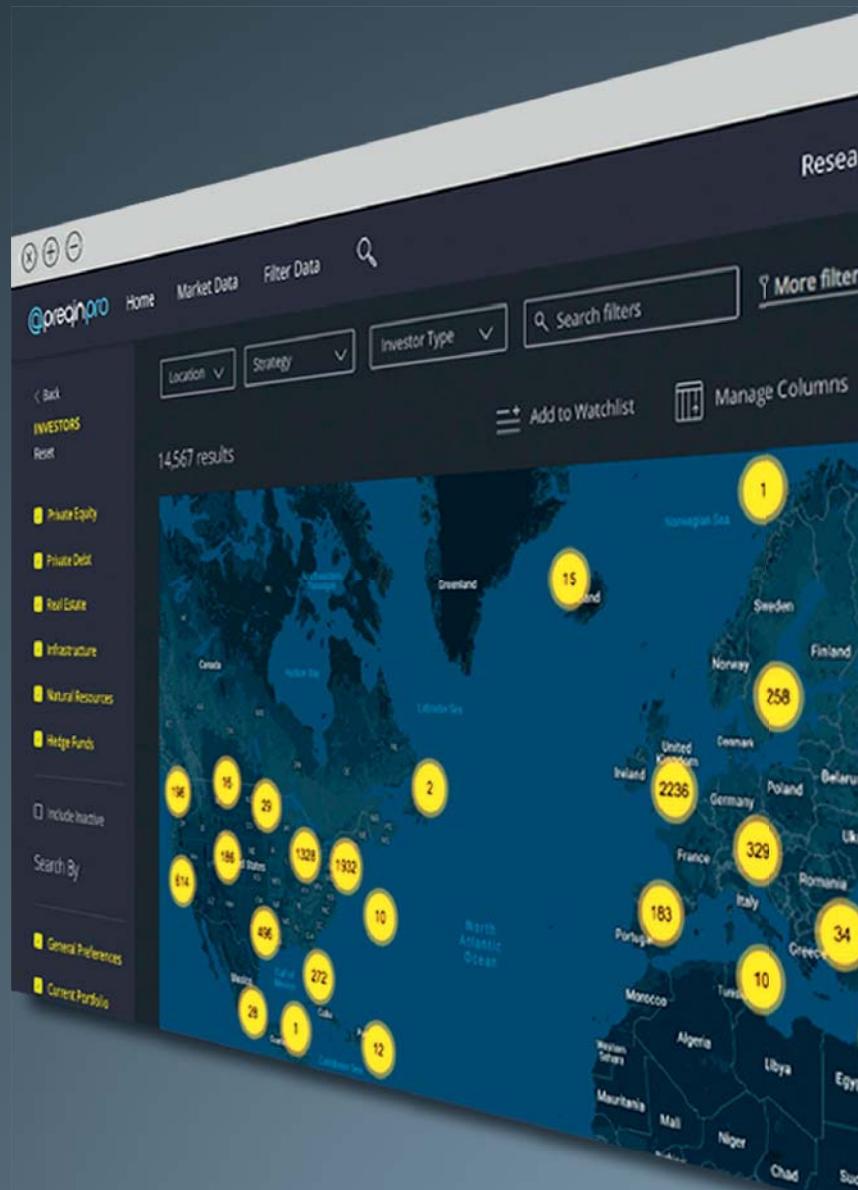
MORE CONNECTED THAN EVER

All asset classes integrated in one place



HARNESS THE DATA

Interactive visual analytics turn data into actionable insight



Contact info@preqin.com to hear more about the changes