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CEO'S FOREWORD

Welcome to Preqin's Alternatives in 2019 report, summarizing developments across all alternative asset classes (private equity & venture capital, real estate, infrastructure, natural resources, private debt and hedge funds, each of which is covered in more granular detail in the individual 2019 Preqin Global Alternatives Reports). We hope you find them and this overview useful.

From almost any perspective, early 2019 is something of a watershed period for investments in general, and for alternative assets in particular. While we never know in real time precisely where we are in the economic and market cycle, it is quite clear that the environment is changing: we are at best in the late stages of a decade-long expansion, asset valuations are stretched and economic growth in most places is weakening; all of which are compounded by growing protectionism and 'trade wars.' Investors everywhere see a challenging environment ahead for returns. Meanwhile, alternative assets have enjoyed a tremendous decade of growth, becoming ever more vital in investors' portfolios worldwide; hence the question for all of us must be: how will alternative assets fare in a period that is likely to be very different from the recent past? Preqin's answer is: "very well."

A useful starting point is to remind ourselves of the reasons investors have for allocating to each of the alternative asset classes. As the chart on the following page shows, investors' motivations are quite distinct across alternative assets: high absolute and risk-adjusted returns in private equity & venture capital; an inflation hedge and reliable income stream in infrastructure and real estate; high risk-adjusted returns and an income stream in private debt; diversification and low correlation with other asset classes in hedge funds and natural resources.

Set against these objectives, it becomes clear why investors have not only consistently increased their allocations to alternative assets over the past decade, but also why they are planning to continue to do so in the years ahead (not to mention the growing number of investors that come into alternatives each year – i.e. growing 'participation').

MARK O'HARE

Chief Executive Officer, Preqin

Their intentions to increase allocations are perhaps unsurprisingly strongest in those asset classes that have delivered performance ahead of expectations in recent years – private equity & venture capital, private debt, infrastructure, real estate. Yet, investors are also expressing the same upwards allocation intention in the areas where recent performance has disappointed – notably hedge funds and natural resources: the diversification and low correlation offered by these assets may be especially attractive in a challenging returns environment.

Investor memories go back to the Global Financial Crisis, and many of you will remember the obituaries that were being written in advance for private equity as the crisis unfolded (all those companies bought at high valuations with excessive debt etc.). What actually happened? Yes, there were some notable blow-ups, but private equity and alternative assets more generally had a 'good crisis': the PrEQIn indices show the facts – an investor with a diversified portfolio across the private capital asset classes outperformed public markets.

Investors therefore recognize that alternative assets have delivered good performance relative to public markets through bad times as well as good; and hence they are generally 'sticking with the program' and continuing to increase their allocations in the likely challenging environment ahead. Preqin is sticking with its forecast for further growth of alternative assets to 2023: from $8.8tn in assets under management in 2017 to $14.0tn in 2023.

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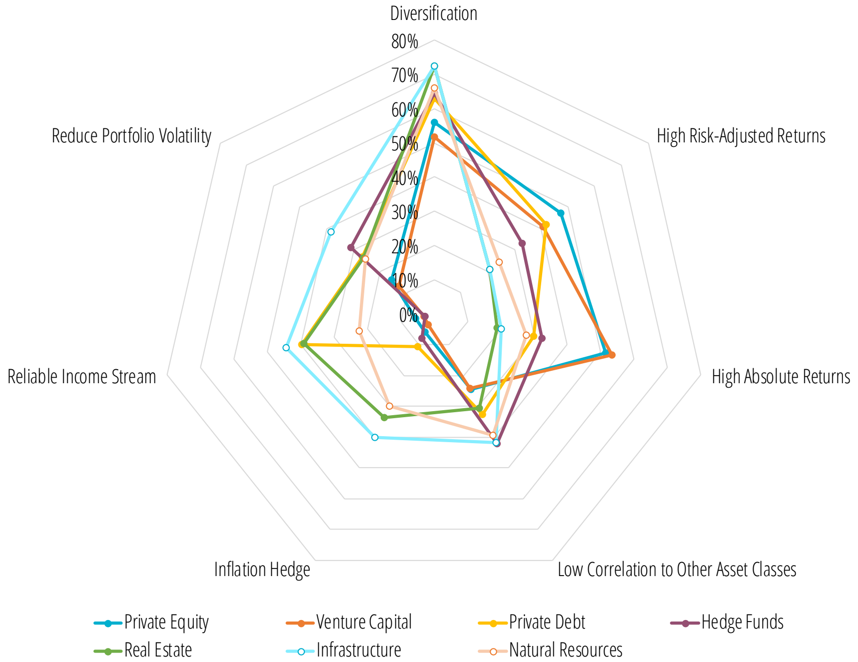
Investors' Main Reasons for Investing in Alternative Assets (Proportion of Investors)



Source: Preqin Investor Interviews, November 2018

Will the growth of the industry over the next five years be smooth and free of challenges? Absolutely not. Alternative assets face many challenges, from the current stretched valuations in most parts of the market; intense competition for assets, driven in part by the dry powder available to fund managers that needs to be put to work; intense competition for capital, with more new funds on the road than ever before; growing pressure from investors for their fund managers to deliver value for money and to demonstrate compelling strategies for creating value with the current high entry valuations; and issues specific to each individual asset class – most notably the concerns around credit funds in an environment of reduced covenants and potentially increasing interest rates.

The alternative assets industry has a long-demonstrated ability to adapt and evolve to respond to challenges like these. Fund managers are adept at evolving their strategies and routes to value creation to respond to market opportunities and challenges; investors are becoming increasingly skilled and sophisticated at evaluating and assessing the growing opportunity set in the market; and advisors are raising their game in offering services to add value to their GP and LP customers.

A key ingredient in such selective strategies – for GPs, LPs and advisors alike – is of course good information. Preqin is honoured to be a partner and supplier for so many leading firms and professionals in the industry, and we continue to invest heavily to expand and improve our data and services. Alternative assets are our sole focus. We are grateful for your support, and we hope that you will find this report and the individual 2019 Preqin Global Alternatives Reports in each asset class to be a helpful resource and support for your work.

Thank you,

Mark O'Hare

Preqin Global Alternatives Reports

The definitive guides to private capital and hedge fund markets

In-depth review of 2018

Find comprehensive reviews of market performance, fundraising and deal activity over the year, in granular detail.

Expert predictions for 2019

Subject-matter experts from around the industry deliver key forecasts and discuss geopolitical and disruptive trends for the year ahead.

Navigate the cycle

An exclusive look at where institutional investors and alternative assets fund managers will put their money, their views on cyclical trends and performance, and their long-term plans. All taken from the results of the largest survey of alternative assets decision-makers you'll find anywhere.

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1. PRIVATE EQUITY & VENTURE CAPITAL

IN THIS SECTION:

PRIVATE EQUITY & VENTURE CAPITAL: KEY TRENDS OF 2018

Throughout 2018, the private equity & venture capital industry saw robust fundraising in aggregate terms, which is positive news for markets supported by investments from private equity. Investor demand remained strong as healthy capital distributions to investors continued to fuel activity. Despite the prevailing market uncertainty and widespread concerns around portfolio company valuations, many industry participants are expecting further growth in assets under management (AUM) in 2019.

FUNDRAISING STRONG BUT CHALLENGING

$432bn
Total capital secured in 2018 was down 24% from the record $566bn raised in 2017, but in line with levels seen in previous years

75%
of surveyed fund managers experienced an increase in investor appetite over 2018

CAPITAL REMAINS CONCENTRATED

24%
of total capital raised in 2018 was secured by the 10 largest funds closed, level with 2017

76%
of surveyed fund managers experienced more competition for investor capital in 2018 than in 2017

INDUSTRY GROWTH CONTINUES

$3.41tn
Total industry assets as at June 2018 (the latest available data)

82%
of surveyed fund managers predict that AUM will increase further over 2019

CASH FLOW FALLS DESPITE HIGH DISTRIBUTIONS

Cash flow to investors turned negative in 2017 as capital calls of **$500bn** outstripped distributions of **$495bn** for the first time since 2010

$262bn
of distributions in H1 suggests 2018 could be on course to surpass the record $517bn distributed in 2016

DEAL FLOW HIT NEW HIGHS

5,106 buyout deals – a record number – and **14,889** venture capital deals were completed in 2018

$274bn
Aggregate venture capital deal value in 2018 – a record high

ASSET VALUATIONS ARE KEY CONCERN

68% and **63%**
of surveyed investors and fund managers respectively feel asset valuations will be a key challenge for returns in 2019

39% and **44%**
of surveyed investors and fund managers respectively expect a market correction in the coming year

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PRIVATE EQUITY & VENTURE CAPITAL: A CAUTIOUS APPROACH

Private equity has enjoyed a period of unprecedented success over the past decade, and the asset class is continuing to grow in importance, not only for institutional investors but also the wider economy and society as well. Four core themes underpin this growth.

