Preqin Markets in Focus: **Alternative Assets in the Americas**

preqin

Acknowledgements

Executive Editors
Charlie McGrath
Sam Monfared

In-House Contributors
Jared Bochner
Cat Hall
Kayla Hujber
Cameron Joyce
Dave Lowery
Danny McCance
Charlotte Mullen
Jordan Poulter
Milly Rochow
Logan Scales
Tim Short
Hannah Washbourne

Data Support
Quinlan Abel
Justin Bartzsch
Ross Coapman
Matthew Davis
Adam Jackson
Rebecca Johnson
Walker Jones
Jamie Fisher
Richard Gifford
Megan Harris
Alejandro Hill
Drew Lenz
Chase Mahar
Hayden O'Bryan
Michael Phua
Ethan Tannenbaum
Sebastian Vallone

External Contributors
Jared Broadbent, Alter Domus
Philippe Camu, Goldman Sachs
Anthony DeCandido, RSM US LLP
Greg Durst, Institutional Limited Partners Association
Craig Golinowski, Carbon Infrastructure Partners
Jared Gross, J.P. Morgan Asset Management
Bill Kelly, CAIA Association
Alex Kotsopoulos, RSM Canada
Scott L. Lebovitz, Goldman Sachs
Kate McRoskey, First Republic Bank
Dave Moyes, Carbon Infrastructure Partners
Pulkit Sharma, J.P. Morgan Asset Management

Contents

CEO Foreword

Welcome to the newest addition to the Preqin report family: Markets in Focus: Alternative Assets in the Americas. North America is the birthplace of alternatives and the biggest market, but for this report we have extended coverage to include Latin America, a challenging but increasingly interesting market that's home to a growing cadre of investors with an appetite for alternatives.

It's said that everything in America is larger than life. It's true of its alternatives market, which has assets under management (AUM) of $4.82tn in private capital and $3.39tn in hedge funds, and more than 10k active investors and 8k active managers. It's also true of the economic response to COVID, where the government has spent $3.2tn – more than the GDP of the UK, France, Italy, or India – and has a further $1.6tn in the budget.[1] President Biden is now pushing for a further $6tn of spending.

The strong fundamentals underpin a vibrant and competitive market that's increasingly showing signs of maturity. These include the ongoing consolidation of capital with larger managers and moves by big LPs to trade quantity for depth in their GP relationships.

Innovation, which is exemplified by the booming venture capital market, is at the heart of alternative assets' success in North America, and fund managers will need innovative and more specialist approaches to stand out in a crowded fundraising market. While GPs in the Americas have lagged their European peers on environmental, social, and governance (ESG), the twin factors of a new regulatory regime and investor demands are leading to rapid change. As in other regions, measurement, reporting, transparency, and standardization are issues that will have to be resolved – a challenge that Preqin is helping clients tackle with our ESG Solutions service.

Mark O'Hare

CEO

Preqin

As Alternative Assets continue to play an ever-greater role in investors' portfolios; so too grows the demand for reliable and powerful tools to monitor progress and performance in the portfolio, and to evaluate and plan new investments. This calls for a seamless combination of the best data and the best workflow tools; which is why we're so delighted to welcome Colmore to the Preqin family; and to offer these wider capabilities to Preqin's customers globally, and especially in the Americas. Please see page X for more on Colmore.
Alternative assets will continue to grow and evolve. Over the past 12 months we have continued to invest to deliver you – our network of over 170k global alternative assets professionals – better data, tools, and insights to help you discover new opportunities, benchmark your performance, and find top-tier industry partners.

In the past year alone, we:

- Acquired Colmore, a leading private markets technology, services, and administration business – a transaction that will help boost transparency in alternatives markets.
- Rolled out ESG Solutions to provide you with critical visibility of GP-LP environmental, social, and governance factors at a firm, portfolio, and asset level, with more than 500k transparency metrics tracked.
- Launched Company Intelligence, providing you

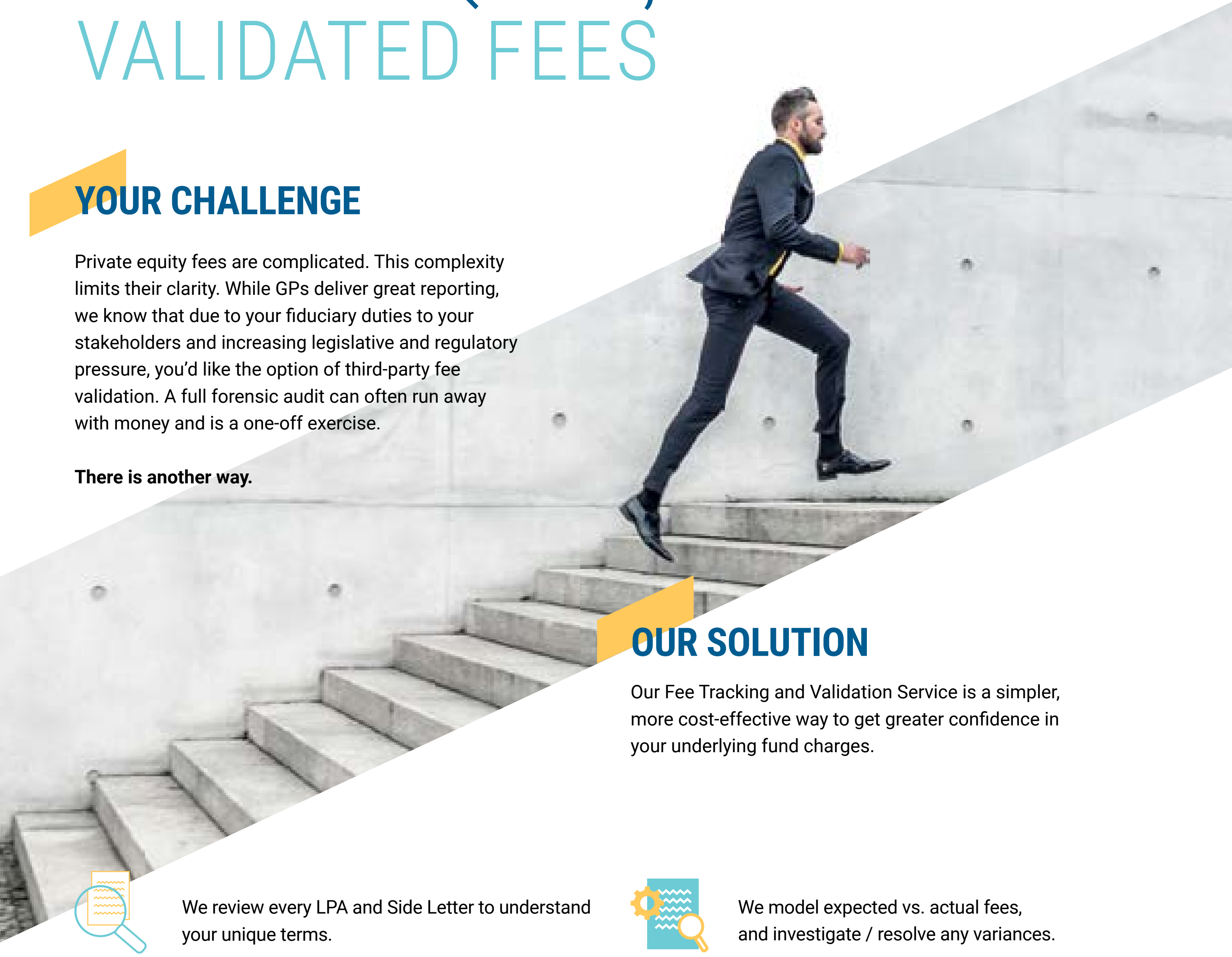
[1] https://www.usaspending.gov/disaster/covid-19

with access to detailed profiles and searches across Preqin's sponsor-backed company universe.
- Launched Insights+ subscription service, delivering exclusive analytical content tailored towards providing actionable research for LPs, GPs and service providers
- Continued to achieve data growth across our platform, with our investor profiles up 10% to more than 20k, our fund profiles up 17% to 133k, and our GP coverage up 12% to almost 47k profiles.

As you have come to expect from Preqin, The Home of Alternatives™, we will continue to invest heavily to ensure you have the most comprehensive view of the alternative assets industry.

Thank you for your ongoing support, and happy investing.

PRIVATE EQUITY, MEET VALIDATED FEES



YOUR CHALLENGE

Private equity fees are complicated. This complexity limits their clarity. While GPs deliver great reporting, we know that due to your fiduciary duties to your stakeholders and increasing legislative and regulatory pressure, you'd like the option of third-party fee validation. A full forensic audit can often run away with money and is a one-off exercise.

There is another way.

OUR SOLUTION

Our Fee Tracking and Validation Service is a simpler, more cost-effective way to get greater confidence in your underlying fund charges.

- We review every LPA and Side Letter to understand your unique terms.
- We work off existing GP documentation and industry fee templates, providing a non-intrusive validation service.
- On a quarterly basis, we track your management fees, carried interest and expenses.
- We model expected vs. actual fees, and investigate / resolve any variances.
- Using our proprietary scoring matrix, we deliver easy to understand reporting on individual funds and your cumulative portfolio.
- Discrepancy?! Don't worry. As a former LP, we can manage the delicate conversation with GPs to ensure that we have all the required data inputs.

COLMORE IS THE WORLD LEADER IN THESE SERVICES, SUPPORTING SOME OF THE LARGEST LIMITED PARTNERS GLOBALLY

ilpa INSTITUTIONAL LIMITED PARTNERS ASSOCIATION

Are you an ILPA Member? Colmore is exclusively offering ILPA members a 20% annual discount on recurring service fees.

Executive Summary

North America sits at the center of the alternative assets universe

The Americas have always been a prime region for alternative assets. With a combined total of $7.65tn in assets under management (AUM), the Americas are home to most of the world's largest alternative investment managers. The region's 10,000+ active investors and more than 8,000 active managers provide a robust investment environment, where innovation takes center stage and the hunt for yield keeps capital flowing.

North America-based managers are particularly adept at raising capital. Since 2015, they have closed more than 9,700 funds, collectively securing $4.03tn. This effort was led by private equity: 6,500 funds closed, raising a combined $2.31tn in the period.

The region's strong fundamentals are helping to fuel fundraising. This is driven particularly by the US – the world's largest economy – and Canada, with its large institutional investor base. These are not the only factors, but this base environment has helped North America-based GPs both attract capital and successfully deploy it. These demographics coupled with a history of innovation have helped private capital to largely shake off the impact of the pandemic and source new opportunities, amid new risks, for investors.

Latin America, however, poses a greater unknown. Political and social risks are a significant deterrent to capital investments in the region. Still considered an emerging region by most metrics, its asset growth has been slower. That said, Latin America is home to a large investor base that's eager to invest abroad, and a growing middle class in need of infrastructure and innovation.

Asset Class Flyover

While private equity & venture capital headlines private capital investment in the Americas, other asset classes are well positioned to become major areas of focus. Infrastructure and private debt should continue to grow, driven in part by government initiatives and high demand for yield. As these asset classes mature and evolve, we expect each to become more prominent portfolio components.

The Biden administration's focus on clean and renewable energy will be a boon for infrastructure investment, as projects could come laden with incentives. Infrastructure's low-volatility returns, steady income, potential for inflation protection, and occasional alignment with ESG principles have garnered some interest from institutional investors. So far in 2021, 15 North America-based funds have closed for an aggregate $18.9bn. While still nearly one-third of 2020's total, dry powder is a robust $118bn, offering managers significant running room to deploy capital.

Natural resources are on a steady upswing, too. Energy investments continue to dominate natural resources investment: energy-focused funds assumed nearly 90% of total natural resources allocations to North American assets over the 18-month period ending June 2021.

Private debt burst onto the private asset stage following the Global Financial Crisis (GFC), and has enjoyed 11% average annual growth in North American AUM ever since. Direct lending, generally considered the most conservative of private debt's constituent strategies, made up around $257bn in private debt AUM at the end of 2020, or 35% of total regional private debt assets. Through the first half of 2021, direct lending funds closed $21bn across 25 funds, just under half of the asset class's total regional activity for H1.

On the other side of the private debt risk spectrum, distressed debt had a very up and down 2020, posting both one of its worst (Q3) and best (Q4) quarters.

While AUM and deal activity were both up last year, government intervention and central bank stimulus initially subdued what many thought would be a prime deal-making opportunity for private debt deals across the risk spectrum.

Venture capital has had a strong but uneven showing since the initial COVID outbreak. Both deal entry valuations and exit values have jumped noticeably thus far in 2021. The low-yield environment has a dual effect on both the run-up in committed capital and deal values: investors looked to invest in higher-growth investment options, while the low cost of capital made deals – leveraged buyouts in particular – more attractive. A side effect, however, has been an increase in valuation multiples, which could negatively impact return expectations for 2020 and 2021 vintages.

Hedge funds are also poised to continue their strong momentum, as investors are reminded of the drawdown protections they offer. Factors such as high volatility, dispersion of asset returns, and an uneven recovery across geographies should position managers well. At the end of March 2021, North America-based hedge fund AUM stood at $3.27tn, up 26% since March 2020, despite net outflows of $32bn since the start of 2021.

Real estate, however, has been a mixed bag. Aggregate deal values fell significantly in 2020, down 44% on the previous year to $2.38tn, well below historical fundraising averages. It's likely that dry powder will need to be deployed before investors commit significant sums as we progress through 2021.

Looking Ahead

We expect to see a continued but uneven recovery across private capital and hedge funds. Amid the opportunities and risks created by the pandemic, private capital will continue to fund innovation and growth. Venture capital has been historically active in pushing the tech industry forward, a trend that has been particularly prominent so far in 2021.

As the largest managers across the private capital spectrum continue to absorb larger volumes of investor capital, further consolidation is expected. And LPs are showing signs of portfolio consolidation too, as they commit larger amounts of capital to fewer managers.

Underlining this uneven recovery and capital consolidation, ESG-focused investment principles will keep the pressure on managers as LP demand for responsible investing grows stronger. With climate disasters regularly making headline news around the globe, both asset owners and managers will be more keenly aware of the financial impacts of seemingly non-financial factors. That said, we expect regulation to be the key driver in the implementation of more formal ESG policies, together with stricter guidelines imposed on GPs by their clients.

The steep upward trajectory of asset growth is unlikely to slow as allocators raise their target allocations, prompting managers to increase supply to meet this demand. The demand, however, will be strategic, as investors will look to invest across the private capital risk spectrum to compensate for the low-yield environment.

In Numbers: Alternative Assets in the Americas

$4.82tn

North America-based private capital AUM as of December 2020, up from $4.05tn at the end of 2019.

7,814

Number of private capital deals in North America in H1 2021. Buyout and venture capital deals accounted for 62% of the total.

$532bn

Aggregate value of private capital deals in North America in H1 2021. Buyout and venture capital deals accounted for 72% of the total.

9,487

Total number of North America-focused alternatives investors. Preqin tracks 7,206 investors located in the region.

7,439

Total number of active North America-focused alternatives managers; there are 10,012 managers located in the region.

+13.46%

North America-focused hedge funds' return in H1 2021. US-based hedge funds generated +15.63%, while Canada-based hedge funds gained 10.76%.

Core Alternatives Deliver What Public Markets Cannot

In a challenging public market environment, there are alternative ways to improve returns without adding risk

Pulkit Sharma
Head of Alternatives Investments Strategy & Solutions
J.P. Morgan AM

Jared Gross
Head of Institutional Portfolio Strategy
J.P. Morgan AM

The current challenges facing investors seeking to build portfolios capable of generating attractive returns with acceptable levels of risk may never have been greater. Low starting yields in core fixed income and lofty equity valuations, along with the prospect of rising inflation, will require investors to expand their portfolio construction toolkit. The traditional stock/bond portfolio mix that has worked effectively for the past 40 years needs to be reconsidered, and new allocation models deployed.

Among the most promising available opportunities are underutilized core and hybrid alternative asset classes. These offer returns in line with investors' historical objectives along with lower volatility and appealing diversification characteristics. As a group, these investments can provide a permanent, strategic substitute to richly valued public market fixed income and equities.

Here we explore how a portfolio allocation of actively managed, high-quality, diversified, predominantly private market alternatives, or the 'Core Foundation' categories, can improve portfolio outcomes. We include scalable assets in which the majority of return is derived from long-dated, forecastable, and stable cash flows – thereby offering strong diversification and resilient return benefits.

Core Foundation Categories Could Play Central Role in Success

Core Foundation alternatives, or 'core alts,' cover a range of assets. Some alternatives are more fixed-income-like in nature, such as private market senior secured alternative credit, whereas others are a hybrid between fixed income and equity, such as private market core real assets, which can offer both steady income and capital appreciation over time. Finally, there are also low-volatility, equity-like liquid alternatives options. These categories also exhibit lower manager dispersion of returns vs. typical non-core categories[1].

Relative to our expectations for public market assets, we believe that a core alternatives allocation delivers meaningful outperformance vs. both equities and fixed income over the forward horizon. An approximate performance premium of 200-300+ bps over public equities and 400-500+ bps over US fixed income seems achievable, with strong public equity

[1]JPMorgan Guide to Alternatives 2Q21, Alternatives and Manager Dispersion

diversification and much lower downside risk than equity. This is not magic, of course – there are some trade-offs, including less liquidity compared to public markets. However, our analysis suggests that most investors have sufficient exposure to liquid assets that a 10% or more move to core alternatives is easily manageable.

Adding Core Alternatives as a Substitute to Bonds, Stocks, or Both

A mere 10% allocation to core alts can materially improve portfolio outcomes (Fig. 1). This is the case whether looking to improve returns by re-risking from bonds to core alts, to de-risk by allocating from equities to core alts, or to take a balanced approach between the two. As an example, annual expected returns can increase by +0.5% when re-risking from bonds, while downside risk can be improved by 1.9% when de-risking from equities. Additionally, an allocation to core alts can complement traditional financial alternative categories, such as private equity and hedge funds, by diversifying the alternatives allocation in new directions, providing for more resilient long-term outcomes than these standalone alternatives.

The Importance of Thoughtful Portfolio Construction within the Core Alts

The cross-asset correlations within the alternative investment universe result from fundamentally distinct return drivers across the underlying asset classes. The various components of a portfolio should be assembled so there is low correlation between each component, allowing investors to capture higher returns with less volatility than a more static allocation to the individual core alternative sleeves (Fig. 2).

Putting the Liquidity Trade-off in Context

One of the trade-offs of an allocation to core alts is the relative illiquidity compared to public market assets. While managing portfolio liquidity is critical for investors, there is such a thing as too much liquidity, particularly in a market environment where public assets are likely to produce unacceptably low returns. A 10% substitution of core alts for bonds and stocks described above is well within the illiquidity budget of most investors.

Further, when viewed on an illiquidity spectrum that includes the full range of private investments, core alts offer a hybrid liquidity profile with relatively short

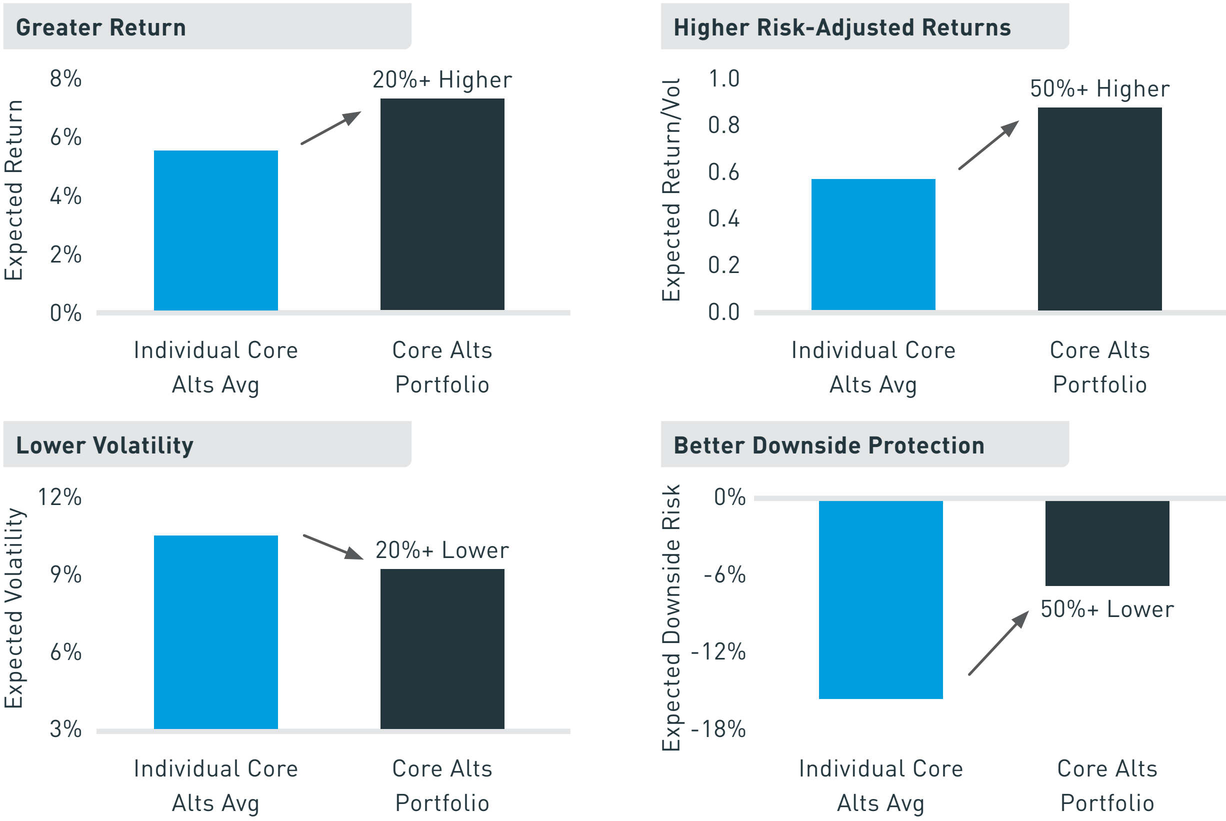
Fig. 1: Allocating to core alternatives can improve portfolio outcomes across traditional portfolios

Illustrative impact of replacing 10% of a public markets portfolio with various alternatives

		Re-Risking from Bonds	De-Risking from Equities	Balanced Pro-rata	Pro-rata from 60/40 Equities/ Bonds		
Portfolio Metrics	**60/40 Equities/Bonds**	**+10% Core Alts**	**+10% Core Alts**	**+10% Core Alts**	**+10% Core Alts**	**+10% Hedge Funds**	**+10% Private Equity**
Target Return[1]	4.2%	+0.5%	+0.3%	+0.4%	+0.4%	-0.1%	+0.4%
Equity Beta[2]	0.6	+0.03	-0.07	-0.03	-0.03	-0.02	+0.04
Downside Risk[3]	-12%	-0.3%	+1.9%	+1.1%	+1.1%	+0.7%	-0.4%
Premium over Inflation[2]	2.2%	2.7%	2.4%	2.5%	2.5%	2.1%	2.6%
Typical 10% Sleeve Liquidity[4]		Medium	Medium	Medium	Medium	Higher	Lower

Sources: JPMAM Global Alternatives Research. DISCLAIMER: Projected performance is not a guarantee of comparable future results. Diversification does not guarantee investment returns and does not eliminate the risk of loss. Forward looking metrics are USD, net of management fees, based on 2021 Long-Term Capital Market Assumptions (LTCMA). (1) Target return assumes the reinvestment of income and is a forward-looking metric based on 2021 LTCMA. (2) Equity Beta and Premium over Inflation are forward-looking statistics based on 2021 LTCMA. (3) Downside risk is measured as forward looking value at risk at 95% confidence level. Forward data is based on 2021 LTCMA. (4) Private Equity is typically the most illiquid and comes in the form of long-lock up of up to 10-15 year. Hedge funds are less illiquid, typically range from 30 to 90 days or more. Core Alts illiquidity is between those two structures.