FOUR PILLARS OF SUCCESS

1: The private equity governance model has proved uniquely powerful and fundamental to successful outcomes. Combining closely engaged medium- to long-term active owners that possess capital, skills and energy to support the growth of investee companies and the alignment of interests throughout the ownership chain will drive successful outcomes.

2: Meeting return requirements in an increasingly low-return environment is a significant challenge for investors to overcome.

3: Private equity has delivered strong risk-adjusted returns ahead of the public market for an extended period. The Global Financial Crisis (GFC) proved to investors that the asset class can deliver in both good times and bad.

4: Since 2011, strong distributions have provided investors with a wave of cash, resulting in a superior fundraising environment – investors have had to increase the rate of new commitments to keep up with the capital being distributed back to them. Combined, these four factors have helped to drive private equity AUM over the past decade from $1.57tn as at December 2008 to $3.41tn as at June 2018, firmly cementing its place in investors' portfolios across the globe.

$500bn was called up by fund managers in 2017 vs. $495bn that was distributed.

What does this extended period of success mean for the industry in 2019 and beyond?

SIGNS OF SLOWING

Points one and two remain firmly in place. The industry will continue to develop its governance and skillset, improving the quality and assurance of outcomes for investors, and the need from investors for superior relative returns is greater than ever.

The outperformance of the asset class is also likely to continue. Although 28% of fund managers are lowering their return targets, and 30% of investors

> *A key driver of investment in the industry over the past 10 years was the performance of the asset class over the course of the Global Financial Crisis.*
>
> ***Kevin Gruber, Managing Director, AssetMetrix***

> *As much as high acquisition pricing has been a characteristic of the current market, it has of course been an attractive market in which to sell high-quality assets.*
>
> ***Alan Giddins, Managing Partner, Head of Private Equity, 3i***

> *Everyone is waiting for it [a market correction], but you cannot stop investing, and you cannot try to guess the market.*
>
> *Mounir Guen, CEO, MVision*

31% of investors are planning to commit more capital to the asset class over the next 12 months than the previous year.

feel that returns will be lower in 2019 than 2018 as a result of today's challenging high valuations environment, many also believe that, relative to other asset classes, private equity will continue to deliver and will remain a core and increasing part of their portfolios.

However, the fourth factor – net cash flows for investors – has changed. For the first time since 2010, more capital was called up ($500bn) in 2017 than distributed ($495bn), and while this reversed again in the first half of 2018 (the latest data available) with a positive net cash flow of $67bn, it remains to be seen whether this continued for the remainder of the year.

A cautious mood therefore hangs over the industry as we enter 2019: investors largely feel assets are fully priced and many anticipate a market correction imminently; and with distributions falling, they no longer have the need to commit to private equity funds at such a pace.

Although fundraising exceeded $400bn for the fifth consecutive year in 2018, a respectable achievement, the $432bn secured by 1,176 funds is much lower than the record $566bn raised in 2017. Furthermore, as we enter 2019, more funds are in market (3,749) seeking more capital ($971bn) than ever before, setting up a challenging year ahead for those seeking commitments.

However, investors are aware that private equity will likely continue to deliver superior returns relative to other asset classes and are generally looking to increase their allocations over the next 12 months (31% of surveyed investors) and longer term (46%). However, with an abundance of opportunities to choose from, the challenges not only lie with fund managers in attracting the capital, but also with investors in knowing where to place it.

2019 PREQIN GLOBAL PRIVATE EQUITY & VENTURE CAPITAL REPORT

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PRIVATE EQUITY INVESTING IN THE INFORMATION AGE

KEVIN GRUBER
Managing Director, AssetMetrix

What has made investing in private equity so attractive in the past 10-20 years?
First and foremost, the ability of private equity to outperform the public market over the past two decades. In my eyes, no other asset class has been able to outperform the public stock and bond markets so consistently over such a significant period of time.

More specifically, a key driver of investment in the industry over the past 10 years was the performance of the asset class over the course of the Global Financial Crisis (GFC). When the crisis hit, we saw many investors looking to liquidate their public holdings, but because of the structure of the private model, many LPs remained invested in private vehicles. And actually, when you look at private equity funds of vintages 2006-2008, they outperformed the public market and ended up delivering distributions to their investors.

Being able to return capital to investors after such a tough environment demonstrated the value that a private equity allocation can provide, and as such, drove investors to the market.

As the private equity environment improved post-GFC, more capital was distributed back to LPs and, in turn, we saw these distributions fuel growth as institutions sought to re-invest this capital in private equity, the market that had delivered such strong returns for them previously.

This outperformance and return generation led to a consistent flow of new investors entering the asset class as well as investors already active in private equity increasing their allocations.

With so many investors in today's market holding an allocation to private equity, what makes for a successful private equity portfolio?
There are several key factors to consider when creating or shaping a private equity allocation.

We are seeing more and more investors allocating in each of the three main regions: North America, Europe and Developed Asia-Pacific. Diversifying geographically allows investors to hedge against potentially uncertain economic environments; however, this is not without challenges: entering a new region requires understanding the market as well as operating in close proximity to its GPs.

Another factor to consider is allocating to a blend of strategies. We see a lot of investors active in buyout, venture capital and distressed debt, as well as some infrastructure assets within their private equity allocation. A mixture of risk/return profiles and asset diversification further de-risks portfolios.

Finally, many investors allocate through a range of vehicles such as co-investments and separate accounts. Accessing the industry through these vehicles allows for varying levels of exposure to the industry and more custom solutions to complement the holdings of a portfolio.

Once invested in private equity, how do you successfully monitor and evaluate your portfolio?
How investors monitor their portfolio is perhaps one of the areas of private equity that has changed the most over the past 10 years. The advancement of technology and increasing amount of information available to institutions has led them to create more rigorous processes and evaluation techniques.

Successfully benchmarking and evaluating a portfolio centres around managing the flow of information, and in turn processing that information into analysis.

Institutions receive data from their GPs on fund performance and the performance of underlying assets; they use public market data to evaluate their performance against stock and bond markets; LPs now have access to more data on private markets and can obtain Public Market Equivalent benchmarks for the private equity industry. Efficiently managing the wealth of data now available to investors is crucial to monitoring a portfolio and thereby the success of the investment strategy.

And what metrics or analysis are investors now creating from this data?
Information on cash flows is the first metric on the mind of investors. Monitoring calls and distributions and implementing forecasting models allows for investors to gain a better perspective on the current and potential future performance of their portfolio.

Risk measurement has also been an area of focus for investors for some time now. Implementing tools to derive risk metrics comparable with public assets allows for a greater understanding of the positioning of the portfolio.

Performance benchmarking is of course another key piece of analysis for investors. More LPs are creating historical benchmarks and implementing processes to allow data to transition more quickly from GP submission to evaluation.

How does implementing these processes benefit investment decision-making?
Creating processes and using software that streamlines and automates data analysis allows for several improvements, to name a few:

- Decisions can be made faster and with greater clarity.
- The risk of data error is reduced.
- Employees work from a centralized data source, increasing consistency across analysis and removing the need for creating metrics in Excel.
- The minds and time of investment professionals are freed up.

Alongside the benefits to investment decision-making, these processes also allow for greater transparency across LPs, especially important for investors with complex capital structures; a more in-depth understanding of an investor's GP relationships and the underlying assets they have exposure to; and clearer audit trails across the institution.

What will make for successful private equity investing in 2019? How do you see the processes we have discussed playing a part?
A lot of people in private equity are talking about cycles and the potential for a change in cycle phase. In times of a changing environment it is more important than ever to stay close and up to date on the market and your portfolio. An investor that focuses resources on technology and systems now will be better placed to react and make decisions for their portfolio in the future.

How do you see the private equity market developing over 2019?
First and foremost, we expect the performance of the private equity industry to remain strong, not only in terms of absolute returns but also as a diversifier to the public market. Private equity has previously shown its ability to outperform the public market in times of downturn, and we are confident that the asset class will remain strong in the event of a cyclical change.

If the market does enter a downturn then the secondary market will likely see more activity as investors look to rebalance their portfolio and potentially discounted shares become available. Being able to rapidly evaluate the changing dynamics within your portfolio will be of critical importance to successfully operating a private equity portfolio in this environment.

ABOUT ASSETMETRIX

AssetMetrix is Europe's leading next-generation asset servicer. We offer modular outsourcing solutions for private capital investors: front-, middle- and back-office solutions for Limited Partners and General Partners. Our services enable private capital investors to free up their own resources for making investment decisions, benefit from our secure IT system and state-of-the-art analytics, and increase in-house transparency for optimal decision-making.

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2. PRIVATE DEBT

IN THIS SECTION:

PRIVATE DEBT: KEY TRENDS OF 2018

Private debt remains a steady asset class for investors, offering downside protection amid turbulent market volatility. AUM continues to grow, reaching record levels once again as investors are drawn to the asset class for its diversification and favourable risk-adjusted returns.

STRONG FUNDRAISING CONTINUES

$110bn
in aggregate capital was raised in 2018, following a record $129bn secured in 2017

41%
of total capital raised in 2018 was secured by direct lending funds

INVESTORS SATISFIED WITH PRIVATE DEBT

$134bn
was distributed in 2017

Investors invest in private debt for **diversification**, **high risk-adjusted returns** and a **reliable income stream**

91%
of surveyed investors felt private debt met or exceeded performance expectations in 2018

AUM REACHES RECORD LEVELS

$769bn
AUM as at June 2018, a record

$109bn
Direct lending dry powder as at June 2018

92%
of surveyed fund managers expect AUM to increase in 2019

CAPITAL INVESTMENT INCREASING

$755mn
Average size of private debt funds closed in 2018

80%
of surveyed investors expect to invest more capital in private debt in the next 12 months compared with the previous 12 months

COMPETITION A CONCERN

$307bn
Total industry dry powder available as at June 2018, a record level

53%
of surveyed fund managers cite competition as the biggest challenge facing return generation in 2019

UNCERTAINTY AROUND INTEREST RATES

1st
Rising interest rates were identified as a key concern for the year ahead by **50%** of surveyed investors

5th
Just **22%** of surveyed fund managers named rising interest rates as a key challenge for 2019, ranking it fifth overall

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PRIVATE DEBT: STILL AMPLE ROOM FOR GROWTH

2018 was another strong year for the private debt asset class. Fundraising exceeded $100bn for the fourth consecutive year and, although the year-end figure of $110bn is down on the record $129bn raised by funds closed in 2017, as more data becomes available throughout the year it will likely exceed this total. Global AUM hit a record $769bn as at June 2018 (the latest data available), meaning that the asset class is now larger than infrastructure and natural resources combined.

We are at an exciting point in time for private debt, an asset class characterized by a unique mix of youthful vigour and growing maturity, with potential challenges on the horizon.

YOUTH VS. EXPERIENCE

Investors are, on average, well below their target allocations to private debt, and over the next 12 months a third of investors will be looking to commit more capital than they did in the previous 12 months in an effort to move closer to their targets. Over the longer term, investors are expecting private debt to remain a core, and increasingly prevalent, part of their portfolios: almost half of investors plan to increase their target allocations to the asset class. The potential for even further growth is huge. Although the number of institutions actively investing in private debt has increased significantly from 2,643 in 2016 to 3,645 in 2018, it is still only around 30% of investors tracked by Preqin.

The private debt asset class is also beginning to benefit from the growing pool of more than 1,600 fund managers, especially in North America and Europe. While firms continue to enter the market all the time, there are signs of capital concentration (so prevalent in other asset classes) beginning to

Private debt AUM hit a record $769bn as of June 2018.

More than $100bn was secured by private debt funds closed in 2018.

53% of fund managers believe competition for assets will be a challenge for return generation in 2018.

> *The maturation of the asset class means private debt managers will need to focus more on expense management and productivity than they have previously.*
>
> *Ross Ellis, VP of Marketing & Thought Leadership, SEI Investment Manager Services*

> *Positioning themselves higher on the capital structure, improving monitoring and early detection of problems, beefing up restructuring expertise as well as moving away from cyclical sectors are just a few of the measures being taken to ensure good risk management.*
>
> *Jiří Król, Deputy CEO & Global Head of Government Affairs, Alternative Investment Management Association*

take effect in private debt. First-time fund managers secured just 6% of total capital raised by funds closed in 2018, down from 16% in 2014.

CLOUDS ON THE HORIZON

The asset class has delivered for investors in recent years, with superior returns, good liquidity and yield as well as portfolio diversification. However, this rapid growth has also created competition for deals, leading to yield compression and erosion of covenants. As a result, over half (53%) of surveyed fund managers believe competition for assets will be a key challenge for return generation in 2019. In addition, the Federal Reserve has expressed concerns about non-bank credit being a potential risk for financial stability, suggesting it may not be smooth sailing for this thriving asset class in the months ahead.

The general consensus is that private debt will remain a prominent part of investors' portfolios worldwide, and these portfolios will become more sophisticated and diverse over time. The opportunities exist for fund managers to secure capital from investors, but with new fund managers entering the asset class all the time and competition intensifying, they must be able to differentiate themselves from their peers and show they can deliver even in challenging times.

2019 PREQIN GLOBAL PRIVATE DEBT REPORT

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PRIVATE DEBT: PREPARING FOR THE UNKNOWN

The prodigious growth of private debt in recent years has been extensively documented. Growing competitive pressures and macroeconomic changes are now leading to more scrutiny of the risks that may accompany this growth. Rates are rising, volatility is increasing, and the global economy appears unsettled by the sacrifice of free trade on the altar of populist politics. The US Federal Reserve recently flagged the private debt market as a potential threat to financial stability. Another red flag is the growing perception that too much capital is chasing too few deals, a trend that may force some GPs towards lesser-quality deals and lower returns. The sheer rate of growth and the rush of new participants are reminiscent of other investments prior to experiencing corrections.

In a market full of promise yet fraught with risk, what is the best way forward? As concerns mount, SEI collaborated with Preqin to survey and interview more than 200 private debt managers and investors in order to discern how GPs might best weather the impending slowdown. Our findings suggest a number of important considerations for managers wishing to take advantage of the opportunities in private debt. These range from niche lending strategies and customized portfolios to the use of advanced data analytics and a greater emphasis on operational efficiency and resilience.

FORCES OF CHANGE

Investors and fund managers do not always share the same perspectives. LPs, for example, are more likely to say that advanced data analytics will have a noticeable effect, with half of them saying that advancements in analytics will spur the development of more customized investment vehicles. Even more think data analytics will soon permit more types of investors to participate in the private debt market. The most likely impact, though, is better integration of alternative data into the evaluation of credit quality.

Almost one out of three investors we surveyed say one notable feature of the fintech landscape, peer-to-peer lending platforms, is a disruptive phenomenon that could displace some traditional funds in the private debt market. Most managers, on the other hand, dismiss such a scenario. Only time will tell which perspective is correct.

ROSS ELLIS

VP of Marketing & Thought Leadership,
SEI Investment Manager Services

Deal flow is expected to shift away from private equity-driven M&A activity towards middle-market borrowers that are not backed by sponsors. Investors think some of this demand may be met by banks as they re-enter the market, invigorated by deregulation and rising rates. Managers are more sanguine, with two out of three opining that banks are unlikely to re-enter the market at a scale sufficient to meaningfully reshape the landscape.

With a growing percentage of assets locked up by a small group of mega-lenders, today's private debt market gives every indication of being a stable and orderly corner of the asset management world. But potentially disruptive technology is knocking at the door. Traditional lenders in the form of banks remain on the sidelines. Thousands of hedge funds are launching lending products. Will all of these parties be able to co-exist? Will innovation flip the script? Where are the opportunities for managers in a market that is becoming undeniably more competitive?

OPPORTUNITIES FOR MANAGERS

Asset managers in the current climate are forced to tackle what might be called "the specialization paradox." On the one hand, many would rather not be narrowly labelled, preferring to be seen as vehicle-agnostic asset managers that offer their expertise packaged in a variety of ways. The allure of this approach is enhanced by the fact that it provides some degree of protection against the vagaries of performance and market demand. On the other hand, investors and intermediaries need to categorize managers, which are also faced with growing competitive pressure to stake their claim in a particular area of expertise.

With industry giants dominating the so-called sweet spot of $20-50mn loans, any new player must aim to occupy a specific niche. Specialization can take many forms. It might refer to geographic expertise in a market such as India. Alternatively, it can reflect deep knowledge of the arcane details found in something like the aircraft leasing business. In any case, traditional specialization is increasingly joined by even more niche strategies as managers move away from direct lending and explore deals featuring non-traditional assets such as royalty streams.

Customization is another way to stand out in the crowd. Investors are eager to find the perfect fit for their needs, whether this means dialling in a specific income stream or applying an ESG screen with certain criteria. Managers that can accommodate such requests are better positioned to win their business. Customized portfolios will never completely replace pooled products, but as long as they can be efficiently managed without adversely affecting the investment process, they are likely to become more popular.

As deal flow becomes more challenging, more firms are likely to leverage technology to help find, vet, negotiate and value opportunities. Investors in private markets are already accustomed to finding and scrutinizing unusual and hard-to-find data, but managers that leverage advanced technology may be able to leapfrog the competition. Fewer than one in 10 fund managers, for example, currently uses artificial intelligence (AI) or machine learning processes, but they will be joined by another one in four over the coming five years. It is not hard to imagine this number going up as the cost of machine learning tools continues to drop and benefits become more apparent.

Technology can also be harnessed to optimize operational processes. Given the pervasive sense that the current cycle is due for a correction, any additional resilience afforded by operational efficiency and cost control becomes even more important. Firms are already finding that it is possible to automate processes where automation once seemed impossible. Service providers and other third-party vendors with up-to-date knowledge of operational best practices are available to help, and multi-asset managers in particular can find it beneficial to work with providers that have expertise and experience in all asset classes.

PREPARING FOR THE UNKNOWN

Leaving aside the precise timing of the next correction, the maturation of the asset class means private debt managers will need to focus more on expense management and productivity than they have previously. Competitive firms will be those that proactively leverage the transformative potential of technology. Investment ideas, product customization, investor reporting, operational efficiency, portfolio integration and security can all be improved.