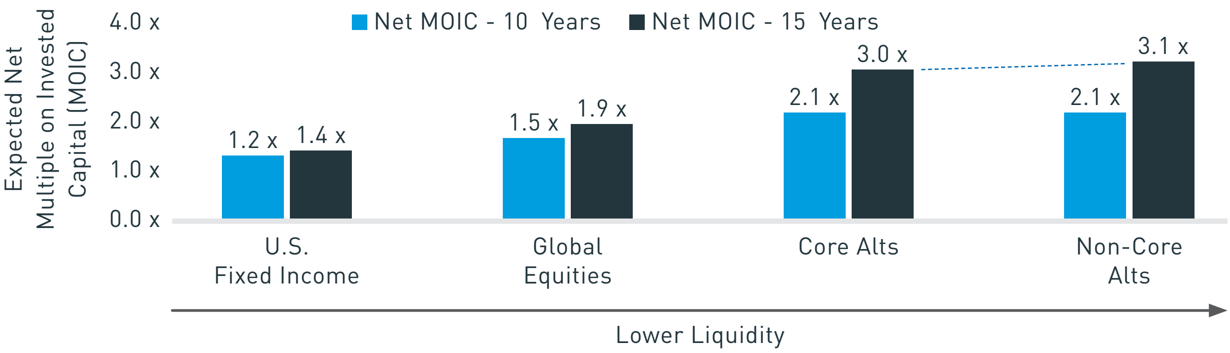
Fig. 2: Core alternatives can potentially deliver better and significantly more resilient outcomes vs. standalone core/core+ alternatives



Sources: JPMAM Global Alternatives Research. DISCLAIMER: Projected performance is not a guarantee of comparable future results. Diversification does not guarantee investment returns and does not eliminate the risk of loss. Expected return assumes the reinvestment of income. Forward looking metrics are USD, net of management fees, based on 2021 Long-Term Capital Market Assumptions. Diversification does not guarantee investment returns and does not eliminate the risk of loss. (1) Expected return, volatility and expected return/volatility are calculated using 2021 LTCMA data. (2) Expected downside risk is measured as forward-looking value at risk at 95% confident level. (3) The portfolios assume annual rebalancing. (4) Individual Core Alts Average is the simple average of the underlying Core Alts component asset class exposures. Individual Core Alts exposures may come in the form of core alternatives such as real estate, infrastructure, transport, natural resources, alternative credit/direct lending, across equity and debt structures and private and public markets.

Fig. 3: Core alternatives provide similar net multiples as long lock-up private strategies with higher liquidity

Reinvesting income improves the compounding effect and results in higher net multiples over the long-term



For illustrative purpose. Projected performance is not a reliable indicator of current and future results. The net MOICs shown above is calculated based upon forward-looking JPMorgan 2021 LTCMA data. There can be no guarantee the net MOIC will be achieved. Diversification does not guarantee investment returns and does not eliminate the risk of loss. The expected net MOIC is for illustrative purposes only and is subject to significant limitations. An investor should not expect to achieve actual returns similar to the net MOICs shown above. The net MOICs are for illustrative purposes only and are subject to significant limitations. An investor should not expect to achieve actual returns similar to net MOICs shown above. Net Multiple on Invested Capital denotes the total value generated for every $1 invested, over the course of the time horizon net of all fees. Non-core Alts are representative of long lock-up private alternatives (e.g., private equity).

lock-ups and higher cash flows than are available in some areas of the private markets. Given that many investors will not require immediate use of the income stream, reinvesting income within core alts can generate equivalent net return multiples compared with less liquid strategies such as private equity (Fig. 3).

This makes core alts a compelling use of an investor's illiquidity budget, as either a foundational alternatives allocation or a complement to long lock-up private market strategies. The return pattern resembles less of a J-curve and more of a 'forward slash.'

The Closing Argument for Core Alternatives
Investor portfolios usually consist mostly of stocks and bonds, despite well-founded concerns that they will be unable to achieve levels of return and risk diversification consistent with historical experience. Against this backdrop, investors need solutions that can improve returns without adding risk. Core alts are an actionable solution that can deliver stable returns in excess of public markets, while also providing attractive downside risk protection along with resiliency to inflation and rising rates.

Core alts can offer a higher-returning substitute to fixed income and equities. A 10% allocation can move the needle on performance while maintaining prudent levels of liquidity. Relative to more opportunistic private investments, they have the potential to offer a compelling risk/return profile, improved downside risk, more equity diversification, and better liquidity.

With its income stream reinvested, core alts stand on par with more aggressive alternative investments while retaining a more prudent risk profile. In a challenging public market environment, expanding exposure into private markets – in a thoughtfully designed, internally diversified program – is a powerful tool for investors.

Pulkit Sharma, CFA, CAIA, Managing Director, is the Head of Alternatives Investment Strategy and Solutions (AISS) business, which is part of J.P. Morgan Asset Management's global alternatives division. Pulkit is responsible for portfolio design and management of multi-alternatives investment solutions that span global real assets such as private real estate, infrastructure, transport, and alternative credit, private equity, liquid alternatives. In his role, he works with the firm's investment, solutions, and research personnel and global investors such as insurance companies, sovereign wealth funds, pension plans, and wealth managers to build and manage customized private markets portfolio solutions to help deliver on investor objectives. Pulkit co-founded the private real assets portfolio strategy and solutions business for the firm's institutional clients.

Jared Gross, Managing Director, is the Head of Institutional Portfolio Strategy, responsible for providing insights and solutions to institutional clients, including corporate and public pensions, endowments, foundations, and healthcare institutions. Prior to joining J.P. Morgan in 2020, Gross spent more than a decade at Pacific Investment Management Company (PIMCO) where he was the Head of Institutional Business Development, and a member of PIMCO's investment solutions team.

Prior to this, Gross held roles at Lehman Brothers as Co-Head of Pension Strategy and Vice President in the Pension Solutions Group at Goldman Sachs. He also previously held positions as Special Advisor on investment policy at the Pension Benefit Guaranty Corporation (PBGC) and as Senior Advisor for financial markets and domestic finance at the US Department of the Treasury.

How COVID Reshaped the Infrastructure Market

As demand for data, renewables, and ESG-minded assets accelerates, Philippe Camu and Scott Lebovitz of Goldman Sachs explore the opportunities available for private capital infrastructure investment

Philippe Camu

Co-Head and Co-CIO of Infrastructure

Goldman Sachs

Scott L. Lebovitz

Co-Head and Co-CIO of Infrastructure

Goldman Sachs

The past year has been one of unprecedented change. The COVID-19 pandemic, economic shutdowns, work-from-home, increased social awareness, and a continued focus on sustainability have all led to a significant acceleration in pre-existing trends in infrastructure, most notably a focus on renewables and energy transition, as well as the continued digitization of economies.

As both these trends have accelerated, the pandemic-induced economic deterioration has resulted in economic pressure. Nevertheless, the US Government continues to work toward meaningful public infrastructure initiatives. We believe that even with increased fiscal stimulus, the combination of aging public infrastructure and the new infrastructure requirements needed to support tomorrow's economy will create vast opportunities for private capital to supplement – and in many cases drive – infrastructure development.

Government Debt and Public-Private Partnerships

According to research by McKinsey, global infrastructure will require $3.7tn of new investments by 2035 to keep pace with projected GDP growth. President Biden's recently announced infrastructure package could begin to close this funding gap should it become a reality, but there are still plenty of details to work through and spending choices to be made.

Against the backdrop of rising public debt and the need for increased infrastructure investment, the size, cadence, political considerations, and ultimately the structure of the private capital required to aid this fiscal shortfall are difficult to forecast. Furthermore, the return expectations for what will be the next generation of public-private partnerships is equally difficult to assess. We believe it is reasonable to assume that most public-private partnership returns will be more in line with 'core' infrastructure, which are typically less than 10% levered rates of return.

Private Capital Opportunity

The investment opportunity set beyond immediate public-private partnerships is expected to be broad. Nascent sub-industries, greenfield projects, and 'old-to-new' transformation opportunities continue to be available to those with deep infrastructure and private equity investing experience.

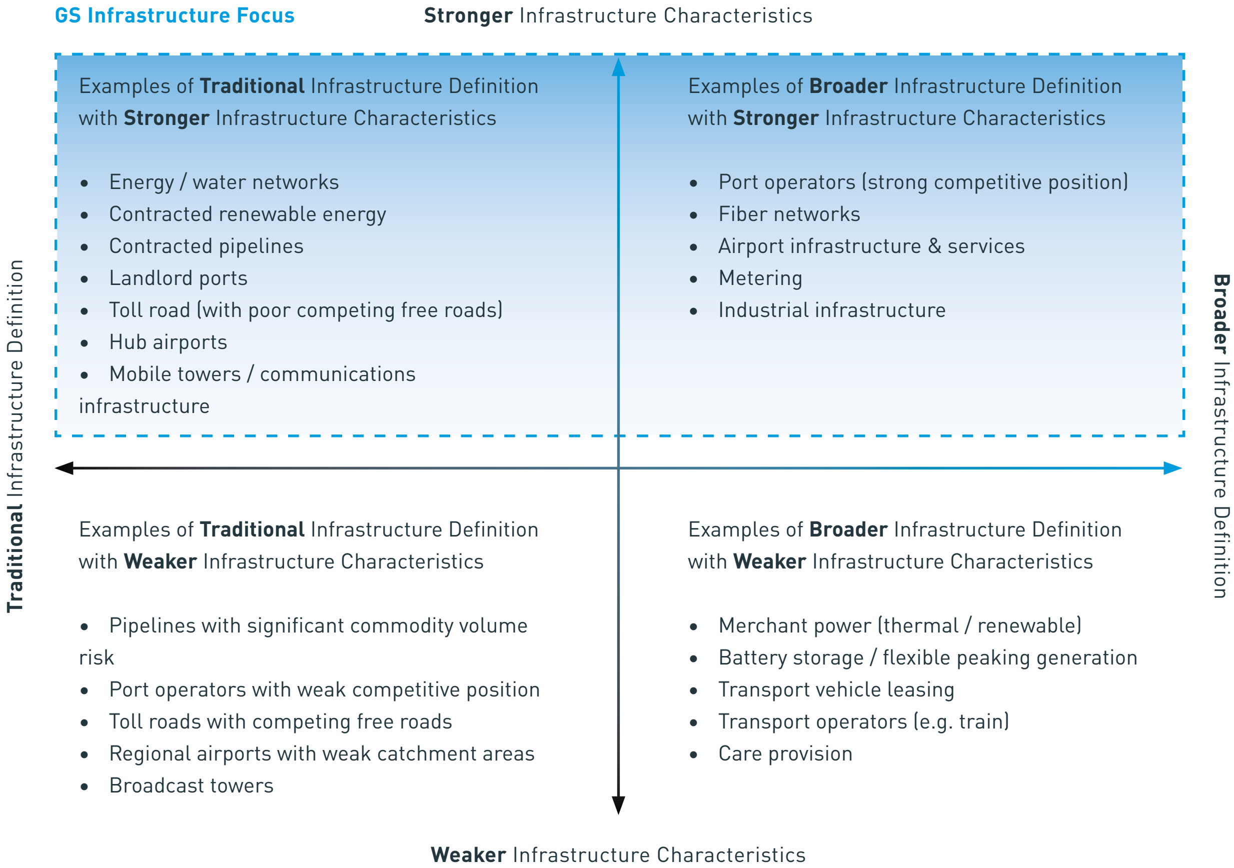
We believe the richest opportunity set resides in mid-market companies. Although many of these companies may not be perceived as 'infrastructure' assets under a traditional definition, they may ultimately hold the key infrastructure characteristics that make them tomorrow's core infrastructure assets. We believe the infrastructure label should be applied to asset-intensive businesses that have defensive and contractual cash flows, exhibit resiliency throughout the economic cycle, are critical to society, and enjoy incumbency advantages.

At a sub-sector level, the key drivers of infrastructure investment include strong secular growth in digital services and data consumption, as well as the need for decarbonization. The growth of new sub-sectors and the need to transition assets toward a more ESG-centric mandate requires greater domain expertise, in addition to the experience of being an active owner-operator. The 'set it and forget' ownership mindset of the past is unlikely to survive in a more dynamic infrastructure market.

Digital Infrastructure Opportunities
Digital infrastructure primarily includes data centers, fiber networks, and wireless assets and their related ecosystems. These types of infrastructure assets are generally subject to lower levels of economic regulation than utilities and are characterized by long-term contracts with large creditworthy customers. The rising use of data, communications, and technology has resulted in relatively inelastic and resilient demand through economic cycles. Digital infrastructure also benefits from growth tailwinds associated with an increasing prevalence of data-oriented solutions, proliferation of devices, and the ubiquity of digital communication channels.

Barriers to entry are relatively high, particularly for the more capital-intensive forms of digital infrastructure. However, given significant recent growth, this space has been subject to greater competition and a rapidly evolving regulatory regime. Overall, the increasing importance of data, communications, and technology solutions for enterprises is expected to continue driving significant growth and meaningful investment opportunities.

Expansion of Infrastructure Opportunities



Energy Transition Opportunities
Energy transition is a structural change that will require meaningful investment for decades to come in order to meet national, regional, and corporate decarbonization objectives. Key megatrends driving the energy transition include the continued penetration of renewable energy, the rise of hydrogen as a new source of power, proliferation of electric and hydrogen-fueled vehicles, the addition of meaningful renewable fuels and chemicals to the energy mix, as well as carbon capture and sequestration as a critical element in reversing carbon emission trends. Energy transition infrastructure provides the backbone for the future energy system, which will be adapted to meet critically important decarbonization objectives.

ESG and Government Stimulus
Policymakers have widely recognized the economic stimulus's importance in the road to recovery. In the US, President Biden has reached a tentative agreement with a bipartisan group of lawmakers on an infrastructure plan in excess of $1tn. While details are still being finalized, it is likely to further accelerate pre-existing trends. Most notably, Biden's initial proposal included $100bn to expand broadband access to 100% of the US population, and a further $100bn to improve the energy grid, including targeted tax credits for transmission systems.

From a return perspective, the plan will likely result in increasing valuations and compressing yields for infrastructure assets, with the greatest compression likely to be in core assets, given their direct exposure to public funding. 'Value-add' companies will see some price appreciation, but we believe it will be less pronounced, since many of the opportunities will be outside of the scope of direct public funding.

Market Dynamics
The present economic climate is ripe for infrastructure investment and requires significant private capital. We believe the opportunity set is richest in mid-market and ESG-considered companies. That said, the owner of infrastructure assets, be it a private equity sponsor or a sovereign/state entity, will need deep domain expertise, especially in the emerging sub-sectors, and to adopt a value-add, owner-operator approach.

In this environment, public-private partnerships should remain a viable funding model, but the return expectations will likely remain subdued as valuations remain elevated for most core assets. It should also be noted that Biden's plan could displace some of the opportunities for core private capital.

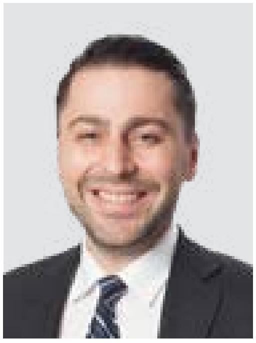
Perhaps most importantly, we believe we are at a rare point in time when both private and public capital can strategically reposition legacy assets and invest in the infrastructure assets of the future, all while having a deliberate focus on ESG and sustainable considerations.

Philippe Camu is global Co-Head and Co-CIO of the Infrastructure Investment Group for Merchant Banking within the Asset Management Division. He joined Goldman Sachs in 1992, and became a partner in 2010. He is a member of the Merchant Banking Infrastructure Investment Committee. He also serves on the board of directors of CityFibre and on the Supervisory Board of HES International. Philippe received an MSc. from École des Hautes Études Commerciales (HEC) Paris.

Scott L. Lebovitz is global Co-Head and Co-CIO of the Infrastructure Investment Group for Merchant Banking within the Asset Management Division. He joined Goldman Sachs in 1997, became a managing director in 2007, and became a partner in 2012. He serves on the Merchant Banking Sustainability Council as well as the Merchant Banking Corporate and Infrastructure Investment Committees. Scott serves on the board of directors of Lucid Energy Group. He received a B.Sc. from the University of Virginia.

Why PPPs Are the Intersection between ESG and Infrastructure

Public-private partnerships have had success in Canada. Alex Kotsopoulos and Anthony DeCandido from RSM explain how this model could help the Biden administration close the US's $2tn infrastructure gap while also improving ESG outcomes



Alex Kotsopoulos
Partner

RSM Canada

Anthony DeCandido
Partner

RSM US LLP

Canada has been very successful with infrastructure investments made by tandem efforts from public and private sectors. How can these partnerships improve infrastructure and economic development, and what can the US learn from this?
Since the 1990s, public-private partnerships (PPPs) have been used extensively in Canada to develop its infrastructure. Along with Australia and the UK, Canada has used these delivery mechanisms to improve current infrastructure while also lowering the risk and cost to the state for ongoing maintenance. This risk transfer to a private entity is a key benefit of PPPs, and also works to close a country's infrastructure gap, or the amount of money needed to fund all projects against the amount actually invested in infrastructure projects.

The resulting productivity benefits can be quite extensive – in fact, societal benefits can also be tied to broader ESG outcomes. For example, investments in public transit projects that take cars off the road can lead to a reduction in greenhouse gas emissions, improved emergency response times, and fewer traffic accidents.

Data from the OECD shows that Canada spends a larger share of its GDP on infrastructure than most developed countries. Current estimates put the US infrastructure gap near $2tn[1], while the maximum estimated infrastructure gap in Canada is near $570bn[2]. Adjusting for GDP, infrastructure spending in Canada was about 1.14% of GDP, 30% higher than the 0.9% figure in the US, suggesting that Canada could close its infrastructure gap at a faster rate.

What are the disadvantages of the PPP model?
PPP models rely on something called a risk transfer, where the risk needs to be quantified before it is transferred over to the private sector. The private sector, in theory, has the capability to better internalize that risk compared with public sector organizations. The drawback of a PPP is that it does require a pretty rigorous assessment of risk – and that may not be immediately apparent.

[1] https://www.cfr.org/backgrounder/state-us-infrastructure
[2] https://www.caninfra.ca/insights-6

One of the things we've noticed with PPP projects is that it's easy for similar types of infrastructure to be delivered using similar models, given they have a reference point to compare against. For that reason, we're not seeing the PPP model being used as extensively on innovative or complex projects.

The Biden administration hopes its infrastructure bill will accomplish development and innovation goals while also incorporating ESG principles. What lessons can the US learn from Canada's PPP approach?
Infrastructure is critical for any country to achieve its economic development and climate objectives, as well as broader ESG objectives. Looking at the bill itself, the largest allocation proposed by the Biden administration – about $600bn – is intended to be spent on ports, airports, mass transit, bridges, and highways.

These projects usually require the investor to bear significant upfront costs and ongoing maintenance expenses; but what the PPP model does is transfer the long-term risk to the private sector after an initial cash outlay from the public sector. Both the US and Canada have substantial infrastructure deficits, and both have spent considerable resources during the pandemic – this is therefore one way to address the back-end drop in productivity. The PPP model can spur faster growth and help improve some of the fiscal anchors, particularly debt-to-GDP ratios.

This division of risk warrants serious investigation in the US, however, because it can build out infrastructure – such as mass transit, bridges, and highways – at a potentially lower cost and, in many cases, less time. From a development and growth perspective, this poses a win-win for the administration, shoring up long-term government debt and improving infrastructure in the near to mid-term.

While infrastructure investments require initial cash outlays from the government, many of the green initiatives will center around taxation and government incentives to change the behavior of the private sector. As such, these green infrastructure initiatives will push companies to reduce emissions and carbon output and incentivize individuals for using low- or no-emission vehicles.

Transit is another area that green initiatives could develop. Vehicle types, how people and goods move around, and access to mass transit are particular aspects of the bill that could benefit from PPP investment. Innovation in these areas is a pervasive theme in ESG, but it doesn't get enough hype; standard renewable energy and existing technologies are usually top of mind. Innovative mechanisms toward green economic development can create jobs and opportunities as well.

The PPP model can help to address aspects of social inequality, too. The pandemic exposed the digital divide in broadband access in the US, particularly in rural communities. In both the US and Canada, PPPs could help to rapidly upgrade the network, close the social gap, and benefit investors.

In the case of broadband networks, investors would benefit from the PPP's availability model, whereby the end user pays a fee to use the assets, or subscription fees to the network's owner or investors. These fees have proved to be quite lucrative for infrastructure investors, not only through telecoms, but also through roads, ports, and hospitals, providing the long-term returns that institutional investors need.

Alex Kotsopoulos is a partner at **RSM Canada**. Alex leads RSM Canada's projects and economics practice. He specializes in helping clients evaluate and assess projects from a financial and broader macroeconomic and social perspective.

Anthony DeCandido is a financial services partner at **RSM US LLP**. He is also a lead advisor within RSM's ESG Advisory practice, where he guides clients through strategy development, data collection, and reporting and communications.

North American Private Equity

We forecast North American private equity & venture capital AUM to reach $5.05tn by 2025, representing 40% of the global market

North American private equity & venture capital (PEVC) AUM reached $2.81tn at the end of 2020, expanding at an annualized rate of 9.5% over the past decade (Fig. 1). Given the 14.2% growth rate over the previous five years, the pace of growth has been accelerating.

We expect this strong growth to continue. Preqin forecasts a 12.4% growth rate in AUM between 2020 and 2025, reaching $5.04tn. Currently, the share of total equity markets in the region that are private equates to 6.3%. Taking into account our forecasts, and assuming that public equities continue their long-term annual growth rate of 10.8%[1], this figure is set to increase to 6.7%.

Persistently low long-term government bond yields are a key driver of this growth. Ten-year Treasuries have been on a gradual downward trend over the past decade, beginning 2010 at 3.68% and finishing 2020 at 1.10%. This reduction in yields has helped incentivize institutional investors to rotate into the asset class while also improving the financing costs of leveraged buyout funds, helping to enhance returns. However, its main impact has been the resulting increase in deal multiples. Valuation multiples in public markets have gradually risen over the past decade, prompting private equity valuations to move in tandem.