Specialist knowledge and operational excellence are paramount. An array of technology vendors and service providers already empower managers and investors throughout the asset management industry in their quest for these two objectives. The successful manager will be the one that collaborates most effectively, combining internal expertise with external resources to create an innovative team capable of adapting to changing circumstances and executing a distinctive and resilient strategy designed to survive and thrive in all market conditions.

ABOUT SEI INVESTMENT MANAGER SERVICES

SEI provides a comprehensive operating platform of fund administration and operational outsourcing services to support investment managers, asset owners and private banks globally across a wide range of registered and unregistered fund structures, investment strategies and jurisdictions. We currently service over $1tn in assets for leading private equity, real estate, hedge fund, mutual fund, ETF and separate account managers who understand that operational competitiveness lies at the core of business success.

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3. HEDGE FUNDS

IN THIS SECTION:

HEDGE FUNDS: KEY TRENDS OF 2018

Amid uncertainty in equity markets, hedge funds continue to offer investors diversification and uncorrelated returns for their respective portfolios. Despite a turbulent 2018, which culminated in negative returns at the end of the year, AUM in the hedge fund industry is forecast to increase over the coming year and beyond as investors continue to look to the asset class for downside protection.

AUM HITS RECORD LEVELS

$3.62tn

The industry reached a record level of AUM in Q3 2018, before falling to $3.53tn as at November 2018

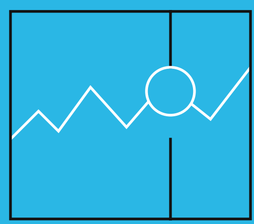
52%

of surveyed fund managers believe AUM will increase further in 2019

UNFAVOURABLE RETURNS

15 Months

of consecutive positive performance ended in February 2018, when hedge funds made their first loss (-0.91%)



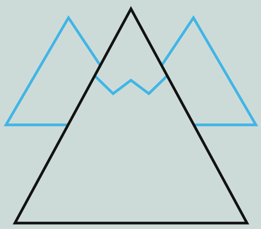
-3.41%

The Preqin All-Strategies Hedge Fund benchmark return for 2018 (as at December 2018)

MARKET CORRECTION LOOMING?

59%

of surveyed investors believe we are at the top of the equity cycle



40%

of surveyed investors intend to position their portfolios defensively amid concerns of a correction

CREDIT STRATEGIES SEE LARGEST INFLOWS

Credit strategies recorded

$22bn

in inflows over 2018, a **12%** increase in AUM from 2017

+2.09%

Credit strategies outperformed all other hedge fund strategies for 2018 (as at December 2018)

A CHALLENGING ENVIRONMENT FOR FUNDS OF HEDGE FUNDS

47%

of surveyed fund of hedge funds managers believe the fundraising environment has become more challenging over the past 12 months

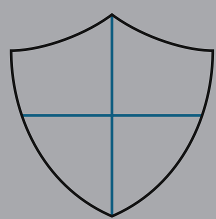
$745bn

Fund of hedge funds AUM (as at November 2018)

INVESTORS STILL LOOK TO HEDGE FUNDS FOR DOWNSIDE PROTECTION

79%

of surveyed investors intend to maintain or increase their level of allocation to hedge funds over the next 12 months



29%

of surveyed investors plan to increase their exposure to macro strategies, the largest proportion for any strategy

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HEDGE FUNDS: VITAL FOR INVESTORS IN 2019?

The challenging market conditions of 2018 show few signs of improvement as we enter 2019. Faced with the resurgence of market volatility, the flattening of the yield curve and a geopolitical climate that would only a few years ago have sounded improbable, alternative assets managers will have many obstacles to overcome in the next 12 months. However, with indications of an imminent market correction, the ability of hedge funds to protect investors in the event of a downturn may never be more important.

Hedge funds lost 3.41% in 2018.

79% of investors plan to increase or maintain their allocation to hedge funds over the longer term.

MATURING INVESTOR PORTFOLIOS

Post-GFC, the value of hedge funds to investors was clear; institutional investors, particularly those in Europe and North America, faced with the proposition of failing to meet long-term liabilities and needing diversification and a source of risk mitigation within portfolios, turned to hedge funds. However, in recent years, the rush to build portfolios of hedge funds has slowed as investor portfolios matured, with many investors reaching their preferred exposure to the asset class, and we have noted signs of a deceleration in industry AUM growth.

Despite this, today at Preqin we track more institutional investors than ever, collectively allocating record sums of capital to hedge funds. With this in mind, in the event of a new market crisis, the defensive value that hedge funds proved a decade ago during the GFC will be vital to protecting the capital of thousands of institutions and, ultimately, the millions of pensioners and students and the wider populace, on behalf of which these pension funds, endowment plans, sovereign wealth funds and others are investing.

BEYOND JUST ABSOLUTE RETURNS

The question of performance has been central to the success and failure of participants in the hedge fund sector over the past decade. Following the first double-digit annual return in five years in 2017 (+11.99%), 2018 was certainly a disappointing year for hedge funds. Collectively, hedge funds lost 3.41% in 2018, the worst annual return for the Preqin All-Strategies Hedge Fund benchmark in almost a decade. It is hard to deny that relative performance over the past five years has been a point of contention for many institutions. With public markets enjoying an extended bull run, hedge funds, which typically charge higher fees for a seemingly a smaller return, proved a hard pill to swallow for some investors. As a result we saw some investors strip back their hedge fund exposure or exit completely in recent years.

However, in 2019, the performance question is moving away from historical comparisons with public markets and towards the forward-looking role that hedge funds will play in difficult market conditions, especially given the losses of many public markets in 2018. Investors are reaching a consensus that we are at the peak of the equity market, and with concerns that a correction is imminent, many investors are looking to position their hedge fund portfolios more defensively as a result. So, in fact, despite the majority (55%) of surveyed investors reporting disappointment with the 2018 return of hedge funds, the defensive properties a hedged portfolio can offer in 2019 are leading to signs that investors are weighting back into hedge funds. For instance, we have noted that the largest proportion (79%) of

> *Despite the ups and down of 2018, I am bullish on the hedge fund industry.*
>
> ***Richard Baker, President & CEO, Managed Funds Association***

> *The outlook for the industry in early 2019 is reasonably positive, with the prospect of further growth as investors seek the benefits of hedge funds in challenging times.*
>
> ***Mark O'Hare, Chief Executive, Preqin***

surveyed investors plan to maintain or increase their exposure to hedge funds in the next 12 months since 2014. In addition, for the first time in four years, we have recorded a greater proportion of investors looking to increase their exposure (29%) over the longer term than decrease their exposure (12%).

With investors indicating they are positioning more defensively in 2019, those funds with a large long exposure to equity markets may see outflows, as investors look to strategies less correlated to market beta – macro strategies, CTAs and relative value strategies for instance. Not even the largest funds will be safe from investor withdrawals: we expect investors to continue to evaluate all managers in light of their performance, costs and ability to navigate difficult markets, regardless of size, in 2019.

A POSITIVE OUTLOOK IN DIFFICULT TIMES

Despite industry assets falling in the second half of 2018, as a result of the combination of investor withdrawals and performance losses in Q4 2018, there are signs that 2019 may be a more positive year. Firstly, although we do not expect the established investors in Europe and North America to invest fresh sums of capital in the volume we saw a decade ago, we are seeing high levels of activity in terms of reallocating capital as investors tactically rebalance portfolios. Alongside this, investors in emerging markets – Asia in particular – continue to dedicate larger and larger sums to hedge funds, replacing some capital that may have been pulled out from institutions in the US or Western Europe. So, while on the surface, the slowdown in flows and AUM growth may indicate a lack of activity, beneath the surface there is much activity as investors rebalance towards defensive strategies and investors in the East ramp up their portfolios. If investors' fears of a market correction prove true, 2019 will certainly be a time for hedge funds to prove their worth.

2019 PREQIN GLOBAL HEDGE FUND REPORT

The 2019 Preqin Global Hedge Fund Report is the most complete and in-depth review of the industry available. It covers a wide range of topics, with expert commentary, key trends from recent years, historical statistics, survey results and much more. All of the data included in the report, and more, is also available in data pack form. For more information, and to purchase your copy, please visit:

www.preqin.com/ghfr

HEDGE FUNDS AND INSTITUTIONAL INVESTORS: A PARTNERSHIP CONTINUES

RICHARD H. BAKER

President & CEO,
Managed Funds Association

Despite the ups and down of 2018, I am bullish on the hedge fund industry.

And I am not alone: nearly 80% of institutional investors surveyed by Preqin plan to maintain or increase their allocation to hedge funds in 2019. This figure is higher than in each of the previous three years.

Why do institutional investors and others continue to rely on our industry to help meet their fiduciary responsibilities? Because these funds provide value by diversifying portfolios, managing risk and helping deliver reliable returns over time. Since the first hedge fund was created 70 years ago, the industry has played an active and dynamic role in capital markets by partnering with investors to help meet their unique investment goals.