Prevailing earnings yields implied by public and private equity valuations remain attractive in comparison to bond yields. While private and public valuations remain high today by historical standards, the fundamental attraction of equity remains strong compared to bonds – albeit less so than global markets as a whole. The MSCI North America index currently trades at a forward price-to-earnings ratio of 21.8x[1], equating to an earnings yield of 4.6% compared with a 10-year yield of 1.3%.

For the time being, the status quo appears conducive to the continued strong growth of the sector. However, inflationary concerns have started to emerge, threatening the outlook. While the US Consumer Price Index (CPI) has accelerated to a recent high of 5.4% year-on-year in June[2], long-term inflation expectations as measured by 10-year US breakeven yields[3] remain at a comparatively low level of 2.3%.

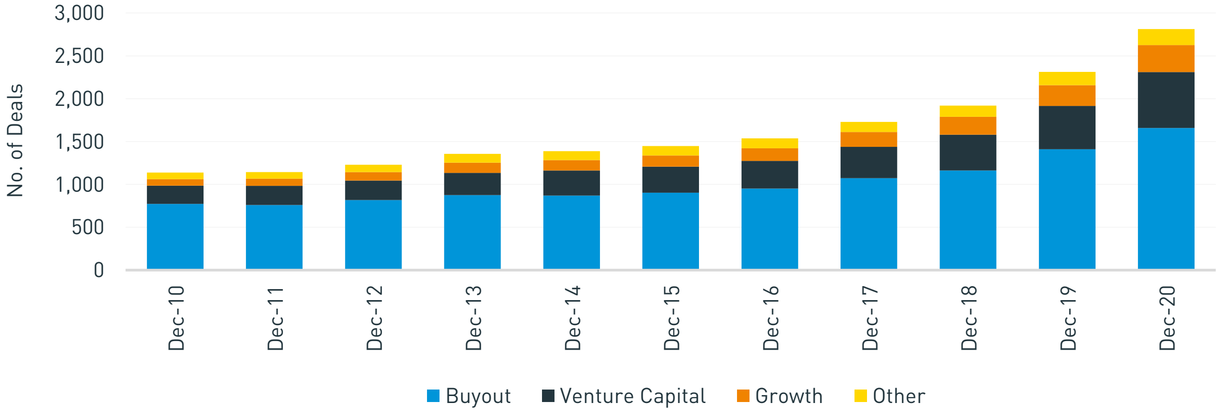
Inflation expectations are not currently high enough to lead to a material drop in Treasury prices and an increase in yields. But implied real yields remain in negative territory, which could prompt bond holders to lighten up their positions. However, a significant amount of bond holders are mandated buyers that are required to hold Treasuries for regulatory reasons. This could include insurers that need to match insurance liabilities with risk-free Treasury yields or defined benefit pension schemes.

Technological Disruption Accelerates VC Relevance
Venture capital is attracting a growing share of fundraising across PEVC so far this year. A total of $61bn in venture capital commitments was raised

---

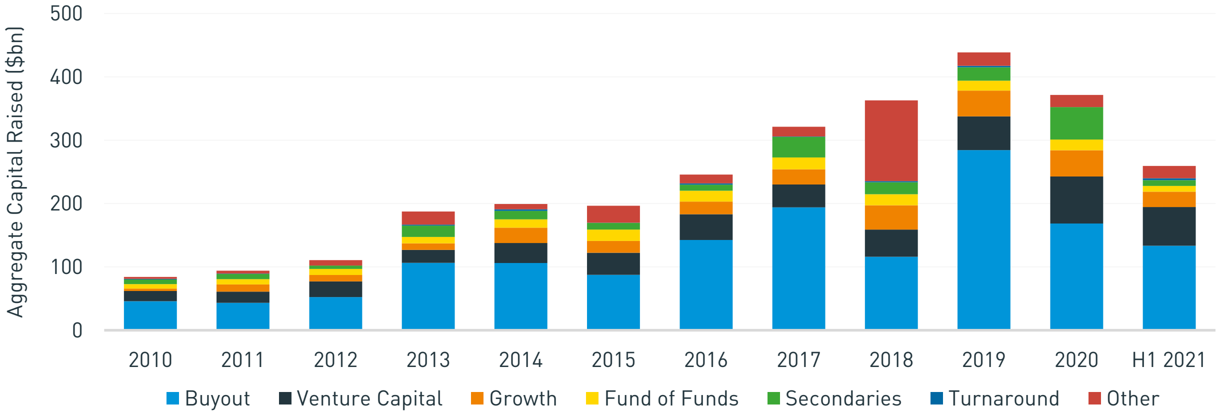
[1] https://www.msci.com/documents/10199/46aa6590-4ca0-4bfb-bc51-3ca9c297c4ff
[2] https://www.reuters.com/business/finance/us-consumer-prices-surge-june-2021-07-13/
[3] https://fred.stlouisfed.org/series/T10YIE

Fig. 1: North America-Based Private Equity & Venture Capital Assets under Management by Fund Type, 2010 - 2020



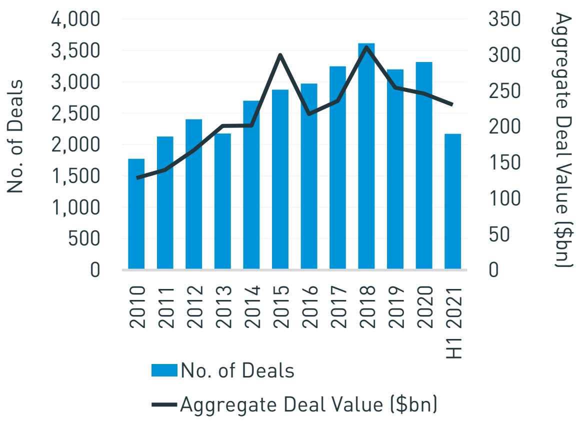
Source: Preqin Pro

Fig. 2: Aggregate Capital Raised by North America-Focused Private Equity Funds Closed by Fund Type, 2010 - H1 2021



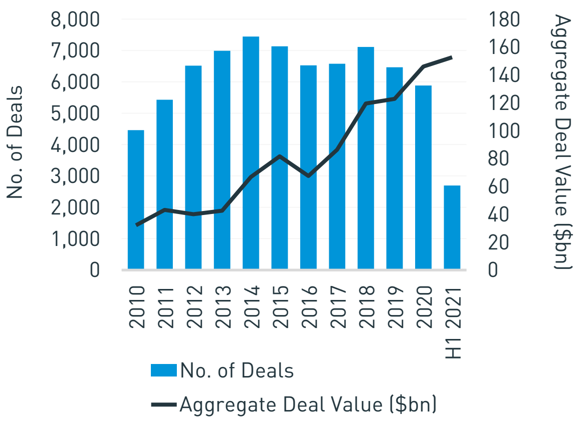
Source: Preqin Pro

Fig. 3: Private Equity-Backed Buyout Deals in North America, 2010 - H1 2021



Source: Preqin Pro

Fig. 4: Venture Capital Deals in North America, 2010 - H1 2021



Source: Preqin Pro

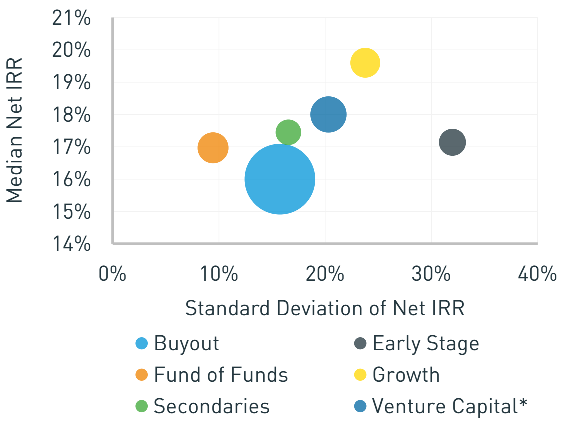
in the first half of 2021, representing 24% of total fundraising across PEVC. This compares with 20% in 2020 and only 12% in 2019. Venture capital is therefore likely to continue growing its share of the overall PEVC mix; at the end of 2010, it accounted for 19% of total AUM, rising to 23% at the end of 2020.

A Growing Portion of LPs Come from Further Afield

While the majority of investors in North American PEVC are domestic, the international portion is increasing. This is particularly true of LPs in Asia, where the region's strong economic growth is boosting domestic savings, of which a growing portion is being invested offshore. Given the returns generated by North American PEVC and its strong prospects going forward, it remains an attractive destination for Asia-based investors.

There has also been a particular increase in interest from Latin America-based pension funds.[4] The portion of investors from the Rest of World category has increased from 2.4% in 2015 to 3.0% in 2021, mainly driven by investors in Latin America. Altogether, it seems the PEVC asset class still has considerable headroom for growth in North America.

Fig. 5: Risk/Return of North America-Focused Private Equity & Venture Capital by Fund Type (Vintages 2009-2018)



Source: Preqin Pro. Most Up-to-Date Data

*Excludes early stages.

[4] https://www.preqin.com/insights/research/reports/preqin-markets-in-focus-latin-americas-growing-appetite

Fig. 6: Largest North America-Focused Private Equity Funds Closed in 2020-H1 2021

Fund	Firm	Headquarters	Fund Size ($mn)	Fund Type	Final Close Date
Hellman & Friedman Capital Partners X	Hellman & Friedman	US	23,000	Buyout	May-21
Silver Lake Partners VI	Silver Lake	US	20,000	Buyout	Dec-20
Thoma Bravo Fund XIV	Thoma Bravo	US	17,887	Buyout	Oct-20
Clayton, Dubilier & Rice Fund XI	Clayton Dubilier & Rice	US	16,000	Buyout	Mar-21
Lexington Capital Partners IX	Lexington Partners	US	14,000	Secondaries	Jan-20
TA XIV	TA Associates	US	12,500	Buyout	Jun-21
AlpInvest Secondaries Program VII	AlpInvest Partners	Netherlands	10,200	Secondaries	Dec-20
Genstar Capital Partners X	Genstar Capital Partners	US	10,200	Buyout	Apr-21
Vintage Fund VIII	Goldman Sachs AIMS Group	US	10,000	Secondaries	Nov-20
Bain Capital Fund XIII	Bain Capital	US	10,000	Buyout	Apr-21
Platinum Equity Capital Partners Fund V	Platinum Equity	US	10,000	Buyout	Jan-20

Source: Preqin Pro

Fig. 7: Largest North America-Focused Private Equity Funds in Market

Fund	Firm	Target Size ($mn)	Fund Type	Geographic Focus
Carlyle Partners VIII	Carlyle Group	22,000	Buyout	North America
Insight Partners XII	Insight Partners	12,000	Growth	North America
Dyal Capital Partners V	Neuberger Berman	9,000	Growth	North America
Ares Corporate Opportunities Fund VI	Ares Management	8,000	Buyout	North America
Berkshire Fund X	Berkshire Partners	6,500	Buyout	North America
Centerbridge Capital Partners IV	Centerbridge Partners	6,000	Buyout	North America
Apollo Hybrid Value Fund II	Apollo Global Management	5,000	Hybrid	North America
Carlyle Global Partners II	Carlyle Group	5,000	Buyout	North America
General Atlantic Investment Partners 2021	General Atlantic	5,000	Growth	US
Roark Capital Partners VI	Roark Capital Group	5,000	Buyout	North America
TPG Rise Climate	TPG	5,000	Growth	US

Source: Preqin Pro. Data as of July 2021

Fig. 8: Most Consistent Top Performing North America-Focused Private Equity Fund Managers (All Vintages)*

Firm	Headquarters	Overall No. of Funds with Quartile Ranking	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Average Quartile Ranking
Weathergage Capital	US	7	7	0	1.00
Peakview Capital	US	4	4	0	1.00
The Column Group	US	4	4	0	1.00
Union Grove Venture Partners	US	4	4	0	1.00
Benchmark Capital	US	3	3	0	1.00
Clearview Capital	US	3	3	0	1.00
Forerunner Ventures	US	3	3	0	1.00
LGT Capital Partners	Switzerland	3	3	0	1.00
Avalon Ventures	US	6	5	1	1.17
Veritas Capital	US	6	5	1	1.17

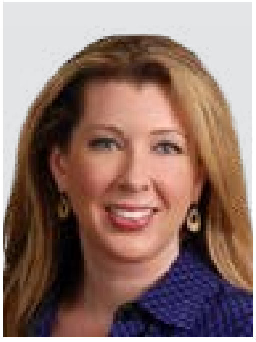
Source: Preqin Pro

*The most consistent top performing fund manager table is based on the average quartile ranking of a manager's funds. The entire pool of buyout funds is ranked within each vintage year according to its net IRR. The funds are given a score based on their quartile: 1 for top-quartile funds, 2 for second-quartile funds, and so on. This is the fund's 'quartile ranking'.

A manager's average quartile ranking is the average of all of the funds' quartile scores, with a minimum of three funds required in order to appear in the table. The average quartile rankings can vary from 1.00, for a fund manager with only top-quartile funds, to 4.00 for a fund manager with only bottom-quartile funds.

Why Venture Capital Is Thriving beyond Silicon Valley

As more new innovation economies pop up around the US, First Republic Bank's Kate McRoskey explains the ingredients behind their success



Kate McRoskey
Managing Director

First Republic Bank

How has the venture community gained momentum across the US?
Venture capital is a collective, community-oriented business. There's a network effect in this community: when entrepreneurial talent meets capital in one location, supported and nurtured by specialist service providers, this catalyzes what we call the 'innovation ecosystem.'

This kind of community is by no means unique to Silicon Valley or New York, either. The market in Los Angeles has become a tremendous success for investing across the full venture stack. The idea that LA is just for micro investing has been blown out of the water by the growth and attractiveness of the local community. And the data supports this success: Preqin Pro has recorded $8.9bn worth of venture deals in 2021 for LA-based companies.

There are push and pull factors driving interest in a particular location, such as lower cost of living and hiring talent, general competition, and more market space – even the weather can play a part. 2015-2016 was the tipping point for LA: GPs came down from the Bay Area to meet entrepreneurs, and local service providers took note and began to focus their business to support capital injection. The network infrastructure began to settle in and facilitated the take-off of LA's innovation economy as a result.

In Miami, the tech ecosystem is really kicking off, with local government pushing for the city to become a major innovation hub. This sentiment is echoed throughout the US, in recognition of the potential for tech development to drive economic activity.

How has COVID-19 impacted this trend?
COVID-19 was a clear catalyst for the migration away from major city centers, by reducing the friction around remote working and proving that it can work. But the long-term effects of this on the innovation economy are unclear – the network effect that has bred these successful communities has relied on physical proximity and interaction. That said, the democratization we are seeing post-COVID means that investors might continue to live and work in the urban areas, but they'll have access to more innovation around the rest of the country.

Is this democratization here to stay?
It's really a flywheel effect – once you have enough infrastructure in place to support an innovation economy , it becomes too interconnected to dissolve. Instead, more of these smaller venture communities may pop up around the country as the working world democratizes. But the network effect is still key: there has to be some critical mass to get these communities off the ground. COVID is helping to accelerate that exploration beyond Silicon Valley.

Kate McRoskey is a managing director based in Los Angeles, and focuses on private equity and venture capital relationships in Southern California. Her areas of expertise include financing and liquidity solutions to firm management companies, their funds and investment vehicles, general partners and principals.

Latin American Private Equity

Conditions are challenging for international investors, but the real prospect of central bank independence and social security reform in Brazil could help the market to live up to its potential

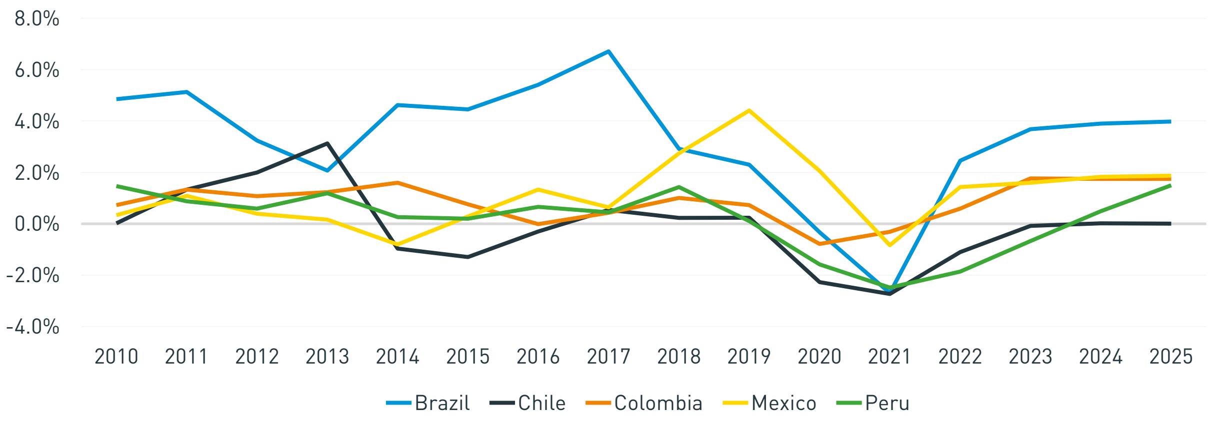
The size of the private equity industry in Latin America has remained stable in recent years, despite the challenges. As of December 2020, total AUM stood at $29bn, including $7.7bn in dry powder, according to Preqin data (Fig. 10).

Fund performance has been highly variable, reflecting the volatility inherent in the market. While the 2014 vintage has so far produced a strong median net IRR, at 23.3%, returns from 2012 and 2016 vintages have disappointed, at 5.6% and 5.8%, respectively (Fig. 11). Overall, vintages between 2008 and 2017 generated a relatively modest median net IRR of 7.6%, with standard deviation of 10.0%.

A More Promising Future
In the region's largest economy, Brazil, the cost of private sector borrowing has been stubbornly high for some time now, due to a structural lack of domestic net savings. This is partly due to high government debt levels of close to 90% of GDP, second only to China across emerging markets.

Despite Brazil's vast potential, international private equity investment has been comparatively limited. In the past, governments have often applied political pressure on the central bank to reduce interest rates and stimulate short-term growth. One explanation is that governments do this to effectively inflate their way out of the debt burden, avoiding politically challenging spending cuts and tax hikes. Either way,

Fig. 9: Historic and Forecasted Real Policy Interest Rates



Source: Oxford Economics

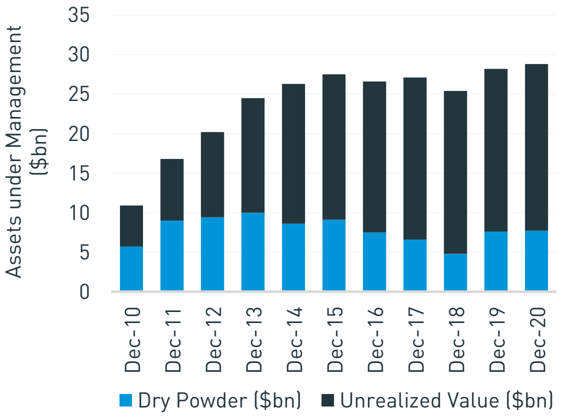
the capital flight, currency depreciation, and inflation this created has made it challenging for Brazil to attract international private equity investment.

These macroeconomic risks limit the number of potential buyout targets in a country that can demonstrate stable earnings in US dollar terms. The absence of sufficient financing at low interest rates further impairs the viability of leveraged buyout strategies in Brazil. Expected returns at the asset level must be sufficiently attractive to compensate for this risk, through either an ability to pass on inflationary costs or a natural hedge against currency depreciation.

The outlook for Brazilian private equity is positive, however. In February 2021, lawmakers in the lower house of Congress voted to grant independence to the Central Bank of Brazil, bringing three decades of debate on the subject to an end. The bank's president will still be nominated by the executive and subject to Senate confirmation, but will be legally protected from being removed. The current bank president, Roberto Campos Neto, was appointed in 2019 and subsequently reduced Brazil's key policy interest to a record-low 2% in response to the COVID-19 pandemic – this has since been increased to 5.25%. However, inflation is also quickening, reaching 8.4% in June 2021.[1]

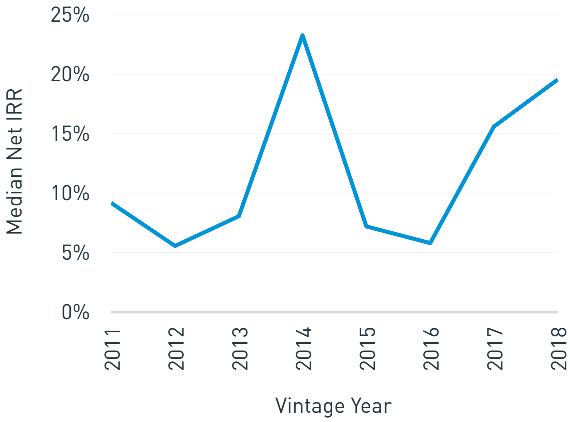
[1] https://www.reuters.com/world/americas/brazil-annual-inflation-rises-5-year-high-84-june-2021-07-08/

Fig. 10: Latin America-Based Private Equity (Excl. VC) Assets under Management, 2010 - 2020



Source: Preqin Pro

Fig. 11: Latin America-Focused Private Equity Funds: Median Net IRRs and Quartile Boundaries by Vintage Year



Source: Preqin Pro. Most Up-to-Date Data

Fig. 12: Largest Latin America-Based Investors in Private Equity

Investor	Allocation to PE ($mn)	Investor Type	Location
Porvenir	5,992	Private Sector Pension Fund	Colombia
Afore Sura	2,099	Private Sector Pension Fund	Mexico
Protección	2,003	Private Sector Pension Fund	Colombia
AFP Cuprum	1,710	Private Sector Pension Fund	Chile
AFP Integra	1,508	Private Sector Pension Fund	Peru
AFP Capital	1,421	Private Sector Pension Fund	Chile
AFP Provida	1,230	Private Sector Pension Fund	Chile
Afore XXI Banorte	1,186	Private Sector Pension Fund	Mexico
AFP Habitat	1,140	Private Sector Pension Fund	Chile
Oficina de Normalización Previsional	1,087	Government Agency	Peru

Source: Preqin Pro

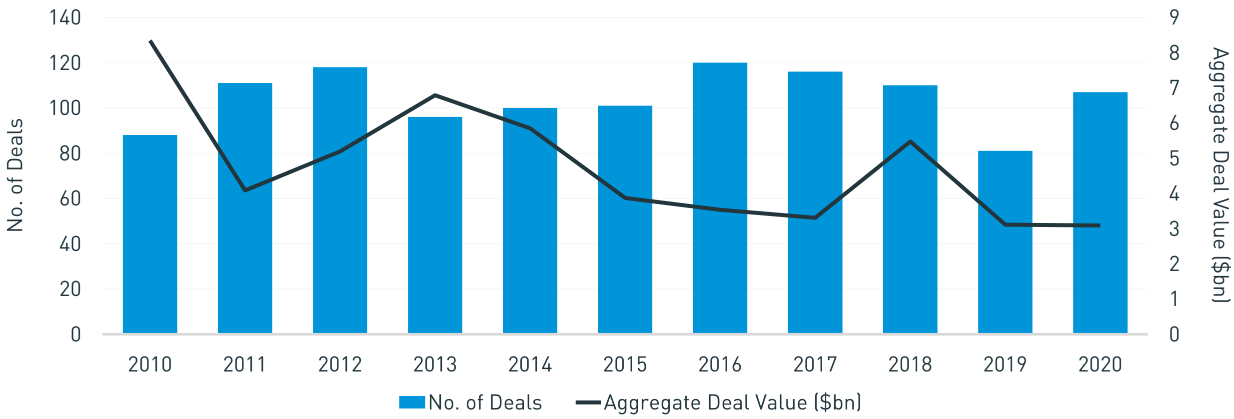
International GPs have already made a number of notable investments in Latin America more broadly. Despite Argentina's acute economic challenges in recent years, Advent International completed a $724mn deal for payments company Prisma Medios de Pago S.A. in January 2019. CVC, meanwhile, completed a $237mn deal for Peruvian company Hermes Transportes Blindados S.A., which provides security solutions for the transportation of valuables.