As our diverse membership of large, medium and small funds work to deliver for their investors, MFA is helping them reduce operational expense and manage regulatory and tax risk. With a robust presence and strong record of offering helpful recommendations to policymakers across the globe, MFA is helping to set the stage for the industry's future growth. Our members have identified targeted legislative and regulatory solutions which, if implemented, would stimulate investment, reduce duplicative regulatory requirements, promote fair and accessible capital markets and enhance the security of the confidential data that registrants are required to provide regulatory agencies.

For example, MFA members for years have expressed concern with the regulatory framework for proprietary exchange market data and consolidated market data. Ensuring timely and affordable access to market data is a vital part of trading in the 21st century and a key component of promoting equal access to markets. For many firms this data is the lifeblood of their trading strategies.

MFA members and other market participants believe the current regulatory framework does not adequately protect investors from unreasonably discriminatory pricing. In some cases, market data fees may even impose an unnecessary and inappropriate burden on competition. That is why MFA and AIMA submitted letters to the Securities and Exchange Commission (SEC) and the European Securities and Markets Authority (ESMA) requesting that they take action to help ensure investors are protected from unfair market data fees and practices.

Among other steps, we believe regulators and policymakers should request financial information from exchanges on market data operating costs and revenue to ensure that fees are fair and not unreasonably discriminatory. Increasing transparency with respect to market data fees will help protect investors and better ensure fair access for all market participants. The SEC's recent long-awaited ruling requiring an exchange to justify previous fee increases – along with a public roundtable on market data fees which included an MFA member panelist – shows the Commission is listening to concerns raised by MFA and others on these issues.

MFA also engaged European regulators on market data issues in 2018, helping to ensure exchanges follow the letter and the spirit of the Market in Financial Instruments Regulation's post-trade transparency requirements.

Over the past decade, MFA has worked closely with policymakers and regulators as they built the post-crisis financial regulatory structure. We believe it is one of the reasons capital markets are as efficient, transparent and fair as they are today.

MFA members have valuable insight into the impacts, unintended and otherwise, that these regulations have on market participants and capital markets. To assist regulators, we have developed thoughtful, obtainable solutions to decrease duplicative and overlapping regulations that impose undue costs on fund managers and their investors – and create more work for already overburdened regulators.

One example involves firms that are registered with the SEC as investment advisers and the Commodities Futures Trading Commission (CFTC) as commodity pool operators. MFA believes that the commissions could greatly enhance regulatory efficiency by taking a more coordinated and harmonized approach to the regulation and examination of such dual registrants.

Through discussions with regulators, MFA developed a "primary regulator safe harbor" framework, where a firm would remain registered with both agencies but establish a primary regulator. A dual registrant who complies with its primary regulator's requirements would be deemed to have met the requirements of the other. Such a proposal would meet the CFTC, SEC and Treasury Department's own goals relating to increased coordination and efficiency across regulatory bodies.

It would also assist regulators in prioritizing resources. Something as simple as having SEC and CFTC examiners conduct exams jointly could save countless hours and taxpayers dollars.

MFA's membership and our mandate are global, which is why MFA has closely engaged regulators on the potential impacts of Brexit on our industry and capital markets in general. As I write this – and very possibly as you read this – much about the process and endgame remains unknown.

In discussing the issue with our members, it is clear that they remain concerned that equivalence arrangements, which take significant time to negotiate, may not be finalized before the withdrawal. Our focus has been on ensuring that our members have continued access to EU markets and that EU investors have access to our members. We have met and spoken with regulators and policymakers on both sides of the Channel and both sides of the Atlantic to articulate these points.

This issue dovetails with our work on the Investment Firms Review, the EU's ongoing effort to develop tailored prudential requirements for our industry. MFA has advocated consistently that managers do not pose a systemic risk and that any prudential requirements should reflect this fundamental fact.

On these and other policies MFA operates entirely at the direction of our members, who identify our priorities based on the issues most likely to impact the industry and our investors. We have established a track record of thoughtful advocacy of which I am tremendously proud.

Of course, our work is never done. If you are not a part of our dynamic efforts on behalf of the industry, we would welcome your voice and input as we address these issues and others in 2019.

ABOUT MANAGED FUNDS ASSOCIATION

Mr. Baker is president and CEO of Managed Funds Association – the alternative industry's authoritative voice on policy and premier platform for peer-to-peer networking and operational, legal and compliance training.

www.managedfunds.org

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4. REAL ESTATE

IN THIS SECTION:

REAL ESTATE: KEY TRENDS OF 2018

Despite uncertainty surrounding a potential market correction, private real estate experienced another strong year of fundraising in 2018; that being said, capital was more concentrated in the largest funds. The private real estate industry grew further, with total AUM surpassing $900bn for the first time, while investors continued to see high capital distributions.

STRONG FUNDRAISING CONTINUES

In 2018,
300
funds raised an aggregate
$124bn

This marks the sixth consecutive year in which fundraising has surpassed $100bn

ASSETS REACH ALL-TIME HIGH

Industry AUM surpassed $900bn for the first time in 2018, reaching
$909bn
as at the end of H1 2018

85%
of surveyed fund managers predict the industry will grow further in 2019

CAPITAL BECOMES MORE CONCENTRATED

The 10 largest funds accounted for
35%
of total capital raised in 2018

$496mn
Average size of funds closed in 2018

POSITIVE CASH FLOW FOR INVESTORS

$212bn
was distributed to investors in 2017, slightly below the record $270bn in 2016

$100bn
was distributed to investors in H1 2018, surpassing the $80bn in capital calls

PERE DEAL ACTIVITY SETS RECORD

A record
6,418
PERE deals were completed in 2018 for a record-high aggregate value of
$325bn

CONCERNS OVER INTEREST RATES AND VALUATIONS

Across our November 2018 surveys, the largest proportions of investor and fund manager respondents see **asset valuations** and **rising interest rates** as key challenges for return generation in 2019

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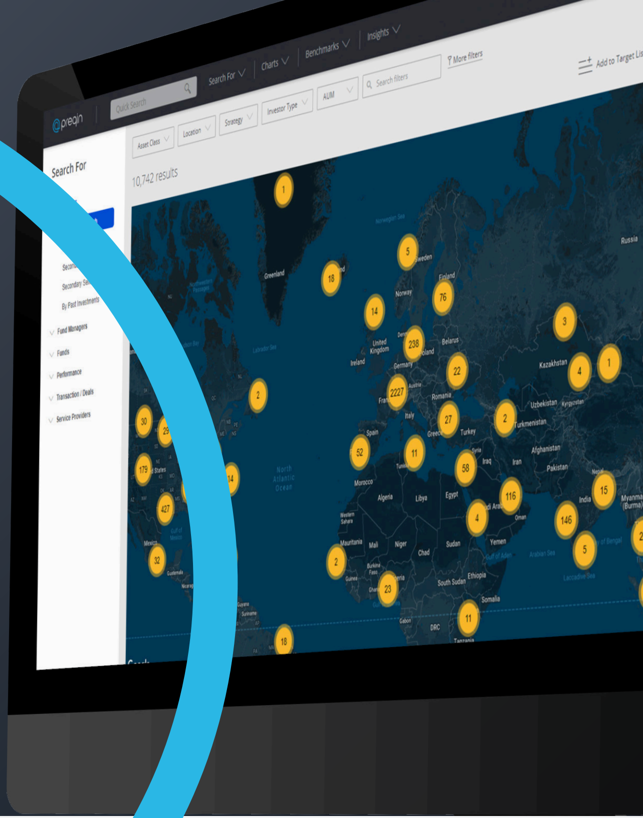

Preqin Pro

Your key to unlock the potential of alternatives

Find what you're looking for

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

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.

See through the private markets

Understand the past, present and future of the industry. With interactive visual analytics, harness data to make sense of your place in the market, your peers and potential.

Find out more: www.preqin.com

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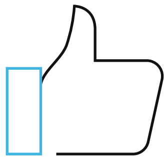
REAL ESTATE: A CHALLENGING YEAR LIES AHEAD

The private real estate industry is at something of a crossroads as we start 2019. An extended period of strong performance has left investors largely satisfied with the asset class; however, there are undoubtedly significant challenges ahead that will need to be navigated for the asset class to continue to grow.

THE STAR PERFORMER

Performance of private real estate investments has been impressive over the one-, three-, five- and 10-year time periods, and has typically outperformed most public markets and other private capital strategies. This has resulted in general satisfaction among investors with their real estate portfolios: over a quarter (26%) of surveyed investors said their real estate investments had exceeded expectations over the past year, while a further 64% had their expectations met. Furthermore, capital distributions back to investors have been strong, with 2017 (the latest full-year data available) marking the fifth consecutive year in which investors have experienced positive net cash flows.