Oligarchs Crowd out Investors

One of the widespread features of the Latin American investment landscape is the dominance of tightly held, family-controlled firms in some industries. In public equity markets, this means that the free float available to institutional investors is comparatively limited in some sectors. For instance, the MSCI Chile Index – an index that adjusts for available free float and liquidity – has a market capitalization of $39bn[2], equating to only 14.8% of GDP. Similarly, the MSCI Peru Index has a capitalization of $18bn, or 8.3% of GDP. This acts as a natural limit on the role that public and formal private equity markets can play in the economy – a key factor in restricting the deal flow available to private equity firms in the region.

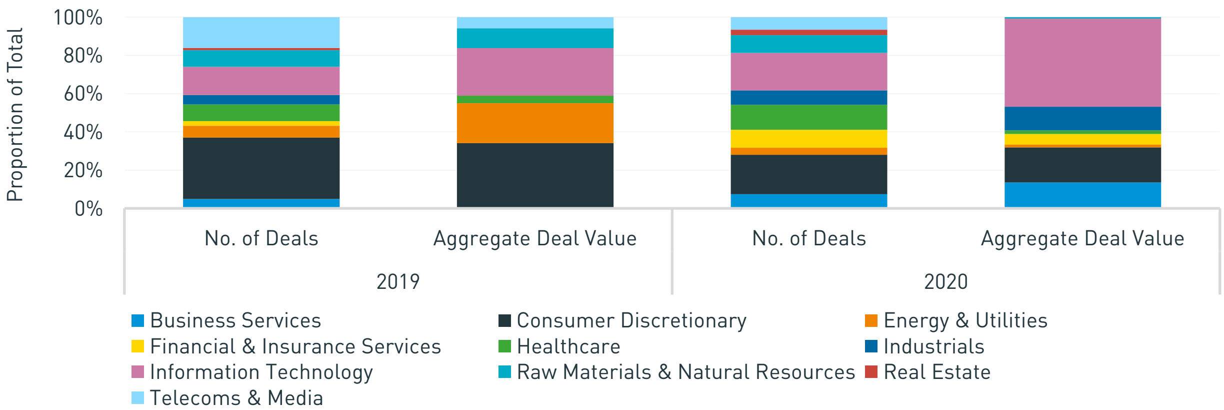
[2] https://www.msci.com/documents/10199/fd0e3dd6-fcd3-40cf-968b-0087e97f9d34

Fig. 13: Private Equity-Backed Buyout Deals in Latin America, 2010 - 2020



Source: Preqin Pro

Fig. 14: Private Equity-Backed Buyout Deals in Latin America by Industry, 2019 vs. 2020



Source: Preqin Pro

Minimal Leverage for Brazilian Buyout Funds
Long-term government bond yields remain relatively high in Latin America compared with developed markets. In Brazil in particular, high intermediation spreads in the banking system contribute to much higher interest rates for borrowers. This is partially due to the high reserve requirements for banks, at 21%.[3] Lending rates have been gradually declining, but remained at 37.4% in 2019.[4]

While this makes the use of leverage in buyout funds less feasible, attractive returns can still be achieved.

On-the-Ground Presence Is Critical
Brazil is a difficult market for international investors to navigate; for now, at least, it seems the complexity of the banking and taxation systems necessitates an on-the-ground presence. International GPs that have set up shop in the country, including CVC and Carlyle, have typically done so in São Paulo, which is considered the main private equity hub.

Still, domestic private equity managers are also key to the industry. Patria Investments, for instance, has operated for over 30 years in the domestic market, and has generated net returns of 28.8% in USD terms with its flagship funds.[5] The company has raised $8.7bn since 2015, including co-investments. Patria and Rio de Janeiro-based Vinci Capital Partners both recently listed on the Nasdaq.

With an abundance of local and international expertise already in the market, private equity appears poised to take off in Latin America – so long as the macroeconomic situation can stabilize.

[3] https://www.ceicdata.com/en/indicator/brazil/reserve-requirement-ratio
[4] https://data.worldbank.org/indicator/FR.INR.LEND?locations=BR
[5] https://ir.patria.com/static-files/918f1084-1de1-4213-be45-a36cac3b14f6

Fig. 15: Notable Private Equity-Backed Buyout Deals Completed in Latin America in 2016-2020

Portfolio Company	Location	Deal Type	Investor/Buyer(s)	Deal Size (mn)	Primary Industry	Deal Date
Ufinet Latam S.L.U.	Guatemala	Buyout	Cinven	2,000 EUR	Telecoms	May-18
Saavi Energía, S. de R.L. de C.V.	Mexico	Buyout	Actis	1,256 USD	Power & Utilities	Dec-17
Linx S.A.	Brazil	Add-on	StoneCo Ltd., Actis	6,080 BRL	Software	Aug-20
BRK Ambiental SA	Brazil	Buyout	Sumitomo Corporation, Brookfield Asset Management	908 USD	Power & Utilities	Aug-16
Prisma Medios de Pago S.A.	Argentina	Buyout	Advent International	724 USD	Software	Jan-19
BRK Ambiental SA	Brazil	Buyout	Brookfield Asset Management	520 USD	Power & Utilities	Aug-19
Petrobras Chile Distribuición Ltda	Chile	Buyout	Southern Cross Group	470 USD	Oil & Gas	May-16
Adtalem Educacional do Brasil	Brazil	Add-on	Advent International, YDUQS	424 USD	Education/ Training	Oct-19
Novo Metropolitano S.A.	Brazil	Buyout	IG4 Capital	400 USD	Business Support Services	Jul-18
Vista Oil & Gas Argentina S.A.	Argentina	Add-on	Vista Oil & Gas S.A.B. de C.V., Riverstone Holdings	360 USD	Oil & Gas	Jan-18

Source: Preqin Pro

Timely Data and More Outsourcing Key for Fund Admins

As more assets are allocated to private capital, some pandemic-era trends could stick. We spoke with Jared Broadbent from Alter Domus to find out what lies ahead for fund administrators

Jared Broadbent

Head of Fund Services, North America

Alter Domus

What lessons did the pandemic experience teach your clients, and how have you adapted your relationships with them?
I think the biggest thing clients took from the COVID-19 experience was the need for access to relevant and timely data to react in real time. A lot of systems have been built to provide information on a lagged basis, forcing clients to rely on infrequent reports. But when the pandemic hit, clients started asking more questions and the need to access their data became more pressing.

Meanwhile, new fund regulations such as the EU's Sustainable Finance Disclosure Regulation (SFDR) are also challenging managers to evolve the ways they report data and introduce processes to gather relevant ESG data. Overall, the industry's appetite for fast access to data shows no signs of slowing, and we see value in that.

Which asset classes are your clients targeting as we move into 2021 and beyond?
Private equity and venture capital (PEVC) really stayed strong throughout the pandemic and into this year. They were already doing well, but their ability to maneuver through the issues presented by the pandemic and to come out not just unscathed but, in many instances, performing above market was remarkable. This activity has been driving the interest from LPs in PEVC.

A lot of that performance is being driven by a spike in deal and exit activity. There are many reasons for this, but changing tax regimes and liquidity provided by stimulus are two that are fueling these massive valuation spikes. As PEVC continues to perform well, it creates a cycle that leads to more allocations being made. This means there's more dry powder to be deployed, but with valuations so high it creates a game of musical chairs: these could be the glory days right now, but how do you maintain that premium? It's not going to stay around forever.

Outside of PEVC, we have seen a continued interest in the market for private credit investments. Given our global reach and client base, we have seen strong interest in our debt capital markets services and fund administration as new market entrants launch credit strategies, traditional lenders expand their offerings and global investors enter the US markets in search of yield from North American borrowers and their loans. We believe the private credit markets will continue to expand and are preparing for it from a system and a staffing perspective.

ESG considerations are also increasing in importance, not just from a regulatory standpoint, but because they provide an opportunity for managers to create long-term sustainable value in their investments and enhance returns for their investors while mitigating their risks. With more capital in the market and greater competition for new deals, we expect to see more managers looking at other options such as Social Impact Funds.

What has changed your business for the better over the past 18 months?
The GP space is very hungry to see what else administrators can do for them. While this poses short-term challenges in terms of our capacity, it highlights GPs' desire to outsource more back- and middle-office operations. While this is testament to our client relationships during the pandemic, the experience taught us many lessons and there are some things we can work on.

Change is always good because it brings opportunity to improve, so we certainly see that and we plan to continue to improve. These improvements range from electronic subscription documents to the way information is passed around, and to the dashboards we produce to give clients access to their data. Increased digitalization of our industry was already afoot, but the over past 18 months, the gas pedal hit the floor.

Jared Broadbent is Head of Fund Services, North America at **Alter Domus**. He was the co-founder of Strata Fund Solutions, LLC which became part of Alter Domus in 2021. Prior to founding Strata, Jared worked for a fund management group where he served as VP of Finance over the company's various hedge funds, managed accounts, and related management companies.

Latin American Venture Capital: A Force for Good

Venture capital promises to unlock the vast potential in the region and provide new economic opportunities to millions

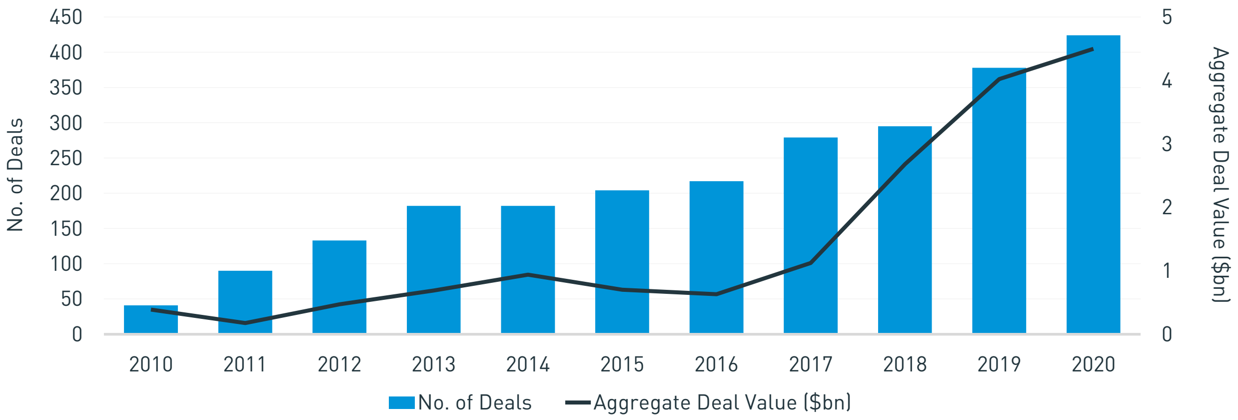
If businesses make money by solving problems, there are perhaps few places with greater potential for value creation than Latin America. Outside of Brazil, which already boasts a vibrant and dynamic start-up ecosystem, much of the continent's private sector innovation has been curbed by the dominance of the region's oligarchs. If digital innovation is going to disrupt the status quo, then venture capital will be at the heart of making it happen. After all, digital innovation will be critical to driving economic growth in future, as a recent OECD report finds.[1]

Despite the challenges that Latin America has been facing, its venture capital industry promises a growing pipeline of future deal flow that will inject dynamism and innovation into the economy.

In Chile, for example, the government has been actively encouraging the development of an entrepreneurial ecosystem through the Start-Up Chile program, launched in 2010. The public sector initiative's ambitious aim is to position Chile as a world hub for technological innovation. The program was unique in that it granted funding to companies without requiring them to provide equity. Instead, founders were required to work in Chile and help develop the local ecosystem and entrepreneurial culture that was previously lacking. The program has

[1] http://www.oecd.org/publications/latin-american-economic-outlook-20725140.htm

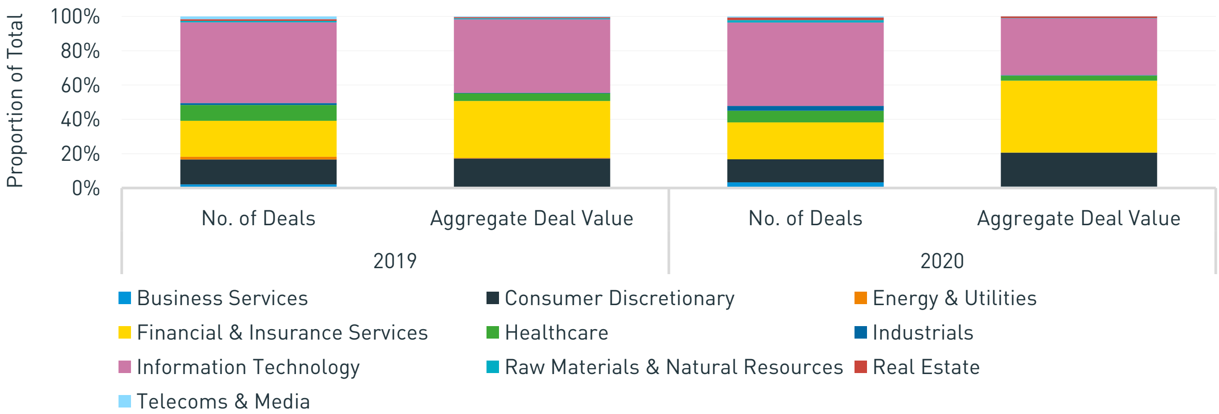
Fig. 16: Venture Capital Deals* in Latin America, 2010 - 2020



Source: Preqin Pro

*Figures exclude add-ons, grants, mergers, secondary stock purchases, and venture debt.

Fig. 17: Venture Capital Deals* in Latin America by Industry, 2019 vs. 2020



Source: Preqin Pro

Fig. 18: Notable Venture Capital Deals* in Latin America Completed in 2016-2020

Portfolio Company	Location	Stage	Investor/Buyer(s)	Deal Size (mn)	Primary Industry	Deal Date
Rappi S.A.S.	Colombia	Series D/ Round 4	SB Investment Advisers, Softbank Latin America Ventures	475 USD	Internet	May-19
Nu Pagamentos S.A.	Brazil	Series F/ Round 6	TCV, Thrive Capital Partners, Tencent Investment, Sequoia Capital, Ribbit Capital, Dragoneer Investment Group, DST Global	400 USD	Financial Services	Jul-19
iFood.com Agência de Restaurantes Online S.A.	Brazil	Series G/ Round 7	Innova Capital, Naspers Limited, Prosus	400 USD	Internet	Nov-18
UVI Tech, S.A.P.I. de C.V.	Mexico	Series C/ Round 3	Softbank Latin America Ventures, Greenoaks Capital, DST Global, General Atlantic	385 USD	Retail	Sep-20
Neon Pagamentos S.A.	Brazil	Series C/ Round 3	BlackRock, Vulcan Capital, Endeavor Catalyst, Monashees Capital, Flourish Ventures, PayPal Ventures, Propel Venture Partners, BBVA, General Atlantic	300 USD	Financial Services	Sep-20
GPBR Participações LTDA.	Brazil	Growth Capital/ Expansion	SB Investment Advisers, General Atlantic, Atomico, Valor Capital Group, Softbank Latin America Ventures	300 USD	Travel & Leisure	Jun-19
99Taxis	Brazil	Unspecified Round	Didi Chuxing	300 USD	Internet	Jan-18
Nu Pagamentos S.A.	Brazil	Unspecified Round	-	1,600 BRL	Financial Services	Jun-20
Creditas Soluções Financeiras Ltda.	Brazil	Series E/ Round 5	Lightrock, Tarsadia Investments, SB Investment Advisers, Wellington Management, Kaszek Ventures, Amadeus Capital Partners, Advent International, Headline, Softbank Latin America Ventures, Vostok Emerging Finance	255 USD	Financial Services	Dec-20
Banco C6 S.A.	Brazil	Unspecified Round	-	1,300 BRL	Financial Services	Dec-20

Source: Preqin Pro

*Figures exclude add-ons, grants, mergers, secondary stock purchases, and venture debt.

had some success stories, with start-ups reaching a combined valuation of $2.1bn[2], of which a majority was for companies incorporated outside of the country. Following the initial success of Start-Up Chile, StartUp Peru was launched shortly afterward, in 2012.

SoftBank Bets Big on the Region as Competition Heats up

While start-up accelerator programs are important for incubating new companies, venture capital funding remains critical to helping these businesses achieve scale. Indeed, when SoftBank Group launched a dedicated Latin America-focused fund in 2019, this was a huge boon for the industry. SoftBank Innovation Fund, which had raised $5bn by its second close in February 2020, deploys capital to later-stage e-commerce, fintech, healthcare, and insurance companies.

In 2019, SoftBank Innovation Fund was involved in one of the most prominent Latin American deals in recent years, investing $1bn in Colombia-based Rappi. The mobile app enables customers to order food, groceries, and medicine, as well as to make cash transfers. In total, Rappi has raised over $1.6bn through several rounds, including from T Rowe Price and Sequoia Capital. In another notable deal, investors including Uber China and Alibaba injected a combined $600mn into Brazilian cab-hailing app 99Taxis in January 2018.

SoftBank's arrival will likely have an impact on the competition for deals. Among Latin American fund managers surveyed by Preqin in January 2021, 57% are expecting competition to pick up in the venture capital space in the next 12 months – more than in any other alternative asset class.

The E-Commerce Opportunity

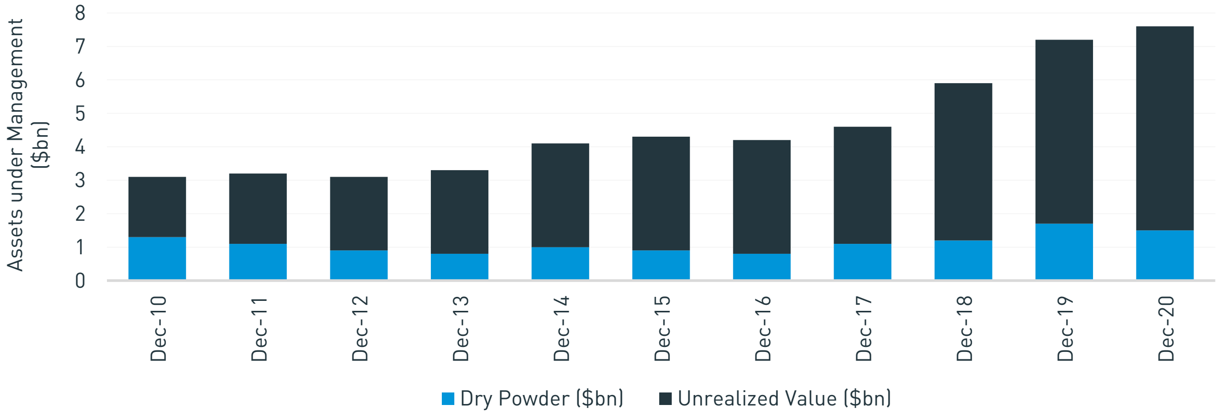
Mobile apps and e-commerce companies have dominated the venture deals landscape of recent years. In January 2020, real estate retail platform Loft Brazil raised $175mn in a Series C fundraising, making it one of the latest of several unicorns to come out of Brazil.

Over in Argentina, where the economy and capital markets remain in a challenging position, the venture capital industry has thrived regardless. In fact, Argentinian e-commerce company Mercado Libre remains the standout success story in Latin America. The company trades on the Nasdaq at a valuation of more than $80bn – albeit at an eyewatering 19.5x trailing revenue. Mercado Libre even has its own venture capital fund now, which has invested $77mn so far across 13 deals in Argentina and Brazil, as well as one in India.

The sector's enormous potential will likely ensure e-commerce attracts growing amounts of capital from here on out.

[2] https://www.startupchile.org/

Fig. 19: Latin America-Based Venture Capital Assets under Management, 2010 - 2020



Source: Preqin Pro

*Figures exclude add-ons, grants, mergers, secondary stock purchases, and venture debt.

North American Private Debt

The resilience of the private debt sector in North America has captured everyone's attention

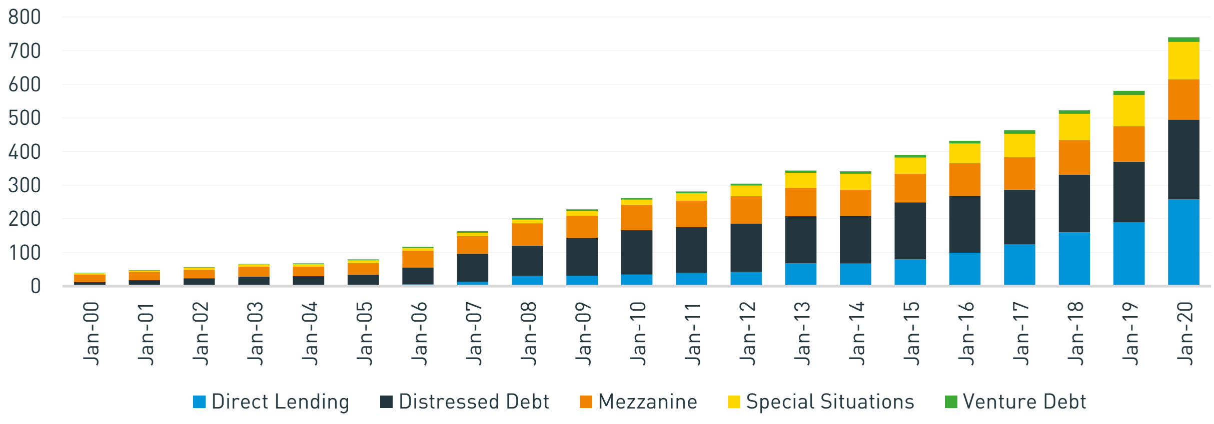
Private debt, which grew significantly as an asset class following the GFC, has already experienced its first global economic downturn. Unprecedented fiscal and monetary policy interventions aided many companies in escaping serious financial trouble in the face of the COVID-19 pandemic; however, they did so at the expense of investment opportunities. Fear of inflation has created a unique environment in the US – the largest private debt market. Allocators and fund managers remain optimistic as participants determine how to deal with the potential impact of inflation and shrinking government intervention.

Private Debt Is in Demand

As economies reopen, governmental assistance will die down gradually and more businesses will search for ways to expand as consumer spending rises. Private debt managers in North America are well positioned to offer capital to borrowers in a variety of different conditions. Since private debt isn't subject to the same regulatory constraints as bigger systemic financial institutions, it can be deployed more quickly.

Private equity firms from North America such as Blackstone Group, KKR, and Oaktree Capital Management have traditionally competed for assets in private debt. However, prominent fund managers from around the world have invested heavily in the asset class in recent years. With investors searching for yield, North America-based private debt AUM is growing, up 28% from $580bn in December 2019 to $740bn in December 2020 (Fig. 20). This is a record-high number and the third-highest percentage jump

Fig. 20: North America-Based Private Debt Assets under Management by Fund Type, 2000 - 2020



Source: Preqin Pro

in AUM over the past 20 years, according to Preqin data. In particular, distressed debt AUM saw a substantial increase from the previous year, reaching a record $238bn.

North America-based private debt dry powder reached an all-time high of $270bn as of June 2021 (Fig. 21). Most notably, direct lending dry powder increased by 18% – up from $95bn in December 2020 – to $112bn in June 2021. In contrast, distressed debt dry powder recorded a 7% decline, from $92bn to $85bn, respectively. Oaktree Opportunities Fund XI, a distressed debt vehicle, is the largest North America-focused private debt fund currently in market, with a massive target size of $15bn (Fig. 26). With ample dry powder at the ready across all strategies, private debt has plenty of potential to grow.

Domestic investors still make up over half of the private debt landscape, representing approximately 65% of all North America-focused investors as of June 2021 (Fig. 23). Direct lending funds continue to dominate private debt fundraising in North America, accounting for 46% of aggregate capital raised so far in 2021 (Fig. 22). Since direct lending is arguably the safest of the private debt strategies, it seems many investors are taking a defensive position. The largest North America-focused direct lending fund in market, Apollo Strategic Origination Partners, is targeting $12bn.

The deal environment in private debt is highly competitive right now. Allocators are therefore only committing capital to managers that can access quality deals. The aggregate value of private debt-backed deals in North America fell from $60bn in 2020 to only $16bn in the first half of 2021. It's therefore unlikely that we'll see a number above $60bn by the end of the year.

That being said, there were more deals in buyout vs. growth capital in 2019, at 194 and 211, respectively, compared with 159 and 219 in 2020. There were 269 private debt-backed deals completed in H1 2021 in North America, with senior debt deals accounting for over 40% of total deals. The quality and number of private debt funds' potential deals will have a substantial influence on the asset class's future performance.

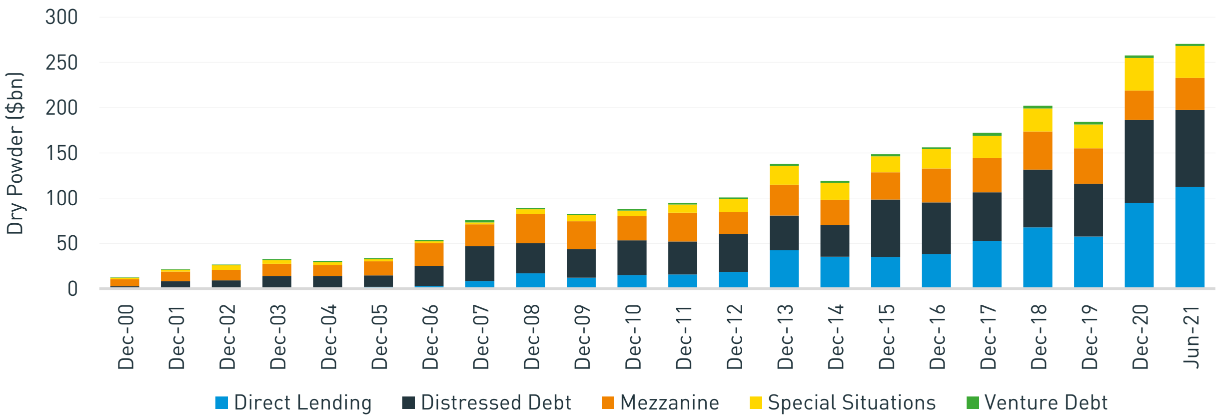
Private Lenders Are Providing Certainty

The way leveraged deals are financed has recently shifted. More private equity funds are turning their backs on traditional bank financing and are instead leaning toward private lenders.[1] While this method means investors will have to allocate more for private credit funding, it provides certainty in a high-volatility environment and so it's increasingly popular.

The growing influence of private credit funds reflects the shift in risk appetite that we've seen across financial markets since the GFC. In recent years,

[1] https://www.ft.com/content/0a67e36e-b42f-42e1-8c17-042108fb014e

Fig. 21: North America-Based Private Debt Dry Powder by Fund Type, 2000 - 2021



Source: Preqin Pro

banks have been pulling back from large, highly leveraged financings – and non-bank competitors have been progressively filling the hole.

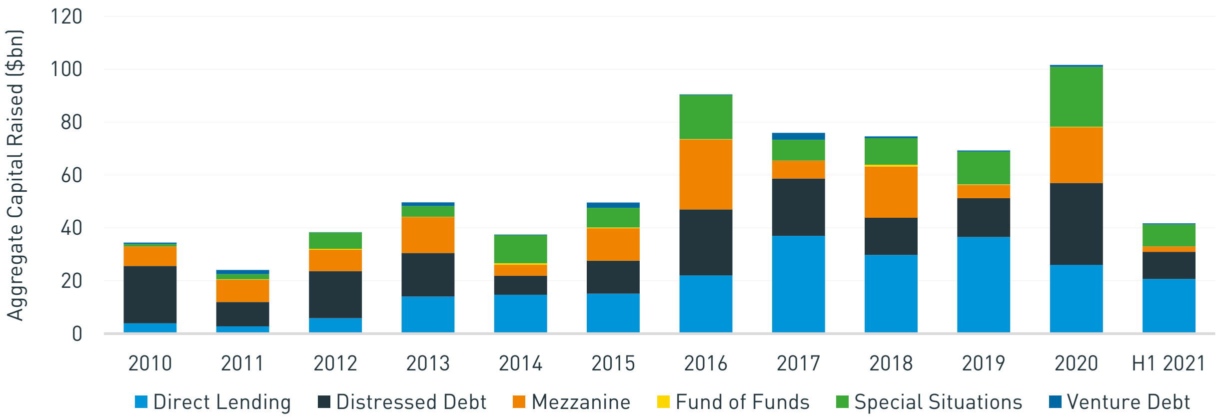
As the Biden administration's stimulus package winds down, struggling businesses may turn to private lenders for help, creating investment opportunities for private debt funds. North America-based funds with a 2021 vintage are currently sitting on $25bn in dry powder, and this number is on track to grow in the second half of the year. Furthermore, an impressive 472 private debt fund managers are currently targeting North America.

Searching for Profit
The search for yield is driving demand for private credit among institutional investors, and particularly pension funds. Indeed, the number of public pension funds actively investing in private credit has doubled since 2015, rising from 226 to 553 in 2021. Public pension funds have become comfortable allocating capital to private debt, although this has resulted in legal challenges for some.

The California Public Employees' Retirement System's (CalPERS) proposal to run its own multibillion-dollar private debt investment program is on hold for the time being. The state's Senate Judiciary Committee rejected a bill that would have allowed the pension system to keep borrowers' highly personal financial information private.[2] This rejection is a significant defeat for the $469bn pension system; to raise financial returns, CalPERS officials were set to allocate $23bn to those in the private debt market looking for loans. CalPERS currently has a private debt program managed by

[2] https://www.ai-cio.com/news/calpers-in-house-private-debt-program-is-dead/?apos=1_art&utm_source=newsletter&utm_medium=email&utm_campaign=CIOAlert

Fig. 22: Aggregate Capital Raised by North America-Focused Private Debt Funds Closed by Fund Type, 2010 - H1 2021



Source: Preqin Pro

Fig. 23: North America-Focused Private Debt Investors by Location, 2015 - 2021

Location	2015	2016	2017	2018	2019	2020	2021
North America	915	1,107	1,301	1,484	1,673	2,138	2,748
Europe	244	252	272	309	346	394	841
Asia	47	78	119	138	155	190	385
Rest of World	30	38	49	63	72	98	160

Source: Preqin Pro

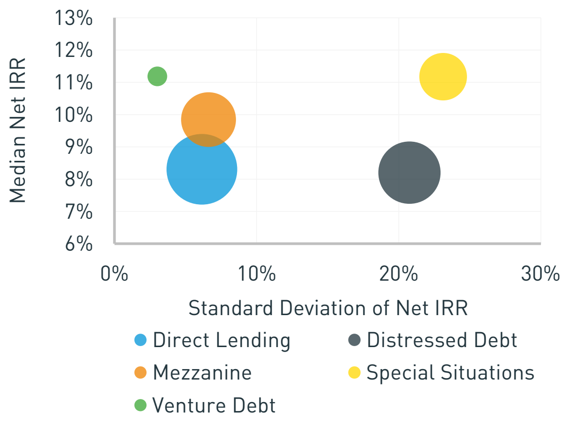
outside managers, and has paid around $450mn into direct lending programs. In November 2020, it made a $4bn investment in private debt funds.

Returns and return dispersion data vary considerably between private debt strategies, as shown in Fig. 24. Characterized by more senior secured debt, direct lending funds tend to be reliable returners. Vintages 2008-2018 generated a median net IRR of 8.3% and a standard deviation of only 6.1%. Mezzanine funds show slightly more return and variance than direct lending, and distressed debt funds are riskier yet. While distressed debt has a lower median net IRR (+8.2%) compared with direct lending over the same period, there's higher variation with a standard deviation of 20.7%.

Returns have been steadily declining as the private debt asset class has matured and competition has increased. The median net IRR remained stable between 2010 and 2017, with competition and asset valuations topping the list of fund managers' worries. However, the median net IRR increased substantially from 8.7% in 2017 to 12.0% in 2018. Private debt may sit in a different area of the capital structure than most other alternatives, but it nevertheless provides investors with the same benefits: diversification, low correlation to other asset classes, and consistent income streams.

As private debt steps into the gap left by traditional banks to supply complicated and higher-risk loans, liquidity in the asset class is set to increase. And as investors chase yield, interest in private debt is likely to rise for the rest of the year.

Fig. 24: Risk/Return of North America-Focused Private Debt by Fund Type (Vintages 2009-2018)



Source: Preqin Pro. Most Up-to-Date Data

Fig. 25: Largest North America-Focused Private Debt Funds Closed in 2020-H1 2021

Fund	Firm	Headquarters	Fund Size ($mn)	Fund Type	Final Close Date
West Street Strategic Solutions I	The Goldman Sachs Group	US	13,800	Distressed Debt	Nov-20
HPS Mezzanine Partners 2019	HPS Investment Partners	US	11,000	Mezzanine	Oct-20
Clearlake Capital Partners VI	Clearlake Capital Group	US	7,000	Special Situations	Apr-20
Broad Street Loan Partners IV	The Goldman Sachs Group	US	4,445	Direct Lending	Mar-21
PIMCO Corporate Opportunities Fund III	PIMCO	US	3,960	Distressed Debt	Jun-21
CVI Credit Value Fund V	CarVal Investors	US	3,583	Distressed Debt	May-21
Ares Special Opportunities Fund	Ares Management	US	3,500	Special Situations	Jun-20
Apollo/Athene Dedicated Investment Program	Apollo Global Management	US	3,200	Special Situations	Apr-20
Bain Capital Distressed & Special Situations 2019	Bain Capital Credit	US	3,200	Distressed Debt	Jun-20
Monarch Capital Partners V	Monarch Alternative Capital	US	3,026	Distressed Debt	Dec-20
Platinum Equity Capital Partners Fund V	Platinum Equity	US	10,000	Buyout	Jan-20

Source: Preqin Pro

Fig. 26: Largest North America-Focused Private Debt Funds in Market

Fund	Firm	Target Size ($mn)	Fund Type	Geographic Focus
Oaktree Opportunities Fund XI	Oaktree Capital Management	15,000	Distressed Debt	North America
Apollo Strategic Origination Partners	Apollo Global Management	12,000	Direct Lending	North America
GSO Capital Opportunities Fund IV	Blackstone Group	7,500	Mezzanine	US
HPS Specialty Loan Fund V	HPS Investment Partners	5,500	Direct Lending	North America
Owl Rock Technology Finance Corp.	Blue Owl Capital	5,000	Direct Lending	US
Ares Private Credit Solutions II	Ares Management	4,000	Direct Lending	North America
Centerbridge Special Credit Partners IV	Centerbridge Partners	4,000	Distressed Debt	North America
Crescent Credit Solutions VIII	Crescent Capital Group	4,000	Mezzanine	US
Carlyle Credit Opportunities Fund II	Carlyle Group	3,500	Direct Lending	North America
Cerberus Institutional Partners VII	Cerberus Capital Management	3,000	Special Situations	North America
NB Private Debt Fund IV	Neuberger Berman	3,000	Direct Lending	North America
Owl Rock Capital Corporation III	Blue Owl Capital	3,000	Direct Lending	US

Source: Preqin Pro. Data as of July 2021

Fig. 27: Largest Fund Managers by Total Capital Raised for North America-Focused Private Debt Funds since 2016

Firm	Headquarters	Total Capital Raised ($bn)
The Goldman Sachs Group	New York, US	38.4
Oaktree Capital Management	Los Angeles, US	28.4
HPS Investment Partners	New York, US	24.1
Blackstone Group	New York, US	22.3
Apollo Global Management	New York, US	14.0
Clearlake Capital Group	Santa Monica, US	12.5
Ares Management	Los Angeles, US	12.4
Blue Owl Capital	New York, US	12.4
3G Capital	New York, US	10.0
Cerberus Capital Management	New York, US	9.7

Source: Preqin Pro

Fig. 28: Most Consistent Top Performing North America-Focused Private Debt Fund Managers (All Vintages)*

Firm	Headquarters	Overall No. of Funds with Quartile Ranking	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Average Quartile Ranking
GoldenTree Asset Management	US	4	4	0	1.00
Merion	US	3	3	0	1.00
HoldCo Asset Management	US	5	4	1	1.20
Partners for Growth	US	5	4	1	1.20
Monarch Alternative Capital	US	4	3	1	1.25
Cerberus Capital Management	US	12	9	2	1.33
Caltius Capital Management	US	3	2	1	1.33
Patriot Capital	US	3	2	1	1.33
Veronis Suhler Stevenson	US	3	2	1	1.33
Clearlake Capital Group	US	5	3	2	1.40

Source: Preqin Pro

*The most consistent top performing fund manager table is based on the average quartile ranking of a manager's funds. The entire pool of private debt funds is ranked within each vintage year according to its net IRR. The funds are given a score based on their quartile: 1 for top-quartile funds, 2 for second-quartile funds, and so on. This is the fund's 'quartile ranking.'

A manager's average quartile ranking is the average of all of the funds' quartile scores, with a minimum of three funds required in order to appear in the table. The average quartile rankings can vary from 1.00, for a fund manager with only top-quartile funds, to 4.00 for a fund manager with only bottom-quartile funds.

Rise in Capital Consolidation and Infrastructure Allocation

As US public pension funds commit more capital to fewer private equity funds, infrastructure allocations may get a boost amid recent tailwinds

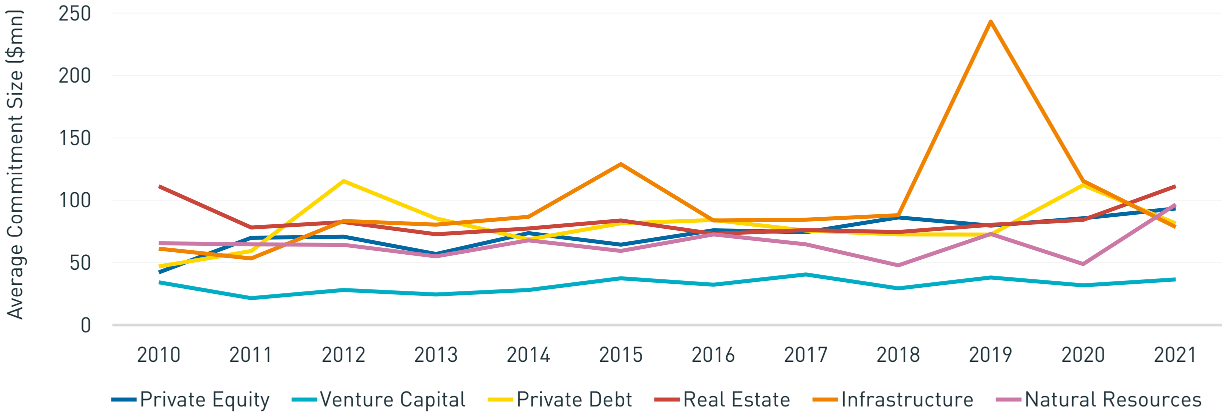
You don't need to look beyond the daily financial news to notice the outsized influence of US public pension funds on financial markets. The size of their holdings can change the direction of public companies, as evidenced by the crucial support that pensions including CalPERS, CalSTRS, and New York State Common Retirement Fund gave to activist hedge fund Engine No. 1 in its campaign to shake up Exxon Mobil's board. In the private markets, too, public pension funds enjoy impressive sway – they are, after all, the largest allocators to private equity funds.

In dollar terms, the five largest US public pension funds investing in private equity collectively allocate $165bn to the asset class. This is more than the dollar amount allocated by the five largest private equity investors among US endowments, foundations, insurance companies, and private pensions combined ($144bn), according to Preqin Pro.

More Is Less...

Public pension funds are often considered standard-bearers for LP appetite for private funds, with their large commitments and the public documentation of their portfolio investments. It's therefore no surprise that US public pensions have led the capital consolidation trend in private equity. According to Preqin data, the average amount that public pensions commit to private equity funds has more than doubled since 2010 (Fig. 29). For vintage 2010 funds, they committed an average of $42mn per fund, but that number gradually climbed to $86mn for vintage

Fig. 29: US Public Pension Funds' Average Commitment Size by Asset Class, 2010 - 2021



Source: Preqin Pro

2020 funds, reaching $93mn for commitments to vintage 2021 private equity vehicles.

At first glance, this trend can be attributed to pensions' overall increase in private equity allocations during the period. From 2015 to 2021, both median current and target allocations to private equity increased by two percentage points – a significant sum in dollar terms (Fig. 30). The main reason why pension funds have increased their ticket sizes, however, is to consolidate their investments and commit more capital across fewer funds.

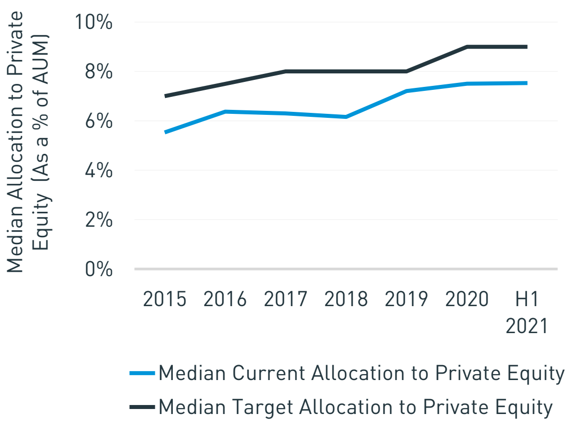
...and Less Is More
With these larger commitments, pension funds can better leverage their positions and negotiate more favorable fees and fund terms – as the not-yet-active Police and Firemen's Retirement System of New Jersey plans to do. Larger commitments also allow allocators to double down on managers whose past funds have performed well, and ensure access to better deal flow through their fund investments in an increasingly competitive market.

Using fewer fund managers brings the added benefit of simpler and more streamlined portfolios. As one pension fund portfolio manager related to Preqin's Investor Research team, it also enables them to build trust and develop long-lasting relationships. LPs looking to co-invest may also pursue this strategy

We have seen changes in the market over the past 15 months that have left new managers in a more difficult position to fundraise compared to their more established peers. Facing uncertainty, investors have gravitated toward existing manager relationships or new relationships with well-known firms at a rate that exceeds that of the pre-pandemic world. This has meant that established managers have the opportunity to soak up more capital, raise bigger funds, and move into new strategies, while newer managers, with certain notable exceptions, face longer fundraising cycles and lower first closes.

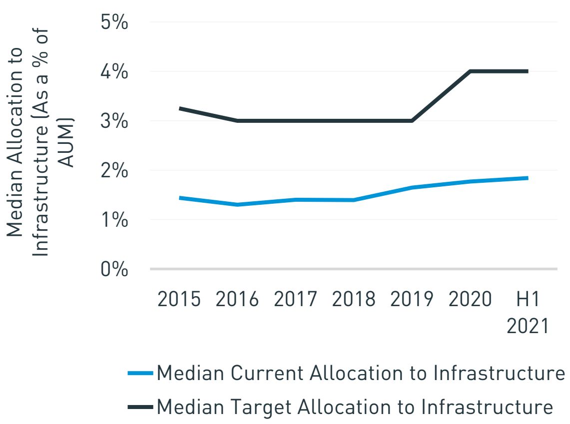
Greg Durst
Managing Director,
Corporate Development & Engagement
ILPA

Fig. 30: US Public Pension Funds' Median Current and Target Allocations to Private Equity, 2015 - H1 2021



Source: Preqin Pro

Fig. 31: US Public Pension Funds' Median Current and Target Allocations to Infrastructure, 2015 - H1 2021



Source: Preqin Pro

to secure more opportunities to do so alongside managers in their portfolio. The downside of committing more capital to fewer funds, however, is that pension funds may be adding additional risk into their portfolios by forgoing diversification.

With LPs electing to commit to larger and more experienced fund managers, emerging managers, first-time funds, and smaller private equity shops will likely find it more difficult to secure commitments from public pension funds. This trend has kept the largest investment firms growing, and increased the prevalence of mega funds among private equity managers.

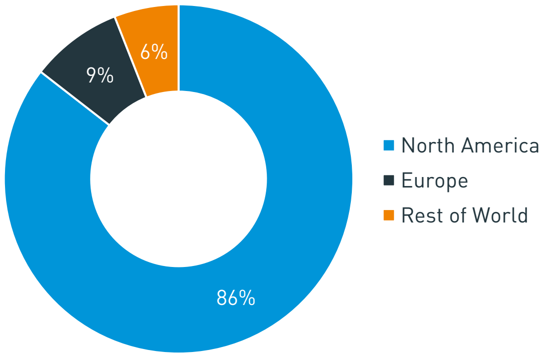
The Infrastructure of a Pension Fund Investment Portfolio

While the average size of public pension funds' commitments to private equity funds has risen gradually since 2010, growth in the average commitment to infrastructure funds has been less consistent. Unlisted infrastructure funds have attracted increasing interest from LPs, but this has only resulted in a slight uptick in allocations since 2015 (Fig. 31).