Consequently, investor appetite is strong, with a far greater proportion of investors looking to increase (36%) their allocations to real estate over the longer term than decrease them (10%), meaning that the strong fundraising environment of recent years is likely to continue. Although the amount of capital raised by funds closed in 2018 ($124bn) was lower than the record seen in 2017 ($132bn), 2018 marked



90% of real estate investors are satisfied with how their portfolios performed over the past year.

the sixth consecutive year in which more than $100bn was raised by real estate funds closed. As at June 2018, total AUM exceeded $900bn for the first time; while this is undoubtedly positive news for the industry, this growth also presents increasing challenges for industry participants.

CHALLENGES TO NAVIGATE

Competition is as intense as ever: more than half (55%) of fund managers have witnessed increased competition for portfolio companies, and there are more funds than ever before in the market competing for investor capital – 670 funds are seeking an aggregate $244bn. Fund managers are therefore having to work harder than ever to secure capital, put it to work and deliver to investors.

After several years of expansion, valuations are largely considered by both fund managers and investors to be high: 60% of surveyed fund managers had witnessed an increase in prices over the course

> *“One of the biggest drivers of change beyond 2019, from a values and fundamentals perspective, will ultimately be the economic cycle since economic growth typically determines how well real estate performs.*
>
> ***Mike Sales, CEO, Nuveen Real Estate***

> *“Presented with these challenges, most LPs and GPs recognize that attempting to ‘time the market’ is a fool’s errand (and especially so in an illiquid asset class).*
>
> ***Mark O’Hare, Chief Executive, Preqin***

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Investor appetite is strong, with a far greater proportion of investors looking to increase (36%) their allocations to real estate over the longer term rather than decrease them (10%).

A significant 64% of fund managers with funds currently in market have lowered their targeted returns as a result of high valuations.

of 2018, and 54% of investors feel asset valuations are too high. Such an environment is undoubtedly harmful for return generation. A significant 64% of fund managers with vehicles currently in market have lowered their targeted returns as a result of high valuations, and a third of investors believe their real estate investments will perform worse in 2019 than in 2018.

There are also concerns that distributions to investors are slowing: the $212bn distributed to investors in 2017 was lower than the $270bn in 2016, and with $47bn called up in the first half of 2018 vs. $49bn distributed, there are concerns net cash flows could slip into negative territory. In addition, the number of private equity real estate deals significantly outpaced exits during 2018, which will also feed through to reduced cash flows in the near future.

This may, then, impact the amount of capital investors commit during 2019. Although the long-term outlook is positive, over the next 12 months, similar proportions of investors are planning to increase (23%) their allocations as those planning to decrease (19%) them.

OPPORTUNITIES STILL EXIST

The real estate industry clearly faces challenges ahead, which is to be expected following an extended period of strong returns and with the prospect of rising interest rates. That said, opportunities still exist, albeit perhaps they are harder to identify, and fund managers and investors alike will have to work hard to select the most appropriate strategies, geographies and partners to ensure real estate continues to deliver.

2019 PREQIN GLOBAL REAL ESTATE REPORT

The 2019 Preqin Global Private Real Estate Report is the most complete and in-depth review of the industry available. It covers a wide range of topics, with expert commentary, key trends from recent years, historical statistics, survey results and much more. All of the data included in the report, and more, is also available in data pack form. For more information, and to purchase your copy, please visit:

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EVOLUTION IN THE REAL ESTATE MARKET

MIKE SALES

CEO, Nuveen Real Estate

You have recently rebranded. What prompted the decision to change your name?
By rebranding from TH Real Estate to Nuveen Real Estate, we aim to bring greater clarity and consistency to our brand across the globe. It represents the next step in our corporate evolution, in which we will continue to develop our vision to be a top-tier real estate manager investing in Tomorrow's World for the enduring benefit of our clients and society.

We have benefitted from the support and scale of Nuveen's investment platform and services for the past few years. It made sense to consolidate the offering to our clients and partners worldwide. Nuveen offers a broad array of traditional equity and fixed income assets, and access to a wide range of liquid and illiquid alternative strategies in asset classes such as real assets (farmland, timber, infrastructure), private equity and debt. We can now more easily discuss cross-asset-class solutions with clients, tailored to their specific risk/return appetite.

How has your business grown geographically over the past year?
We continue to expand our local footprint across the key regions of the globe. The past 12 months have seen new office openings across the US and key strategic hires across the US, Europe and Asia-Pacific. Asia is a particular growth focus for the business. We see a lot of emerging opportunities in that region and would like to help our clients take advantage of those. Over the next 10 years Asia is going to account for half of the world's output, 30% of global consumption and about 60% of the increase in the urbanization rate. We are in the process of opening an office in Tokyo and have recently appointed a partner in Korea to enhance our access to investment stock in its key cities such as Seoul.

How does investment philosophy guide your investment decisions?
Our investment philosophy is guided, first and foremost, by our global cities strategy. We believe it is the smart selection of global cities, that are considered secularly resilient and sustainable from an economic and environmental perspective, that may help to underpin a robust real estate investment strategy over the long term. In doing so, we aim to deliver attractive, risk-adjusted portfolio returns to investors.

We use a proprietary research process to identify the top 2% of global cities. This methodical and balanced approach takes into account a wide range of factors: scale, transparency, stability and, most importantly, structural megatrends, helping to future-proof a portfolio for long-term relevance and growth.

Overlaying and complementing our cities strategy is a clear tactical understanding of market fundamentals, which aims to deliver alpha to a portfolio at different points of the cycle. This involves a broader appreciation of sector dynamics across the whole city, as well as a deep dive into sub-market conditions to supplement our house view of the broader economic and capital market environment.

How are you responding to investors' needs for varying outcomes?
We provide clients access to our series of solutions through a range of products and structures, tailored to their requirements. We also co-invest alongside investors on a range of assets and products.

We focus on three investor objectives which we believe best address current concerns:

- Generating income and capital growth, despite the low-rate environment, by focusing on demographic needs to grow assets and match liabilities;
- Managing risk in a world of ongoing uncertainty by focusing on structural trends to insulate against short-lived market cycles;

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IN PROFILE: EDINBURGH ST JAMES

We identified Edinburgh as a top global city; as well as being one of the fastest-growing and youngest cities in the UK, Edinburgh is also the UK's second most popular tourist destination after London.

A world-class example of city-enhancing placemaking, with sustainability at its core, Edinburgh St James is one of the UK's largest and most significant regeneration projects, of which we are proud to be a part-owner and developer. With an estimated investment value of over $1.3bn, the development will create a 1,700,000ft^2 retail and leisure centre. It will comprise 850,000ft^2 of retail space, anchored by John Lewis, a multi-screen cinema and a world-class W Hotel, which represents their debut in Scotland, comprising 214 rooms. In addition, 150 private apartments, offering breathtaking views over the city, set a gold standard for prime residential accommodation. Edinburgh St James will also create up to 3,000 permanent jobs.

- Managing assets cost-effectively via optimal scale and access by leveraging our global scale to bring like-minded investors together.

We have developed our range of real estate solutions to offer the resilient, enhanced and debt series. Each is tailored to help address additional bespoke investor requirements.

- Our resilient series is designed for investors that are focused on diversification, income and long-term capital growth. Our strategies focus on investing in high-quality assets in leading cities that are well positioned in terms of long-term structural trends, including demographic change, urbanization and technology.
- Our enhanced series applies strategies that work within market cycles, use a more active asset management and repositioning approach and/or invest in emerging sectors and locations. These strategies are designed for investors that are looking for an enhanced level of capital growth.
- Our debt series is designed to provide investors with access to secure, income-focused returns. Our strategies may suit cautious investors seeking attractive levels of income with a measure of downside protection against short-term capital cycles.

What are the main challenges that real estate must overcome in reacting to technology, innovation and disruption?
The industry faces two main challenges: the first is navigating the short-term, technology-driven shift in the purpose of real estate. A major task will be understanding what people want from real estate, particularly in the two largest sectors: retail and office. The digital world allows people to work and shop remotely if they choose to, and real estate must differentiate itself by providing an experience, or at least prioritize efficiency. The second is adapting to a heightened pace of obsolescence. In order to do this, real estate must do more to encourage and reward creativity, forward-thinking and innovation. The industry must also think strategically by applying research around the nature of demand for real estate and the potential impact of key technological trends over the next 10 years.

Do you see ESG investing becoming more important to the real estate market?
Yes, absolutely. This is most notable from the increased focus on sustainability from institutional investors, in particular those across the Netherlands, Scandinavia and Australia. These investors are setting carbon reduction targets and are mandating that the real estate funds that they invest in are taking meaningful steps to reduce carbon and improve the energy efficiency of buildings. It is now very common that investors require funds to participate in the Global Real Estate Sustainability Benchmark (GRESB), and in some cases a minimum performance score is specified. Investors are not only interested in energy efficiency. They are also focusing on climate change resilience, fair wages in the supply chain, tenant activity (e.g. screening out tenants that manufacture weapons) and the impact of buildings on the health, wellbeing and productivity of occupants.

We do also see some evidence of tenants placing more emphasis on the sustainability of buildings when selecting real estate and we expect this to increase in the future as more and more corporate occupiers and retailers set their own carbon reduction targets. In the US, 70% of our office tenants reported that an ENERGY STAR Rating was important or very important in their search for office space.

How do you incorporate ESG factors into your investment strategies?
Fundamentally, we believe that by incorporating ESG into investment strategies we are future-proofing the value of our real estate assets. Focusing on a wide range of ESG issues means that our property portfolio is better protected from risk and better placed to take advantage of opportunity. We assess the climate change vulnerability, energy efficiency and exposure to environmental risk at the point of acquisition; then our Sustainable Property Management Requirements are in place to ensure that we improve the sustainability performance of the buildings that we own. We have a target to reduce the energy intensity of our real estate equity portfolio by 30% by 2030 (based on a 2015 baseline). The majority of our funds take part in GRESB and outperform their peer group average in almost all instances.

How does incorporating ESG factors into investment strategies impact returns?
For core funds, incorporating ESG factors into investment strategy helps to protect return. This is most obviously the case for long-term investment where the low carbon economy transition and the impacts of climate change are most likely to have an impact. For shorter-term and value-add investment, we believe ESG factors can be used to enhance return. For example, value can be added by sustainable refurbishment and by achieving sustainability certification such as LEED, BREEAM or Energy Star. Research that we have recently undertaken on our US office portfolio has shown that sustainability certification is correlated with a significant decrease in vacancy.

What do you see being the main challenges of investing successfully in the real estate market in 2019?
One of the biggest challenges in 2019 will be ensuring real estate investors are getting paid for the risk taken on. For example, the US real estate market is entering the ninth year of its recovery and the cycle is, by any measure, considered to be mature. Typically during the mature stages of a cycle, investors need to take on more risk to compensate for lower yields.

Successful investors will have to find assets with long-term growth prospects, which go beyond the current cycle, and with severe shortage of stock in some of the key European growth markets it may mean developing prime stock themselves, as we are doing in a number of key cities.

Another challenge will be managing the transition from real estate less in demand to those emerging sectors such as student housing or logistics. Investors will need to sell assets with weaker prospects, before values decline and get a foot in the door with new sectors without overpaying or choosing the wrong partner.

What do you see being the major drivers of change in the real estate market over 2019 and beyond?
One of the biggest drivers of change beyond 2019, from a values and fundamentals perspective, will ultimately be the economic cycle since economic growth typically determines how well real estate performs. But another key driver will be technology and the disrupters this technology begets in the coming decade(s). The management of real estate will also become more crucial for value creation and preservation.

ABOUT NUVEEN REAL ESTATE

Nuveen's real estate platform is one of the largest in the world with $125bn in AUM. Managing a suite of funds and mandates, across both public and private investments, and spanning both debt and equity, across diverse geographies and investment styles, we provide access to every aspect of real estate investing. With over 80 years of real estate investing experience and more than 500 real estate professionals located across over 20 cities throughout the US, Europe and Asia-Pacific, the platform offers unparalleled geographic reach, which is married with deep sector expertise.

www.nuveen.com

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5. INFRASTRUCTURE

IN THIS SECTION:

INFRASTRUCTURE: KEY TRENDS OF 2018

nfrastructure has certainly delivered on its promise to investors: record capital ($77bn) was distributed back to investors in 2017, bolstering the positive sentiment among industry participants. Such activity has prompted most investors to maintain or even increase allocations to the asset class going forwards. Despite the concerns over the challenging pricing environment and significant competition for assets, our end-of-year surveys indicate that fund managers and investors feel positive about infrastructure in the year ahead.

INVESTORS SATISFIED WITH INFRASTRUCTURE

Record distributions in 2017 of

$77bn

Investors invest in infrastructure for **diversification** and a **reliable income stream**

84% of surveyed investors felt that infrastructure met or exceeded their expectations in 2018

COMPETITION FOR ASSETS INTENSIFIES

66%

of surveyed fund managers feel competition for assets will be a key challenge for return generation in 2019

$542mn

Average deal size in 2018 vs. $492mn in 2017

ASSET VALUATIONS HIGHER THAN EVER

54%

of surveyed fund managers feel valuations will be a challenge for return generation in 2019 (second most cited challenge after competition for assets)

$179bn

Record levels of dry powder available (as at June 2018)

CAPITAL CONCENTRATION ON THE RISE

50

largest funds closed in 2018 secured 98% of total capital raised (compared to 92% in 2017)

76%

of surveyed fund managers agree that competition for investor capital is more intense than 12 months ago

SLOWDOWN IN DEALS

22%

Decrease in the number of deals completed in 2018 from 2017

61%

of surveyed investors feel we are at the peak of the current equity market cycle

HEALTHY EXIT ENVIRONMENT

$666mn

Average size of exits in 2018, up from $635mn in 2017

46%

of surveyed fund managers anticipate increased exit activity in the next 12 months

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INFRASTRUCTURE: A PIVOTAL YEAR AHEAD

The infrastructure industry is in a healthy state as we enter 2019, with AUM at a record $491bn as at June 2018. Despite strong performance and growth recently, the year ahead will not be without challenges and could prove a deciding one for the industry.

AUM reached a record $491bn as of June 2018.

STRONG RETURNS, STRONG APPETITE

Infrastructure funds have delivered attractive net risk-adjusted returns for several years now, relative to other private capital asset classes and public markets. As a result, investors are highly satisfied with the asset class, and 84% of those interviewed stated that their expectations had been met or exceeded over the past 12 months.

A record $90bn was secured by the 68 funds that closed in 2018, up significantly from $75bn in 2017. Record distributions have helped to fuel this: $77bn was distributed to investors in 2017, and $33bn was distributed in the first half of 2018 (the latest data available), meaning 2018 is on par with the previous year. The amount of capital called up, however, is still greater than the amount being distributed, reflecting the rapid growth of the industry in recent years; this is likely to continue as fund managers put the record $179bn in dry powder to work.

Investor appetite at present is strong, meaning 2019 could well be another successful year for infrastructure fundraising; over a third (35%) of investors plan to commit more capital to infrastructure funds in 2019 than in 2018. And, with many investors currently below their target allocations to the asset class, the outlook for the longer term is even more positive: half of investors plan to increase their allocation to infrastructure over the longer term, significantly higher than the 6% that plan to reduce it.

THE COMPETITION CHALLENGE

On the fundraising side, while capital secured is up, the number of funds actually closing each year is falling significantly: just 68 funds closed in 2018, compared with 94 funds in 2017. Capital is increasingly concentrated among a much smaller pool of managers, and so it is becoming more difficult for fund managers, especially those that are less established, to secure capital commitments. The prospects for 2019 look no less challenging: a record 207 funds are seeking an aggregate $188bn in commitments – 50% more capital than was being sought one year ago and twice as much as was secured during the record-breaking 2018.

On the deal side, competition for assets is also intense and was cited by the largest proportion (66%) of surveyed fund managers as a threat to return generation in 2019. With record dry powder and high valuations, finding attractive opportunities in the current climate is no easy feat.

> *We believe an overcrowded infrastructure market is not necessarily a bad thing for players in the space.*
>
> ***Dennis Kwan, Managing Director, MVision***

> *Infrastructure as an asset class consistently displays overall lower default rates and higher recovery rates relative to non-financial corporates.*
>
> ***Susan Gray, Global Head of Corporate and Infrastructure Ratings, S&P Global Ratings***

A record $90bn was secured by the 68 funds that closed in 2018.

Just over half of both investors and fund managers see valuations as a key challenge for return generation in 2019.

Just over half of both investors and fund managers see valuations as a key challenge for return generation in 2019. Over a third (35%) of fund managers have already reduced the returns they are targeting from their funds currently in market, and 26% of investors believe their infrastructure portfolios will perform worse in 2019 compared to 2018; only 15% of investors predict performance will be better.

A CRITICAL JUNCTURE

There is no doubt that the infrastructure industry is in good shape as we move through the first part of 2019, but what is also clear is that significant challenges lie ahead, and how these are overcome by fund managers will be critical to the asset class's continued success. Investor appetite for infrastructure clearly exists, but delivering value in the current climate is what will differentiate fund managers going forwards.

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PRIVATE CAPITAL'S PART TO PLAY IN INFRASTRUCTURE INVESTMENT

ANDY MATTHEWS

Head of Greenfield, Infracapital

In your opinion, what key trends emerged or persisted in the infrastructure space over 2018?
A persistent theme is the continued capital seeking to find a home in the sector, which appears to be having a two-fold impact. Firstly, we are seeing ever larger funds raised, and secondly, managers continue to stretch the definition of infrastructure in search of value in a more crowded marketplace. However, pleasingly, this year we have also witnessed increased recognition of the critical role that private capital must play in order to meet the infrastructure investment requirements in Europe and further afield, which is generating significant investment opportunity. We have also seen an emerging focus on the need for the private sector to mobilize behind the investment needed in Europe's infrastructure, offering attractive infrastructure investment opportunities.

In the same year that governments and consumers alike were increasingly focused on climate change and more inclusive societies and economies, the European Commission (EC) launched its Action Plan[1] on financing sustainable growth. The plan seeks to mobilize the private sector, calling for the private sector to "support the €180bn of additional investment a year needed to transition to a low-carbon economy." This initiative has been a catalyst for sustainable investment across a wide range of different sectors including clean energy, fibre, transport and social infrastructure.