This is expected to change in the near term, as pension funds – and other institutional investors – look to infrastructure assets as income-generating investments with stable cash flows and a risk/return profile similar to investment-grade fixed-income products. Investors may also turn to the asset class as an alternative to bonds while interest rates remain low enough, and for protection as inflation rises.[1]

US public pension funds have historically committed a smaller proportion (82%) of their infrastructure portfolio to North America-focused funds than to other North America-focused real assets (86% of real estate funds and 96% of natural resources funds, according to Preqin Pro). This may change on the heels of proposed infrastructure bills, which aim to incentivize investment across economic and social infrastructure industries in the US.

Fig. 32: Geographic Focus of Real Estate Funds Committed by US-Based Investors

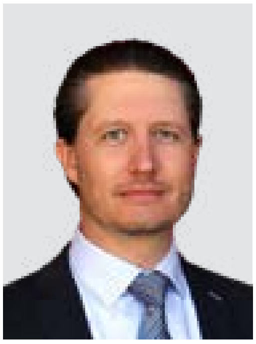


Source: Preqin Pro

[1] https://www.pionline.com/industry-voices/commentary-pension-funds-can-launch-new-infrastructure-era

Why Carbon Capture and Storage Infrastructure Offers a Path to Net Zero

Government policies to lower carbon emissions have made investment in CCS technology a lucrative business. Preqin spoke with Dave Moyes and Craig Golinowski of Carbon Infrastructure Partners to find out more about investment opportunities across the carbon cycle



Dave Moyes
Partner
Carbon Infrastructure Partners

Craig Golinowski
President and Managing Partner
Carbon Infrastructure Partners

Why has carbon capture and storage (CCS) recently hit the headlines?
A paradigm shift by the US and Canadian Governments has incentivized the capture and storage of carbon, a technology we believe is necessary to scale the generation of affordable and reliable clean energy products. As such, these policies have created economically attractive business opportunities and sent clear and strong price signals that have activated the CCS industry. Our strategy looks to invests across the carbon lifecycle, from hydrocarbon production through to carbon capture and storage.

Is CCS technology new, and what will drive investment returns?
CCS is a proven commercial technology, but the industry growing around it is driven by the opportunities created by new policies and the resulting carbon prices. The introduction of carbon prices in North America, mostly in the form of the 45Q federal tax credit and California's Low Carbon Fuel Standard (LCFS), drive our CCS investment mandate: we believe these prices will drive innovation to meet low-carbon standards in the energy industry. As societal demand for lower-emission energy grows, we expect the CCS industry to progress concurrently.

How much of an impact can CCS have?
There are three key parts to understanding the impact from CCS: 1) it's measurable – CCS is a precise measurement of how many tons of CO_2 have been sequestered; 2) it's permanent – sequestering CO_2 is a permanent storage solution; and 3) it's verified by government agencies – the US Environmental Protection Agency provides a robust regulatory framework, and the Internal Revenue Service verifies the tons stored to claim tax credits.

With regards to job creation, a recent Rhodium Group analysis states that carbon capture deployment at industrial facilities and power plants in 21 US states – plus the build-out of associated CO_2 transport infrastructure – can support an annual average of up to 68,000 project jobs and 35,800 ongoing operational jobs over a 15-year period, while capturing and managing 592 million metric tons of CO_2 per year.

How does CCS fit in to goals to reach net zero by 2050?
'Net zero' means that all greenhouse gas (GHG) emissions into the atmosphere are balanced in equal measure by GHGs that are removed from the atmosphere, either through carbon sinks or CCS. In other words, we can avoid emissions and we can remove emissions.

Electricity and hydrogen as energy carriers provide the means for avoiding emissions. A reliable and affordable supply of low- to zero-emission electricity and hydrogen needs to be consistently available, no matter the level and urgency of demand. CCS enables these energy products to exist.

Why does this matter to investors?
As capital allocators, investors can drive significant environmental change by investing in CCS.

Investors with net zero goals can also generate risk-adjusted returns and participate in high-growth, zero-emission energy products, such as hydrogen. CCS can unlock opportunities in companies and infrastructure that specialize in emissions management for a variety of industries.

Importantly, for institutional investors that have been facing restrictions and divestitures from investing in the oil & gas sector, CCS provides a viable and attractive new mandate that solves their current underweight energy and real assets conundrum.

Dave Moyes has 12 years of experience in financial services and private equity fund management. He joined **Carbon Infrastructure Partners (CIP)** in August 2020, and is a Partner where his primary responsibilities are deal sourcing and evaluation, portfolio monitoring, and fund management. David has an MSc in Business Management from the Stanford Graduate School of Business, as well as a BSc in Finance and a BSc in Information Systems from the University of Utah.

Craig Golinowski has 18 years of experience in the financial and oil & gas industries and has been active in private equity fund management since 2007, when he joined JOG Capital, now CIP. His primary responsibilities include deal sourcing and investment decision-making, as well as running CIP. Craig received his CFA charter in 2005 and holds an MBA from the University of Western Ontario and a Bachelor of Commerce degree, with a specialization in Finance and Economics, from the University of Alberta.

Investors: AFPs' Growing Appetite for International Private Equity

Despite near-term setbacks, Latin America's private pension fund system is likely to prove a growing source of capital for international GPs

The institutional investor landscape in Latin America is dominated by large private sector pension funds. Appetite for international private equity exposure has been accelerating and managers such as KKR, Blackstone Group, and Lexington Partners have been attracting allocations from them via local placement agents. Although recent events have largely put fresh allocations on hold for the time being, long-term appetite is likely to increase given the structure of the system.

Pension Fund Reform and Economic Stability

Latin American countries were some of the earliest adopters of defined contribution (DC) private pension fund systems in the world. Under the Pinochet Government, from 1973 to 1990, Chile underwent a free-market economic reform process, according to a blueprint drawn up by the Chicago School of Economics. A key pillar of that reform involved the implementation of a DC private pension fund system in 1981, which mandated that salaried employees in the country contributed at least 10% of their earnings into a scheme. Savers were then given a choice to invest their savings in one of several pension fund administrators, or Administradoras de Fondos de Pensiones (AFPs).

Pension reform helped pull the Chilean economy out of a dire state. The workforce moved from a public to private scheme, significantly lowering the level of pension liabilities tied to the state balance sheet. This reduced the fiscal burden on the state while providing a captive supply of domestic investment capital to fund rapid economic growth. After a painful period of economic adjustment, the subsequent transformation of the economy was so radical that Milton Friedman later hailed it as the 'Miracle of Chile.' In some ways the process mirrored, and coincided with, Thatcherism in the UK – particularly in its divisiveness. The Chilean economy grew at a 4.52% CAGR in real terms between 1980 and 2000[1], and has since been considered the bedrock of economic and political stability in the region.

The success of the Chilean system prompted other countries to follow suit. Peru adopted a similar system in 1992[2], followed by Colombia in 1994[3], and Mexico in 2007. Preqin data shows that private sector pension funds in these four markets now account for over $500bn in total assets. These assets will continue to grow, especially in Mexico, with its large working-age population and favorable demographics.

Pensions Are Already Highly Active Overseas

AFPs in these four key markets – named AFORES in Mexico – have been actively investing large allocations in international public markets for more than a decade. The early adoption of DC pension funds has ensured that the vast majority of assets are unshackled from the local currency's financial

[1] https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=CL
[2] https://www.oecd-ilibrary.org/sites/a62a1bc2-en/index.html?itemId=/content/component/a62a1bc2-en
[3] https://www.imf.org/external/pubs/ft/wp/wp98158.pdf

liabilities. On the global stage, DC pension assets rose from 30% of total pension assets in 1998 to 50% in 2018; defined benefit assets still dominate in large pension markets such as Japan (95%), Canada (95%), and the Netherlands (94%).[4] Latin American pension funds are relatively free to pursue higher risk-adjusted returns regardless of asset class or geography; although they're subject to regulatory limits, regulators appear open to facilitating higher allocations when needed.

AFPs have an added incentive to invest offshore: their relatively shallow domestic public equity markets. The dominance of tightly held, family-controlled companies in Chile, Peru, and Colombia in particular has limited the free float available in public equity markets. The AFPs' extensive experience in international markets will help facilitate larger deployments into global private equity funds in the future.

Investments in alternative assets are a recent phenomenon for this investor type. Many AFPs have been bolstering their investment teams and expertise in alternative assets, which suggests higher allocations are coming. Allocators are also targeting higher returns to help alleviate the underfunding challenge faced by some savers.

Under these circumstances, we expect allocations to international private equity and other alternative assets to move materially higher over time. Preqin's conversations with pension funds in the region suggest allocations to alternatives could reach at least 25% in the medium to long term. This compares with single-digit percentage allocations today.

Until now, AFPs have favored large buyout funds from established GPs in North America and Europe, but interest in mid-market managers has also started to pick up. That said, recent events have put the brakes on this trend, at least for the time being.

[4] https://www.willistowerswatson.com/en-CM/News/2019/02/global-dc-pension-assets-exceed-db-assets-for-the-first-time

Fig. 33: Private Sector Pension Funds in Latin America (Excl. Brazil)

Investor	Location	AUM ($mn)	Allocation to Alternatives (As a % of AUM)	Allocation to Private Equity (As a % of AUM)
AFP Habitat	Chile	57,000	2.2	1.8
Afore XXI Banorte	Mexico	51,213	9.2	2.3
Porvenir	Colombia	42,556	17.0	14.0
AFP Provida	Chile	41,000	6.0	3.0
Afore Banamex	Mexico	40,229	14.0	7.4
Afore Profuturo	Mexico	38,257	7.8	2.0
Cuprum	Chile	38,000	6.0	4.5
Afore Sura	Mexico	36,939	12.0	7.0
AFP Capital	Chile	35,000	5.8	4.1
Protección	Colombia	33,870	8.0	6.1
Afore Coppel	Mexico	18,053	5.0	1.7
Afore Principal	Mexico	15,000	7.0	2.8
AFP Integra	Peru	14,500	14.7	10.4
Colfondos	Colombia	13,400	12.0	7.5
Profuturo AFP	Peru	10,336	8.0	4.0
AFP Modelo	Chile	10,000	2.0	1.2
Skandia Colombia	Colombia	7,400	9.0	7.0

Source: Preqin Pro

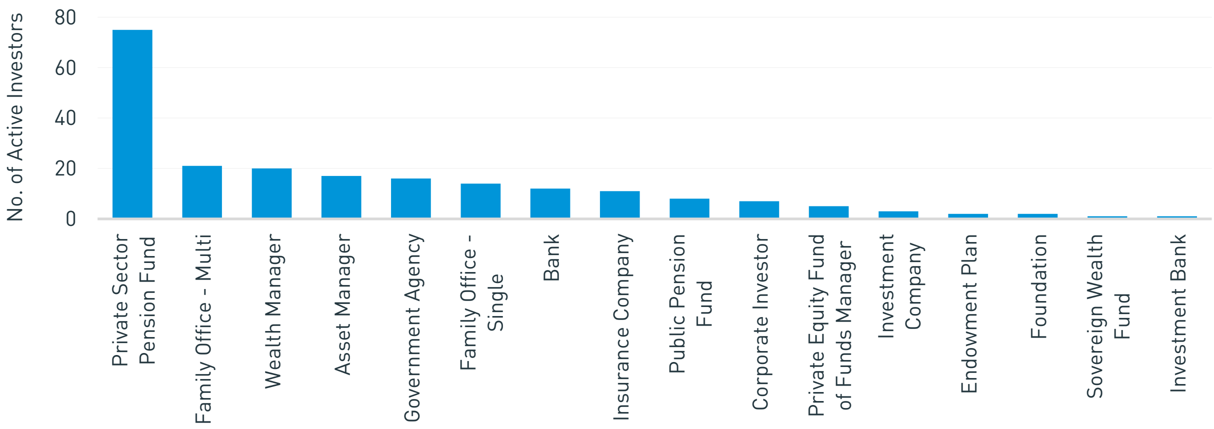
Protests Call for Pension Fund Reform

Prior to the outbreak of COVID-19, much of Latin America was rocked by severe protests. In Chile, an increase in subway fares became the final straw for a population feeling the effects of economic inequality and a deeply entrenched lack of social mobility. Public anger was directed toward the pension fund system and an overhaul was called for. Once again, the precedent set in Chile could have ramifications across the region.

Despite the successes of the AFP system in Latin America, many savers have been left with lower-than-expected retirement pay-outs. This is exacerbated by the fact that most savers have declined to top up voluntary contributions to the scheme over and above the minimum 10% payment, and further compounded by the prevalence of seasonal and informal work, as well as a generally low level of financial literacy. To help alleviate this issue, recent measures will increase contributions into the AFP system in Chile via government and employer contributions, considerably boosting the long-term growth of assets within the system.

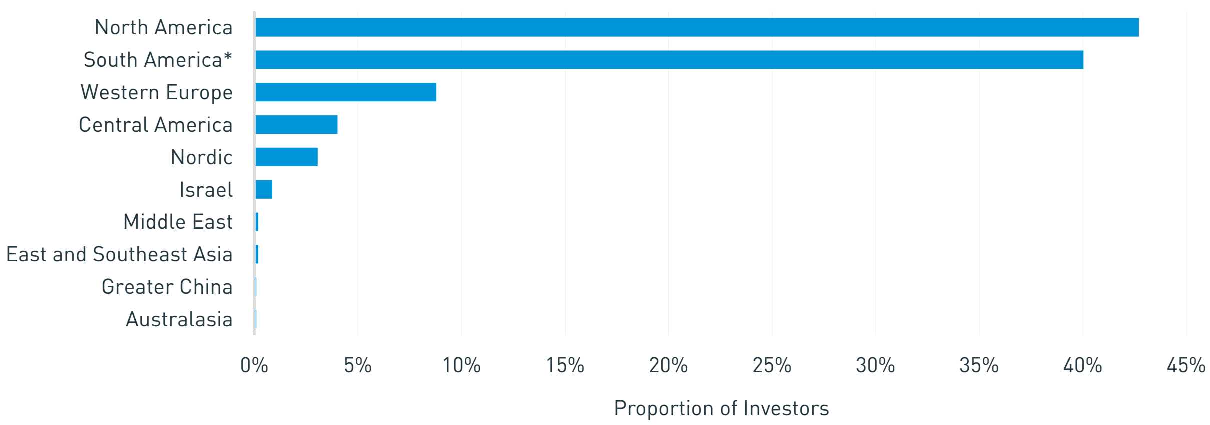
Tensions calmed in Chile when the prospect of a new constitution – to replace the document written under Pinochet's military dictatorship – was put

Fig. 34: Active Latin America-Based Investors in Private Equity by Type



Source: Preqin Pro. Data as of August 2021

Fig. 35: Investors Interested in Latin American Private Capital Funds by Location (Vintages 2001-2021)



Source: Preqin Pro

*Includes the Caribbean.

on the table. The new constitution, which would potentially allow populist demands for a return to a state-run pension fund system to be realized, could have considerable implications for the way assets are managed. The Chilean national plebiscite was held in October 2020 and an overwhelming majority of 78% voted to draft a new constitution. An additional vote will be held in 2022; if Chile's trendsetting habit prevails, then any changes have the potential to reverberate through Latin America.

Pandemic Prompts Early Withdrawal of Pension Fund Assets

Capital outflows in Chile and Peru are another reason why fresh private equity allocations may be put on hold for now. In response to the economic fallout of COVID-19, the Chilean Government allowed savers to redeem 10% of their pension fund savings on three separate occasions.[5] Peru has also allowed two similar early withdrawals from the pension fund system. The government enacted a law in November 2020 to allow savers who have not recently been working to withdraw up to 17,200 soles ($4,765). This followed an earlier move in April 2020 to allow withdrawals of up to 25%, although limited to 12,900 soles ($3,573).

Many are concerned that this has set an uncomfortable precedent for the region, and could allow for further redemptions in the future. Pension

[5] http://www.fiapinternacional.org/wp-content/uploads/2021/02/Pension_Note_No51_Withdrawal_pension_funds_Feb2021.pdf

Fig. 36: Prominent Latin American Placement Agents Servicing Private Capital Funds

Firm	Known No. of Private Capital Funds Serviced	Known Aggregate Capital Raised for Private Capital Funds in Past 10 Years ($mn)	Key Relationships with GPs	Headquarters
Compass Group	50	8,139*	Blackstone Group, Cinven, Fortress Investment Group, Lexington Partners, PIMCO, Vista Equity Partners	Santiago, Chile
PICTON	61	6,460*	American Securities Partners, Ares, EQT, Goldman Sachs, Hamilton Lane, KKR, Permira, TPG, Warburg Pincus	Santiago, Chile
HMC Itajubá	52	6,185*	CarVal Investors, Clayon Dubilier & Rice, Coller Capital, Cortland, Hg, IK Investment Partners, Insight Partners, KKR (Brazil), Oaktree Capital Management, Pearl Diver Capital	Santiago, Chile
LarrainVial	83	5,962*	Altamar Capital Partners, Antin Infrastructure Partners, Apollo Global Management, Baring Private Equity Asia, Court Square, Global Infrastructure Partners (GIP), Golub Capital, HarbourVest Partners, InfraVia Capital Partners, Landmark Partners, Marathon Asset Management, PAI Partners, Thomas H Lee Partners	Santiago, Chile
ROAM Capital	33	4,353*	General Atlantic, Greenspring Associates, Harrison Street Real Estate Capital, Oak Hill Capital Partners, RCP Advisors, Starwood Capital Group	Bogotá, Colombia

Source: Preqin Pro & direct communication

*Denotes a self-reported metric obtained directly from the placement agent. Includes closed-ended private capital vehicles only.

fund managers may be inclined to reduce their target allocations for fear of being over-exposed should further early withdrawals happen. Nevertheless, allocations still have plenty of headroom before reaching current regulatory limits.

AFPs Have a Strong Appetite for Risk

Given the absence of an explicit benchmark for pension funds to track, AFPs are monitored against the performance of their peers. Pension fund administrators can be heavily fined for underperforming against the peer benchmark. This creates a herd mentality, with investment allocations often being matched closely to minimize the tracking error between peers.

While regulatory limits on asset class allocations determine the overall level of risk in pension fund portfolios, within that framework, AFP investment teams tend to maximize risk in order to bolster expected returns. For instance, within the international fixed-income asset class, Chilean pension funds invest proportionately more in emerging markets and high-yield debt than in investment-grade debt. This bodes well for private equity, given its high risk and high expected return profile.

Brazilian Social Security Bill to Help Fiscal Stability

As the largest economy in the region, Brazil has a sizable pension fund system of its own; however, it has not reformed along the same lines as the AFP system in neighboring countries. International private equity exposure is minimal, due to regulatory limits, and is unlikely to change soon, given the government's reluctance to allow scarce capital to flow offshore.

Nevertheless, recent changes do promise to materially improve Brazil's fiscal stability going forward. President Jair Bolsonaro's government managed to pass pension reform in October 2019 through the Senate, following decades of failed attempts from prior governments. The bill promises to reduce the fiscal burden on the state by $195bn over 10 years.[6] While this is certainly a very positive development for Brazil's fiscal stability, changes will be made over a period of 12-14 years, so the benefit will be gradual.

[6] https://www.bbc.co.uk/news/world-latin-america-50151327

A Ray of Light for North American Real Estate

Despite the challenges posed by the pandemic, real estate activity is slowly recovering

The North American real estate market experienced a mixed H1 2021. While AUM pushed higher, reaching $778bn as of the end of 2020 (up from $710bn at the end of 2019, Fig. 37), fundraising has been poor. In fact, 2020 was the weakest year for North America-focused fundraising since 2017 (Fig. 41). And at the midpoint of 2021, funds have secured just 43% of 2020's already feeble total.

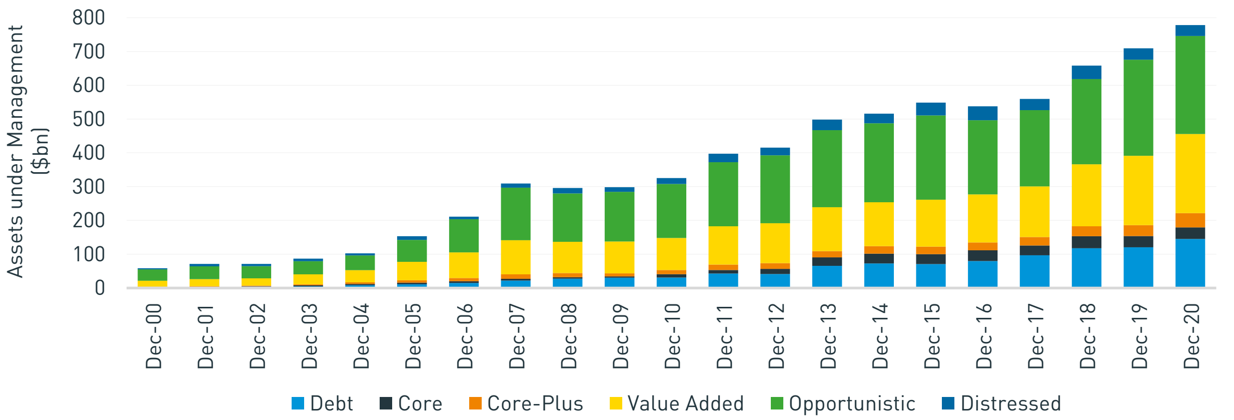
Real Estate's Fundraising Woes

Fundraising peaked during 2019, as measured by aggregate capital raised, when the real estate market was several years into its post-GFC cycle. At that point, the rising tide was floating almost all boats, and the global investor base was keen to target markets where growth was strongest. As a result, managers secured $121bn in 2019, with opportunistic strategies the most successful, attracting $57bn of that total. Fast-forward to 2021 and only $36bn was raised in H1. Value added was the most attractive strategy for investors, but secured just 34% of 2020's total in the first half of the year.

The one bright spot for North America-focused fundraising has been distressed funds. In anticipation of a rise in distressed opportunities, investors committed $5.9bn during H1 2021, up from just $0.1bn throughout the whole of 2020. Distressed funds have been largely off investors' radar in recent years, as the market cycle left limited options to deploy at scale. Despite the boost in fundraising, distressed opportunities have been in short supply this year, and dry powder for the strategy has increased since the end of 2020.

This is the case in spite of the pandemic – and is likely to remain so for the foreseeable future, outside of specific assets within the retail, hotel, and office

Fig. 37: North America-Based Private Real Estate Assets under Management by Primary Strategy, 2000 - 2020



Source: Preqin Pro

sectors. Extraordinary government and central bank stimulus, and a lack of large-scale valuation falls across geographies and sectors as we saw during the GFC, mean distressed strategies could continue to struggle. Interestingly, debt funds of 2017 vintage hold significant levels of dry powder; clearly some managers have been selective in their lending strategies for some time.

No Dry Spell for Dry Powder

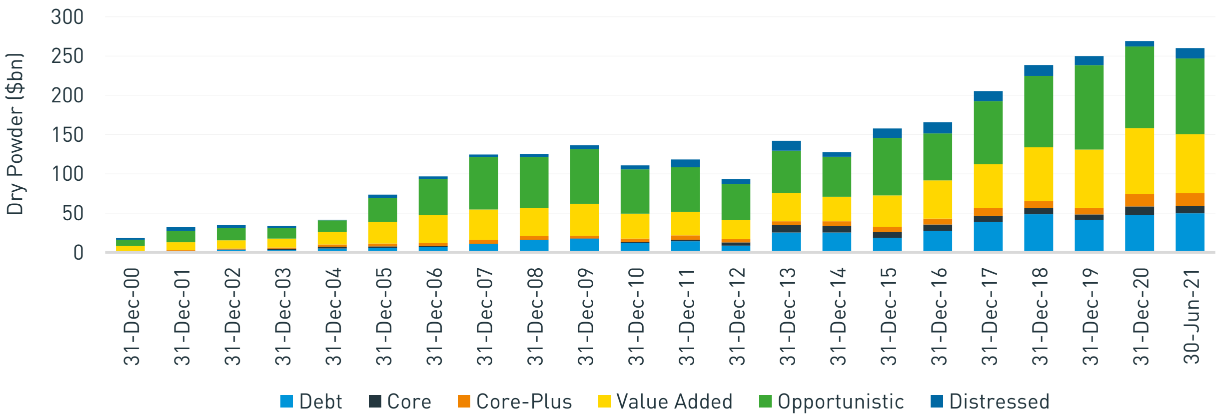
Managers have had little difficulty in deploying capital across other strategies, with dry powder decreasing in all other strategies apart from debt (Fig. 38). The largest decline was seen in funds targeting core investments (down 13% to $9.7bn as of June 2021), as many investors and managers sought to gain exposure to high-quality assets with solid income streams. Dry powder levels fell in value added (-10%) and opportunistic (-7%) strategies between the end of 2020 and the end of June 2021. This suggests that opportunities remain attractive higher up the risk curve.

Dealing with it

The diverse nature of the manager and investor community, both within and targeting North America, means there will always be broad dispersion in both risk appetite and sector preferences. It's this size and spread of the market that creates the liquidity on which it thrives.

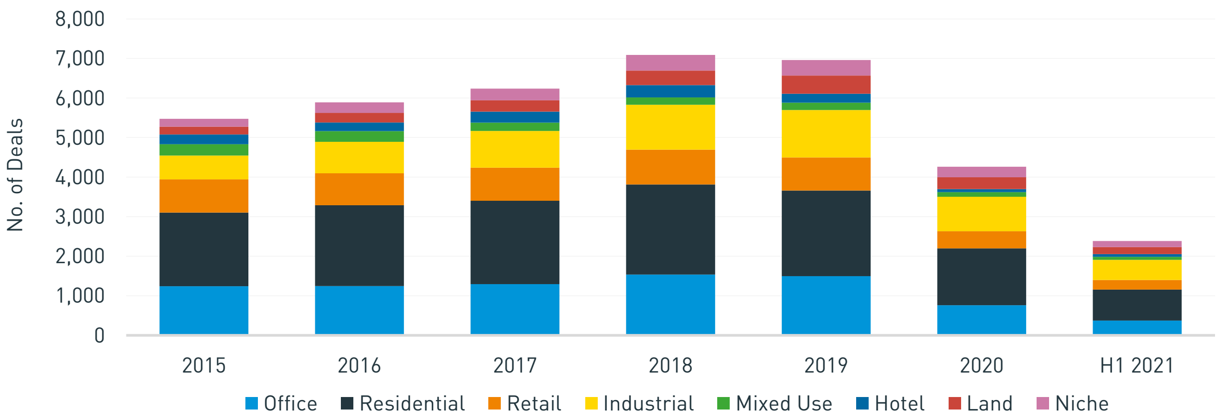
The shifting preferences and trends in the real estate asset class can be seen in the deals data. Whereas in previous years office properties accounted for the

Fig. 38: North America-Based Private Real Estate Dry Powder by Primary Strategy, 2000 - 2021



Source: Preqin Pro

Fig. 39: Number of PERE Deals in North America by Property Type, 2015 - H1 2021



Source: Preqin Pro

greatest proportion of deal activity, as measured by aggregate deal values, there has been a shift away from this sector through 2020 and into 2021 (Fig. 39). This may change as we move into 2022.

The vaccine roll-out has progressed across the US. As of mid-July, the Center for Disease Control and Prevention reported that 56.4% of the US population had received at least one dose of the vaccine, while 48.8% were fully vaccinated.[1] For many people, this is likely to encourage them to gently return to previously normal activities, such as commuting to the office. This will be positive for future occupier demand, regardless of whether employees return to the office full time or adopt hybrid working. Despite this potential boon for the sector, there will likely be significant polarization between markets and assets, with only the best-quality or best-located assets in demand.

The Acceptable Face of Agism

Building age is likely to be increasingly important. To enable new ways of working, office space will need built-in flexibility, configurable spaces, high-tech facilities, and energy efficiency. Post-pandemic, there are signs this is already occurring. According to JLL data[2], buildings completed since 2015 have experienced net occupancy gains of almost 32 million square feet. In comparison, all other buildings experienced occupancy losses of more than 174 million square feet over the same period. Newly built or refurbished assets are likely to command a significant pricing premium as a result. It's this part of the office market that's likely to see the most competition among managers and investors in future. These trends are also likely to spur significant activity in the value added space, as older assets are repositioned and leased.

Industrial-Level Demand

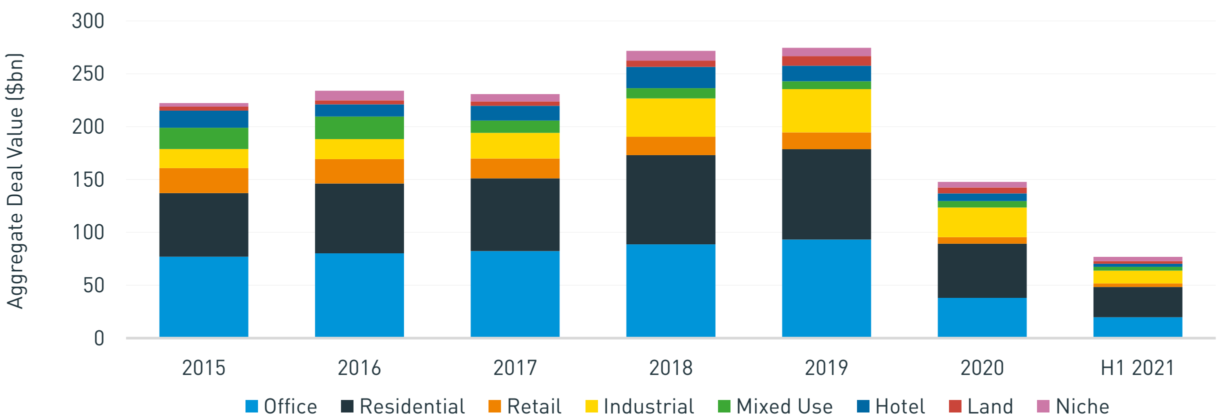
Last year, industrial deals recorded their peak market share, as measured by aggregate deal value (19%, Fig. 40). But so far in 2021, the sector's share of deal value has been in decline (-16%). Rising valuations may be putting many investors off pursuing deals, while others may be gaining exposure from either speculative or build-to-suit developments – which would therefore not be included in Preqin deals data. Occupier demand for industrial assets doesn't appear to be falling; in fact, demand is spreading to growth markets outside traditional population hubs. Those investors delivering development schemes into this market will be unlikely to hold vacant assets for long, given the scale of demand.

In contrast, residential and niche property sectors have seen their share of deal value accelerate in recent years. Across niche assets in particular, exposure to non-cyclical growth drivers has been instrumental in attracting investor interest. While the pandemic may have slowed growth in some areas, it continued unabated in others.

[1] https://www.nytimes.com/interactive/2020/us/covid-19-vaccine-doses.html

[2] https://www.us.jll.com/content/dam/jll-com/documents/pdf/research/jll-us-office-outlook-q2-2021.pdf

Fig. 40: Aggregate Value of PERE Deals in North America by Property Type, 2015 - H1 2021



Source: Preqin Pro

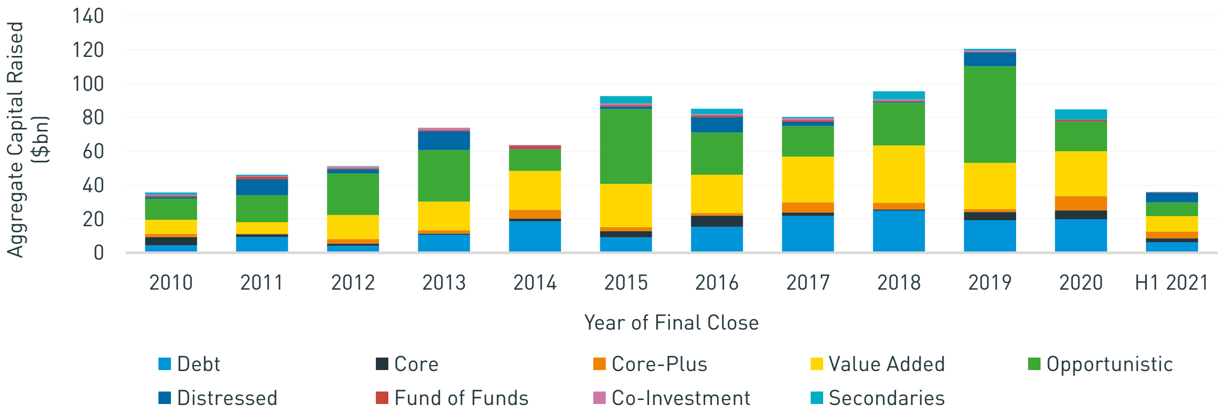
Senior housing and student housing were the most active segments of the niche market in 2020, which has continued into 2021. Preqin recently published a primer on Investing in the Elderly[3], which finds that real estate is a key component of the investment options targeting this untapped part of the market.

Facilities for aged tenants will remain important far into the future, as the baby-boomer generation ages into retirement and benefits from an extended lifespan. While demand varies across geographies, the long-term trend is clear. Retirement and senior housing in its many guises is a well-developed sector in the US in particular, and there are several managers, including Franklin Templeton, Fidelity Investments, and CBRE Global Investors, targeting this market, according to Preqin Pro.

Despite the challenges the real estate asset class has faced in North America since the outbreak of COVID, the outlook appears more positive. Deals data points to a recovery on the horizon, and as dry powder continues to be deployed, investors could have the confidence to allocate additional capital. The US is arguably further along in its economic recovery than many countries, which can only be positive for underlying occupier demand and the long-term health of the asset class.

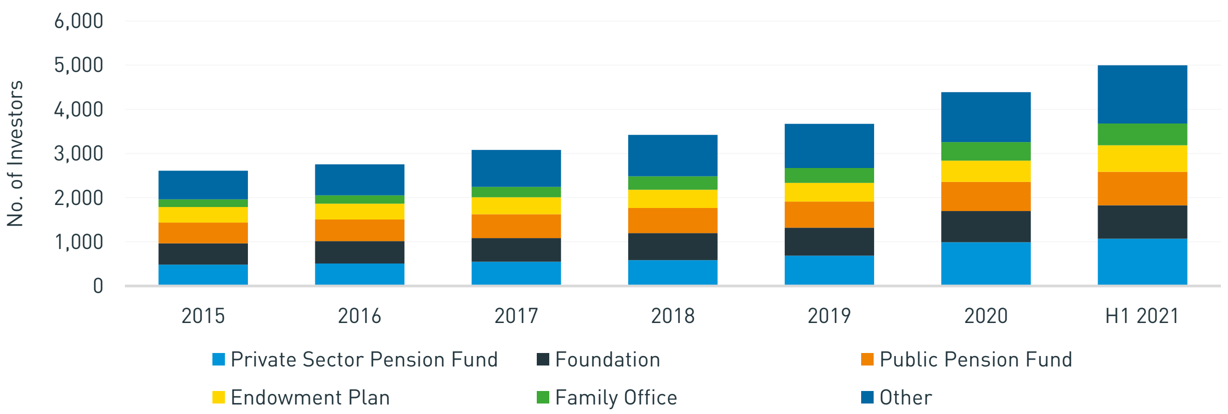
[3] https://www.preqin.com/insights/research/blogs/investing-in-the-elderly-a-primer

Fig. 41: Aggregate Capital Raised by North America-Focused Private Real Estate Funds Closed by Strategy, 2010 - H1 2021



Source: Preqin Pro

Fig. 42: Investors in North American Real Estate by Type, 2015 - H1 2021



Source: Preqin Pro

Fig. 43: Largest North America-Focused Private Real Estate Funds Closed in 2020-H1 2021

Fund	Firm	Headquarters	Fund Size ($mn)	Fund Type	Final Close Date
Blackstone Real Estate Debt Strategies IV	Blackstone Group	US	8,000	Debt	Sep-20
Oaktree Real Estate Opportunities Fund VIII	Oaktree Capital Management	US	4,700	Distressed	Mar-21
Rockpoint Real Estate Fund VI	Rockpoint Group	US	3,819	Opportunistic	Jun-20
IPI Data Center Partners Fund II	IPI Data Center Partners Management	US	3,800	Core-Plus	Mar-21
Cerberus Institutional Real Estate Partners V	Cerberus Capital Management	US	2,800	Debt	Mar-21
Vintage Real Estate Partners II	Goldman Sachs AIMS Group	US	2,750	Secondaries	May-20
Sculptor Real Estate Fund IV	Sculptor Capital Management	US	2,600	Opportunistic	Jun-20
Westbrook Real Estate Fund XI	Westbrook Partners	US	2,538	Value Added	Feb-20
Oak Street Real Estate Capital Fund V	Oak Street Real Estate Capital	US	2,500	Core-Plus	Mar-20
DivcoWest Fund VI	DivcoWest	US	2,250	Value Added	Sep-20

Source: Preqin Pro

Fig. 44: Largest North America-Focused Private Real Estate Funds in Market

Fund	Firm	Headquarters	Target Size ($mn)	Fund Type	Geographic Focus
Brookfield Strategic Real Estate Partners IV	Brookfield Asset Management	Canada	18,000	Opportunistic	North America
Alliance Venture Collaborative QOZ Fund	West End CDE Inc	US	10,000	Opportunistic	North America
Starwood Distressed Opportunity Fund XII	Starwood Capital Group	US	7,500	Opportunistic	North America
Carlyle Realty Partners IX	Carlyle Group	US	6,000	Opportunistic	North America
KKR Real Estate Partners Americas III	KKR	US	3,000	Opportunistic	North America
Kayne Anderson Real Estate Partners VI	Kayne Anderson Capital Advisors	US	2,500	Opportunistic	North America
Bridge Multifamily Fund V	Bridge Investment Group	US	2,000	Value Added	US
CBRE Strategic Partners US Value 9	CBRE Global Investors	US	2,000	Value Added	North America
Centerbridge Partners Real Estate Fund II	Centerbridge Partners	US	2,000	Opportunistic	North America
Crow Holdings Realty Partners IX	Crow Holdings Capital – Real Estate	US	2,000	Value Added	US
GLP Capital Partners IV	GLP Capital Partners	US	2,000	Value Added	US
JP Morgan Real Estate Credit Opportunity Fund	JP Morgan Asset Management	US	2,000	Debt	US

Source: Preqin Pro. Data as of July 2021

Fig. 45: Largest Fund Managers by Total Capital Raised for North America-Focused Private Real Estate Funds since 2016

Firm	Headquarters	Total Capital Raised ($bn)
Blackstone Group	New York, US	38.9
Brookfield Asset Management	Toronto, Canada	38.8
Lone Star Funds	Dallas, US	15.1
Starwood Capital Group	Miami Beach, US	14.4
Rockpoint Group	Boston, US	10.9
The Goldman Sachs Group	New York, US	10.4
Bridge Investment Group	Salt Lake City, US	10.3
Cerberus Capital Management	New York, US	9.3
Carlyle Group	Washington, US	8.3
Kayne Anderson Capital Advisors	Los Angeles, US	7.1

Source: Preqin Pro

Fig. 46: Most Consistent Top Performing North America-Focused Real Estate Fund Managers (All Vintages)*

Firm	Headquarters	Overall No. of Funds with Quartile Ranking	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Average Quartile Ranking
Gamma Real Estate	US	6	6	0	1.00
Eastham Capital	US	5	5	0	1.00
Exeter Property Group	US	7	6	1	1.14
Bell Partners	US	6	5	1	1.17
McDowell Properties	US	6	5	1	1.17
Oak Street Real Estate Capital	US	4	3	1	1.25
Elevation Financial Group	US	3	2	1	1.33
Monument Capital Management	US	3	2	1	1.33
Origin Investments	US	3	2	1	1.33
The Children's Investment Fund Management	UK	3	2	1	1.33

Source: Preqin Pro

*The most consistent top performing fund manager table is based on the average quartile ranking of a manager's funds. The entire pool of real estate funds is ranked within each vintage year according to its net IRR. The funds are given a score based on their quartile: 1 for top-quartile funds, 2 for second-quartile funds, and so on. This is the fund's 'quartile ranking'.

A manager's average quartile ranking is the average of all of the funds' quartile scores, with a minimum of three funds required in order to appear in the table. The average quartile rankings can vary from 1.00, for a fund manager with only top-quartile funds, to 4.00 for a fund manager with only bottom-quartile funds.

US Infrastructure Ready to Take off

With significant infrastructure spending on the table, the US is set to see increased activity in the asset class from GPs and LPs alike

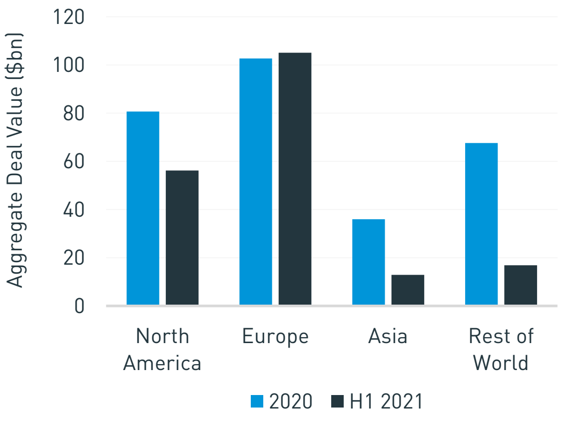
The US Government is looking toward a post-pandemic future. About a year and a half on from the passing of the CARES Act, the government has turned its attention from addressing the economic fallout of the pandemic through monetary policy, to a broader focus on other policy issues. The Biden administration has championed infrastructure bills that would complement other pandemic relief efforts. The infrastructure bills, which are part of the Build Back Better plan, propose large-scale spending on infrastructure projects over several years to fix America's crumbling infrastructure.

Structuring the Plan

Large portions of the proposed spending are earmarked for physical infrastructure[1], such as roads and bridges ($109bn), public transit ($49bn), power ($73bn), rail ($66bn), electric vehicle (EV) infrastructure ($7.5bn), water infrastructure ($55bn), and broadband internet access ($65bn)[2].

The plan addresses climate change through infrastructure development and promotes the use of clean technology in various forms. The plan also includes a category of spending on "resilience" initiatives, including updating the country's cybersecurity infrastructure – an obvious need given recent attacks on the Colonial Pipeline and other critical infrastructure. Some have argued[3], however, that previous iterations of the infrastructure bills did not go far enough in addressing key areas such as ports and shipping infrastructure, amid delays caused by increased traffic at ports and logistical constraints over the past year.

Fig. 47: Aggregate Value of Infrastructure Deals by Region, 2020 vs. H1 2021



Source: Preqin Pro

The plan also includes provisions for spending on "human infrastructure," a much broader category that extends beyond the built environment. It includes elements of social infrastructure and programs for the public, including affordable childcare, tech R&D, Medicare funding, and college tuition. The impetus for these programs is largely social and comes on the heels of other non-economic factors that motivate infrastructure investment. Specifically, droughts and contaminated drinking

[1] https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/24/fact-sheet-president-biden-announces-support-for-the-bipartisan-infrastructure-framework/

[2] https://www.preqin.com/insights/research/blogs/broadband-infrastructure-gap-opens-window-for-private-capital

[3] https://www.wsj.com/articles/behind-your-long-wait-for-packages-11622653994

water have driven interest in clean water investment, while wildfires, cold snaps, heatwaves, and resultant power outages have emphasized the need for investment in utilities.

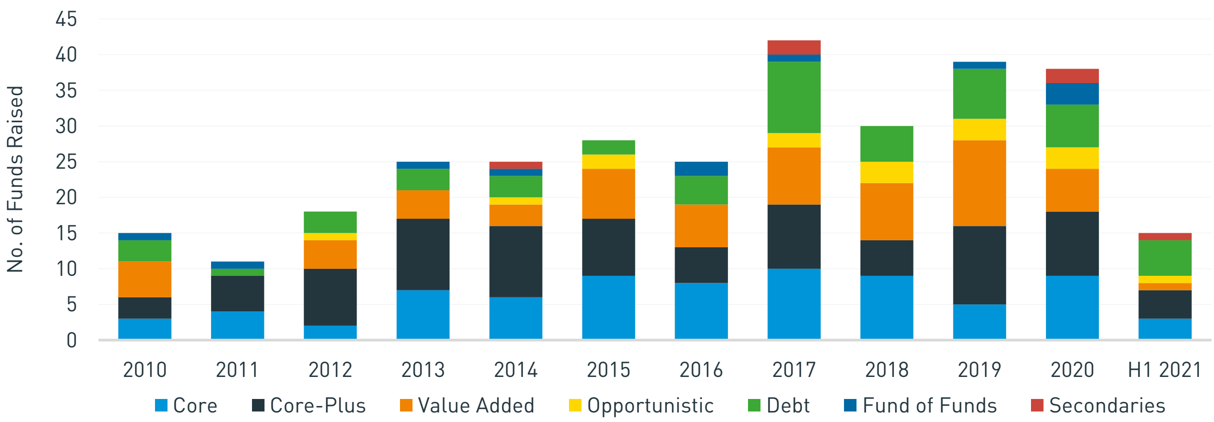
Increased discussion of social issues over the past year has resolved lawmakers to combat racism and promote equity through better urban planning, rethinking the highway system, and ensuring accessible and affordable public transit. Climate change and carbon emissions have hastened the push for electrification and the development of the infrastructure necessary to support EVs.

Potential Pitfalls

Passing the infrastructure bills represents an opportunity for a government-led increase in infrastructure investment. Private market participants should be well placed to utilize their project delivery experience to bring the plan to life.