How did Infracapital respond to these trends?
We have looked to capitalize on this sizeable opportunity in Europe, where deal flow remains strong, through both our brownfield and greenfield strategies. On the brownfield side we recently closed our third fund at its £1.85bn hard cap and are pleased to have already completed several investments. We have benefitted from remaining relatively small and focused on the mid-market.

With a dedicated greenfield strategy team with specialist greenfield expertise, we have formed a number of attractive platforms with our developer and industrial partners, offering attractive investments supporting the need for new, essential infrastructure. The speed, quality and diversity of our deployment highlights the strong pipeline of opportunities in this space. I think the main attraction of the strategy for LPs has been how it complements their existing brownfield infrastructure exposure by providing a different return profile, albeit the portfolio once fully operational will be yielding for the majority of the fund life.

What opportunities are you seeing in the greenfield space today?
There is a vast requirement in Europe for new infrastructure across all sectors, with the EC estimating that 75% of infrastructure required by 2050 has not yet been built.[2] This is driven by low levels of infrastructure investment since the Global Financial Crisis, a growing need for energy-efficient infrastructure and the impact of new technologies.

The impact of technology creates opportunities in several sectors, spanning transport, fibre broadband and energy infrastructure. For instance, governments and car manufacturers are increasingly committed

[1] *The European Commission Action on Financing Sustainable Growth, March 2018.*
[2] *Sustainable Infrastructure and Finance, June 2016. Published by United Nations Environment and Global Infrastructure Basel.*

to 'going electric'. This is resulting in a substantial need for mass charging infrastructure (an estimated €40-50bn of investment is needed by 2030), but also generating broader investment opportunities. For example, substantial reinforcement of the national grid, which will be materially impacted by the vehicle-charging behavioural model which is still developing, with potentially more 'refuelling' at home and overnight than at stations. We have also focused on fibre broadband where there is a sizeable backlog of demand, especially in the case of Germany and the UK. We have recently made investments in both countries, where fibre connections amount to less than 10% of homes.

> **By investing earlier in the asset lifecycle, an investor can enjoy a significant return premium without being forced into more 'private equity-style' investments.**

The investment in renewable energy assets is well documented, but the rise of decentralized energy systems, and the impact of energy intermittency on the grid, has also created new opportunities. It is estimated that the grid will require €20bn of investment by 2020[3], including energy storage, to cope with decentralized energy sources and unpredictable energy generation. We see investments such as our asset Bioenergy Infrastructure Group (BIG), a waste-to-energy platform launched in 2015, as a great example of how private capital can solve both a societal problem (waste) and generate energy more sustainably.

As a manager we tend to only speak of the growing opportunities in the sector, but equally there are challenges and headwinds we must respond to. Take the development of autonomous cars: this may well disrupt aspects of our current transport infrastructure as autonomous and connected vehicles change the demands on our roads. However, such change can also deliver attractive investment prospects through digital and power infrastructure required to support such change.

Preqin's survey found that 70% of investors in infrastructure expect to increase their allocations over the next five years. What part do you feel greenfield will play in this?

Long-term investors are increasingly attracted to infrastructure and we think greenfield investment should be considered a part of any LP's infrastructure portfolio. By investing earlier in the asset lifecycle, an investor can enjoy a significant return premium without being forced into more 'private equity-style' investments. Institutional investors that can accept the lower yield in the early years of a greenfield fund's life are well compensated through access to long-term yields in this untapped market, well in excess of equivalent brownfield infrastructure.

Of course, investors must be cognisant of construction risk, and should be wary of managers that lack the specialist skillset and track record required to effectively manage a portfolio through construction. However, a seasoned manager can mitigate this through effective and measurable risk management techniques.

We think greenfield investment is a great solution for both investors and consumers alike. Greenfield projects can help solve the allocation challenges facing pension schemes and other institutional investors, while simultaneously solving the funding gap faced by governments, who alone cannot meet the changing needs of modern society.

[3] *SUSI Analytics (2017).*

ABOUT INFRACAPITAL

Infracapital is a leading European infrastructure investor with significant experience in mid-market investing, having raised and managed over £5bn of funds. Infracapital's platform offers investors multiple ways to access essential European infrastructure with strategies in both greenfield and brownfield infrastructure. Infracapital's focus is to build and actively manage a diverse portfolio of businesses that delivers stable returns to investors, while meeting the changing needs of society and supporting sustainable economic growth.

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6. NATURAL RESOURCES

IN THIS SECTION:

NATURAL RESOURCES: KEY TRENDS OF 2018

Over the past decade, the performance of natural resources funds has been lacklustre, particularly in comparison to other private capital asset classes. For many investors this has translated into disappointment with natural resources over the past year. Nevertheless, fundraising was strong over 2018, with a record amount of capital secured, suggesting that investors remain committed to the asset class and are looking beyond high absolute returns.

CONTINUED COMMITMENT DESPITE DISAPPOINTING RETURNS

29%
of surveyed investors felt natural resources returns fell short of expectations in 2018

29%
of surveyed investors plan to increase their natural resources allocation in 2019

FUND MANAGERS SHOW VALUE

144.2
The PrEQIn Natural Resources Index reached a record high as of June 2018, while the public market* lagged by 45 points

CAPITAL CONCENTRATION AMONG LARGEST FUNDS

91
The lowest number of funds since 2010 secured a record amount of capital ($93bn) in 2018

81%
of surveyed fund managers believe there is more competition for investor capital than 12 months ago

VALUE FOR THE LONGER TERM

$99bn
was distributed to investors by funds in 2017, a record high

Diversification
is the primary reason why most surveyed investors invest in natural resources

ENERGY DOMINATES NATURAL RESOURCES

$89bn
in capital commitments was secured by energy funds over 2018, 96% of the total for the asset class

FUNDS SPEND MORE TIME ON ROAD

Funds closed in 2018 spent an average of
17.3 months
on the road (compared with 15.0 months for funds closed in 2016)

** S&P Global Natural Resources Index TR.*

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NATURAL RESOURCES: INVESTORS STICK WITH THE ASSET CLASS

The natural resources industry has experienced unprecedented growth over the past decade. AUM has grown at a compound rate of 16% per annum, increasing from $175bn in 2009 to $668bn as at June 2018. Fundraising has also been strong, with a record $93bn secured by the 91 funds that reached a final close in 2018.

THE NATURAL RESOURCES OPPORTUNITY

The fund manager and investor universe has undoubtedly expanded during this time. Preqin now tracks over 1,100 fund managers; while the majority are based in the established markets of North America, Europe and (increasingly) Asia, 16% are located elsewhere, demonstrating the truly global and diverse nature of the natural resources industry. On the other side, over 3,800 investors are active in the industry – while a significant number, it is relatively small in comparison to the 14,000 alternative assets investors tracked by Preqin, so there is still plenty of room for growth and expansion.

Accounting for 95% of the capital raised by funds closed in 2018, energy clearly dominates the industry; however, on the flip side, this also means the growth opportunity for other strategies – such as agriculture/farmland, metals & mining, water and timberland – is huge.

> *With growth will inevitably come further change in the industry and challenges for all players.*
>
> *Mark O'Hare, Chief Executive, Preqin*

A record $93bn was secured by the 91 funds that closed in 2018.

PERFORMANCE WOES

The performance of the natural resources asset class in recent years has clearly been disappointing for investors. When looking at vintage 2005-2015 funds, the risk/return trade-off of natural resources funds is poor: natural resources funds have provided a median net IRR of only 6.9% and risk (standard deviation of net IRRs across funds) of 15.8%.

It is important to remember, however, that high returns are not the primary motivation for investors when allocating to natural resources funds – factors such as low correlation to other asset classes and diversification rank much higher. This can come at a price: periods of strong economic growth, as witnessed over the past decade, can coincide with commodity price weakness and dampened natural resources returns.

Although investors are dissatisfied with performance, they are somewhat less disappointed than they were a few years ago – returns of natural resources funds compare favourably to the public market. As a result, investors are sticking with the program, motivated by the uncorrelated returns the asset class can deliver. Twenty-eight percent of surveyed investors are looking to commit more capital to natural resources funds in 2019 than they did in 2018, and over the longer term, 29% intend to increase their allocation to the asset class.

Energy funds accounted for 95% of the capital raised by funds closed in 2018.

Over 300 funds are currently in market seeking to raise an aggregate $188bn.

CONSOLIDATION A CONCERN

The outlook for continued industry growth is largely positive, but, of course, challenges lie ahead. Consolidation is occurring at an alarming rate: $2bn more capital was secured between 2017 and 2018, but by 54 fewer funds. Average fund size was pushed above $1bn in 2018, and the largest and most established managers are dominating the market. Over 300 funds are currently in market seeking to raise an aggregate $188bn – 3x as many vehicles closed and twice as much capital secured than in 2018, meaning that, for fund managers, winning this capital in 2019 will be as challenging as ever.

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