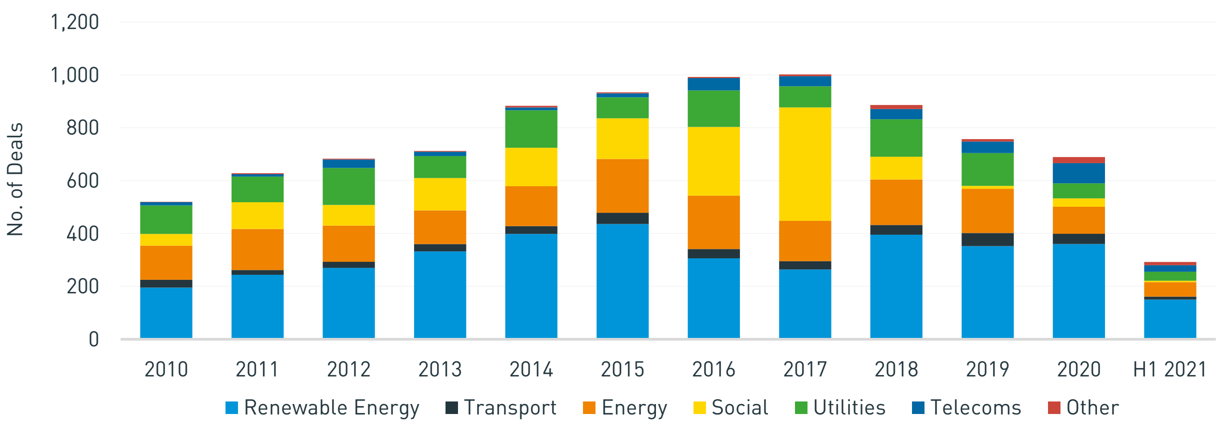
That said, the delivery mechanisms and market structure in the US could act as a barrier to private market investors. For one, US infrastructure is not very privatized relative to other countries. The new infrastructure bills also do not rely heavily on public-private partnerships or other forms of

Fig. 48: North America-Focused Unlisted Infrastructure Funds Closed by Strategy, 2010 - H1 2021



Source: Preqin Pro

Fig. 49: Number of Infrastructure Deals in North America by Industry, 2010 - H1 2021



Source: Preqin Pro

private investment to fund projects. This is despite studies that have shown privately funded projects are completed more quickly, with fewer budget overruns, and with stronger alignment of operator and public needs due to economic incentives. In this case, the onus will be on managers to state the benefits of their involvement and lobby for the mechanisms to allow it.

Investors Are Active
Regardless of the extent of private market participation in the delivery of the infrastructure bills' aims, private infrastructure funds will have plenty of opportunity to invest generously in the US. This is despite North America trailing Europe in aggregate infrastructure deal value in 2020 and 2021 thus far (Fig. 47).

The pace of fundraising has slowed in 2021 compared with 2020 overall. Fifteen North America-focused funds closed in H1 2021, with $19bn raised, compared with $52bn secured across 38 funds in 2020 (Fig. 48). Despite this, managers have almost $120bn in dry powder available to put to work, according to Preqin Pro. They will capitalize on favorable provisions in the infrastructure bills, such as tax credits, renewable energy incentives, and a smoother regulatory process. A greater selection of assets may also be available, with asset recycling on the table. This involves selling or leasing assets to the private sector and reinvesting the proceeds in new infrastructure projects.

The 10 largest North America-focused infrastructure funds closed in 2020 and H1 2021 amassed nearly $50bn from LPs (Fig. 51). Meanwhile, the largest infrastructure funds in market are targeting almost $65bn (Fig. 52), with their eyes set on big-ticket infrastructure assets.

All Around Unconventional
But there are other ways to access the North American infrastructure asset class. A trailblazing non-traditional investment vehicle has recently raised $2bn to make smaller investments. According to the Wall Street Journal, San Francisco-based Generate Capital doesn't exclusively raise traditional private funds.[4] Generate allows investors to buy stakes in the firm as a form of permanent capital and invests balance sheet capital in infrastructure assets, targeting renewable energy, water, and waste management investments. The firm employs an infrastructure-as-a-service model in which it partners with business, governments, or communities to develop and operate infrastructure projects, usually with the goal of improving energy efficiency or cutting carbon emissions. The approach has enabled the firm to fund smaller, hyperlocal projects that larger funds cannot justify given the small check sizes, but that are crucial to overhauling energy infrastructure in the US.

Of course, Generate Capital is not alone in targeting renewable energy assets. Renewables deals account for the lion's share of private infrastructure deals in recent years, including 52% of deals in North America in 2020 – edging out social infrastructure assets, which were the most popular category through 2017 (Fig. 49).

After renewable energy, utilities, transportation, and telecoms have also accounted for large portions of deals in recent years. The telecoms sector presents a particularly attractive opportunity, as outlined in Preqin's *Sector in Focus: Telecom Towers – Keeping Pace with Demand*.[5] Telecom towers are in high demand, benefit from long-term customer contracts, and can provide inflation protection with built-in price escalators, making them an attractive asset for investors.

Institutionalizing Infrastructure
Institutional investors in North America have flocked to the infrastructure asset class over the past few years. The number of active investors has grown by over 120% since 2015 – and is likely to continue expanding. Since 2015, investors have also marginally increased their median actual (1.4% to 1.8%) and target (3.3% to 4.0%) allocations to infrastructure. What's more, an increasing number of US public pension funds are actively investing in the asset class.

Canadian pension funds have been far more active investors in infrastructure than their American counterparts, according to Preqin Pro. Ontario

---

[4] https://www.wsj.com/articles/generate-capital-collects-2-billion-for-new-bets-on-sustainable-infrastructure-11626692401
[5] https://www.preqin.com/insights/research/sector-in-focus/sector-in-focus-telecom-towers-keeping-pace-with-demand

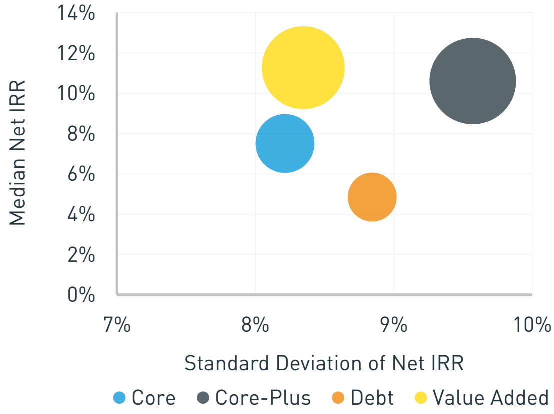
Teachers' Pension Plan[6], for one, allocates 8.17% of its CAD 218bn portfolio to infrastructure, and plans to allocate an additional CAD 70bn to private markets in the next five years[7], with a portion earmarked for additional infrastructure investments.

Overall, Canadian pension funds tend to commit greater proportions of their portfolio to the asset class and take a more active role in their investments. Some have argued[8] that the US should consider the Canadian model of 'public-public partnerships,' in which public pension funds partner with government agencies to fund infrastructure projects, as it takes the next step in addressing infrastructure needs and securing funding for projects.

US-based investors are catching up, though. Several large allocators have upped their allocations to the asset class recently. California State Teachers' Retirement System[9] will introduce infrastructure debt into its infrastructure portfolio, which comprises 1.8% of its $307bn in AUM, incorporates ESG elements, and is part of a broader inflation-sensitive portfolio.

Other investors may begin to follow suit – not just in North America, but elsewhere around the world. Given current inflationary conditions, US-based investors have referenced inflation protection as an attractive feature of infrastructure investments.[10] With the asset class's consistent returns (Fig. 50) and stable cash flows, it's likely to attract further capital from US investors. These cash flows often mean infrastructure allocations can be a solid alternative to fixed-income assets within institutional portfolios, so there could be future rotation out of one asset class and into the other.

Fig. 50: Risk/Return of North America-Focused Unlisted Infrastructure by Primary Strategy (Vintages 2009-2018)



Source: Preqin Pro. Most Up-to-Date Data

[6] https://pro.preqin.com/investor/2513/overview#Summary
[7] https://www.ft.com/content/7f3eb300-a98b-4cb1-bb83-0595eba18dfa
[8] https://www.pionline.com/industry-voices/commentary-pension-funds-can-launch-new-infrastructure-era
[9] https://pro.preqin.com/investor/2103/infrastructure#Next%2012%20Months
[10] https://www.pionline.com/industry-voices/commentary-pension-funds-can-launch-new-infrastructure-era

Fig. 51: Largest North America-Focused Unlisted Infrastructure Funds Closed in 2020-H1 2021

Fund	Firm	Headquarters	Fund Size ($mn)	Fund Type	Final Close Date
Brookfield Infrastructure Fund IV	Brookfield Asset Management	Canada	20,000	Core	Feb-20
Blackrock Global Energy & Power Infrastructure Fund III	BlackRock	US	5,100	Core-Plus	Apr-20
BlackRock Global Renewable Power Fund III	BlackRock	US	4,800	Core-Plus	Mar-21
Strategic Partners Infrastructure III	Blackstone Group - Fund of Funds and Secondary	US	3,750	Secondaries	Jul-20
ArcLight Energy Partners Fund VII	ArcLight Capital Partners	US	3,400	Value Added	Feb-20
Energy Capital Partners IV	Energy Capital Partners	US	3,320	Core-Plus	Jan-20
Brookfield Infrastructure Debt Fund II	Brookfield Asset Management	Canada	2,700	Debt	Dec-20
Grain Communications Opportunity Fund III	Grain Management	US	2,250	Core-Plus	Apr-21
Argo Series 3	Argo Infrastructure Partners	US	2,000	Core	Apr-21
GI Data Infrastructure Fund	GI Partners	US	1,800	Core-Plus	Sep-20

Source: Preqin Pro

Fig. 52: Largest North America-Focused Unlisted Infrastructure Funds in Market

Fund	Firm	Headquarters	Target Size ($mn)	Fund Type	Geographic Focus
ISQ Global Infrastructure Fund III	I Squared Capital	US	12,000	Value Added	North America
KKR Global Infrastructure Investors IV	KKR	US	12,000	Core-Plus	North America
Stonepeak Infrastructure Partners IV	Stonepeak Infrastructure Partners	US	10,000	Value Added	North America
Brookfield Global Transition Fund	Brookfield Asset Management	Canada	6,100	Core	Canada
Arkansas Opportunity Zone Fund	USA BioEnergy	US	5,000	Core-Plus	US
Macquarie Infrastructure Partners V	Macquarie Infrastructure and Real Assets (MIRA)	Australia	5,000	Core	North America
Blackstone Energy Partners III	Blackstone Group	US	4,000	Core	North America
West Street Infrastructure Partners IV	The Goldman Sachs Group	US	4,000	Core	North America
Apollo Infrastructure Opportunities Fund II	Apollo Global Management	US	2,000	Core	North America
Alinda Infrastructure Fund IV	Alinda Capital Partners	US	1,500	Core-Plus	North America
Ardian Americas Infrastructure Fund V	Ardian	France	1,500	Core-Plus	North America
Melody Communications Infrastructure Fund II	Melody Investment Advisors	US	1,500	Core	North America

Source: Preqin Pro. Data as of July 2021

Fig. 53: Largest Fund Managers by Total Capital Raised for North America-Focused Unlisted Infrastructure Funds since 2016

Firm	Headquarters	Total Capital Raised ($bn)
Global Infrastructure Partners	New York, US	40.6
Brookfield Asset Management	Toronto, Canada	37.6
Stonepeak Infrastructure Partners	New York, US	21.7
I Squared Capital	Miami, US	16.0
BlackRock	New York, US	13.2
AMP Capital Investors	Sydney, Australia	11.3
Macquarie Infrastructure and Real Assets (MIRA)	London, UK	11.1
Morgan Stanley	New York, US	9.1
Carlyle Group	Washington, US	7.8
KKR	New York, US	7.4

Source: Preqin Pro

Fig. 54: Most Consistent Top Performing North America-Focused Infrastructure Fund Managers (All Vintages)*

Firm	Headquarters	Overall No. of Funds with Quartile Ranking	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Average Quartile Ranking
Grain Management	US	4	3	1	1.25
AMP Capital Investors	Australia	3	2	1	1.33
Brookfield Asset Management	Canada	3	2	1	1.33
EIV Capital	US	3	2	1	1.33
Stonepeak Infrastructure Partners	US	3	1	2	1.67
Macquarie Infrastructure and Real Assets (MIRA)	UK	4	1	3	1.75
Elevation Financial Group	US	3	2	1	1.33
Monument Capital Management	US	3	2	1	1.33
Origin Investments	US	3	2	1	1.33
The Children's Investment Fund Management	UK	3	2	1	1.33

Source: Preqin Pro

*The most consistent top performing fund manager table is based on the average quartile ranking of a manager's funds. The entire pool of infrastructure funds is ranked within each vintage year according to its net IRR. The funds are given a score based on their quartile: 1 for top-quartile funds, 2 for second-quartile funds, and so on. This is the fund's 'quartile ranking'.

A manager's average quartile ranking is the average of all of the funds' quartile scores, with a minimum of three funds required in order to appear in the table. The average quartile rankings can vary from 1.00, for a fund manager with only top-quartile funds, to 4.00 for a fund manager with only bottom-quartile funds.

In Focus: Manager Success at Home and Overseas

North America-based managers are investing around the world, with Asia attracting particular attention. Is this strategy paying off?

It's no real surprise that in the biggest private equity market in the world, GPs and their funds have a domestic bias. Preqin data shows that 94% of private equity funds closed by North America-based GPs in the past 18 months have targeted North American investments (Fig. 55). During the first half of 2021, other regions barely registered. Just 0.9% of funds target Asian investments, with 1.2% focusing on Europe and 3.2% on the Rest of World region.

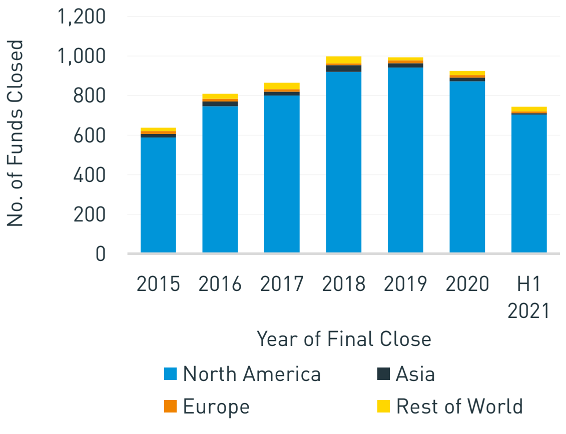
The picture changes, however, when assessing the direction of capital raised by GPs in North America. For H1 2021, 91% of total PEVC capital was aimed at domestic investments, down from 96% in 2020 (Fig. 56).

Asia Attracts Attention

So where is the remaining capital headed? Most appears to be focusing on Asia, which accounted for 5% of capital raised (compared with 1% of funds by number) in H1 2021. Indeed, responses from Preqin's most recent investor survey[1] suggest that Asian markets are increasingly coming into focus for international players.

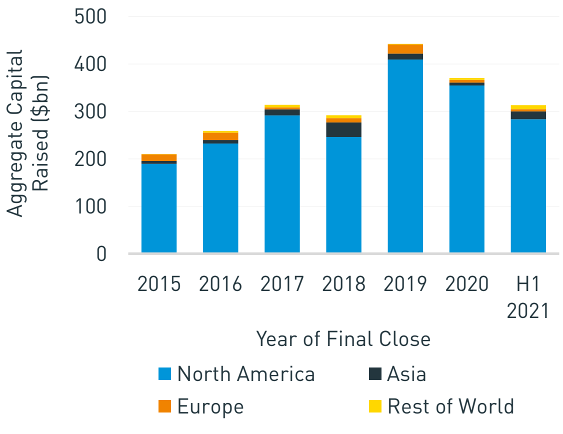
[1] https://www.preqin.com/insights/research/investor-outlooks/preqin-investor-outlook-alternative-assets-h2-2021

Fig. 55: Number of Private Equity Funds Closed by US-Based GPs by Primary Geographic Focus, 2015 - H1 2021



Source: Preqin Pro

Fig. 56: Aggregate Capital Raised by Private Equity Funds Closed by US-Based GPs by Primary Geographic Focus, 2015 - H1 2021



Source: Preqin Pro

This appetite is reflected in real-world activity, too. Preqin's Future of Alternatives study suggests that across private capital markets, AUM growth is likely to be strongest in Asia.[2] North America-based GPs may not be raising many funds targeting Asia, but they make up for this in terms of fund size. Given the competition from local GPs, scale could be an important consideration. That said, this appears at odds with buyout deals data, which shows average deal sizes in North America are far higher than in other regions.[3]

Given the smaller average deal sizes, particularly in Asia, where buyout represents a far smaller portion of activity, it's likely that most North America-based GPs target a wider range of smaller investments when investing overseas. This may be a risk management strategy, but the composition of the market is also very different, proving North America-based managers respond to local market characteristics rather than export similar strategies around the world.

More Consistent Outperformance for Domestic Managers

When it comes to performance, success is mixed between a domestic and international focus. For vintages between 2000 and 2004, North America-based GPs targeting domestic investments underperformed those funds with a focus on international investments – significantly so, in some cases (Fig. 57). The performance differential reached nine percentage points or more in vintages 2001 and 2003, as measured by median net IRR.

This trend was flipped on its head both in the years leading up to and following the GFC, but North America-focused outperformance never broke through the 6% barrier. North America-based GPs investing domestically have outperformed internationally focused managers in seven of the 10 vintage years since 2009, with the average outperformance close to 3.3% for this period.

What could be behind this post-GFC outperformance? The US economy bounced back faster than many others around the world, but local managers also generally have a better understanding of local markets at times of stress. These domestic-focused funds are likely to have been well placed to capitalize on any opportunities in the wake of the COVID-19 outbreak, potentially aiding their outperformance vs. internationally focused peers.

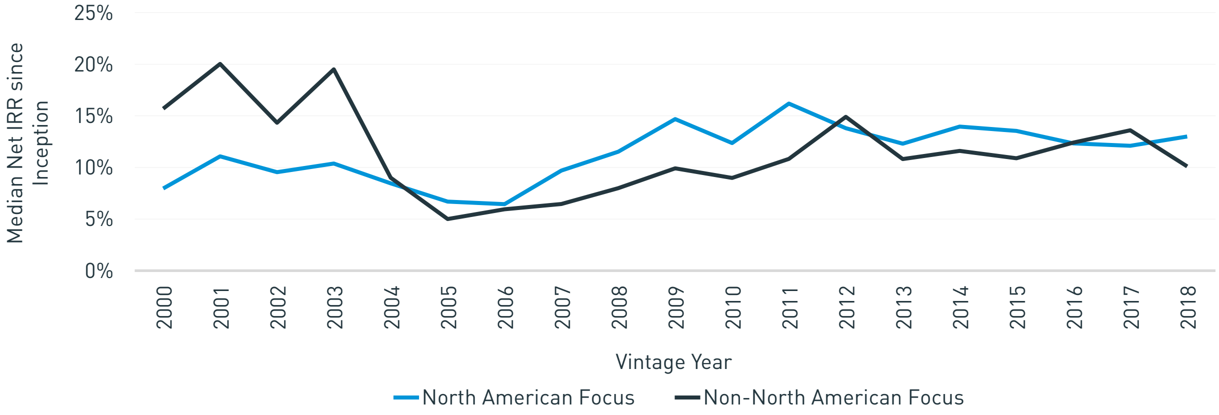
Activity on a Global Scale

Throughout the first six months of 2021, Europe was the most active region outside North America in terms of buyout deal-making by US managers.

[2] https://www.preqin.com/insights/research/reports/preqin-special-report-the-future-of-alternatives-2025

[3] https://pro.preqin.com/analysis/deals/buyout

Fig. 57: Private Capital: Median Net IRRs of Funds of US-Based Fund Managers by Geographic Focus and Vintage Year



Source: Preqin Pro

While representing just 14% of deals by number (346/2,551), Europe accounted for 23% of the total value of deals involving a North America-based investor in H1 ($74bn/$321bn), as Fig. 58 shows.

The data also suggests that domestic managers are completing smaller deals. North America accounted for 81% of global buyout deals (with a North America-based investor) by number (2,075/2,551) and 68% of deals by value ($218bn/$321bn) in H1. Indeed, the share of deals for North American portfolio companies has been in decline for some time, peaking at 77% (by deal value) in 2013. This could mean that managers are focusing on earlier-stage buyouts or portfolio diversification at the expense of size. With several parts of the economy firing on all cylinders at present, opportunities abound.

While North American private capital managers remain subject to the vagaries of the economic and investment cycle, what can't be disputed is their outsized role in both domestic and international markets. These GPs are active all around the world, successfully adapting to the nuances and structures of other markets. While the North American market should continue to grow strongly, managers in the region are making strides to capture the even faster growth expected in Asia.

Fig. 58: Private Equity-Backed Buyout Deals for Portfolio Companies with a North America-Based Investor by Region, 2010 - H1 2021

	North America		Europe		Asia		Africa		Australasia		Latin America & Caribbean		Middle East	
	No. of Deals	Agg. Deal Value ($bn)	No. of Deals	Agg. Deal Value ($bn)	No. of Deals	Agg. Deal Value ($bn)	No. of Deals	Agg. Deal Value ($bn)	No. of Deals	Agg. Deal Value ($bn)	No. of Deals	Agg. Deal Value ($bn)	No. of Deals	Agg. Deal Value ($bn)
2010	1,724	125.2	206	32.0	107	8.8	7	0.1	20	2.5	29	6.1	9	0.3
2011	2,046	134.3	280	48.3	126	14.5	13	0.5	27	10.9	37	2.1	5	0.2
2012	2,311	162.3	232	30.2	118	13.0	13	1.0	34	4.8	51	1.9	9	1.6
2013	2,099	191.5	249	38.4	112	10.8	11	1.1	23	1.3	43	4.4	7	0.3
2014	2,601	193.5	312	42.9	108	18.3	16	4.6	28	3.2	52	3.7	8	0.8
2015	2,760	286.9	357	68.4	105	28.2	16	0.3	32	10.1	48	2.2	5	0
2016	2,844	200.9	321	47.7	96	14.8	17	0.6	33	2.9	55	2.5	6	1.7
2017	3,082	214.5	405	75.7	85	38.8	14	1.8	39	3.4	54	1.4	8	0.1
2018	3,465	286.5	453	89.5	108	32.6	12	1.8	37	3.9	47	1.5	9	0.9
2019	3,053	229.6	434	80.1	93	17.9	9	0.6	43	8.3	35	2.6	17	1.5
2020	3,182	238.3	480	72.0	109	38.9	5	0.2	48	8.1	40	0.6	9	0.4
H1 2021	2,075	218.2	346	73.5	53	18.8	5	0.0	33	2.8	28	2.6	11	5.1

Source: Preqin Pro

Promising Prospects for Natural Resources in the Americas

Central and South America offer opportunities across conventional and renewable energy

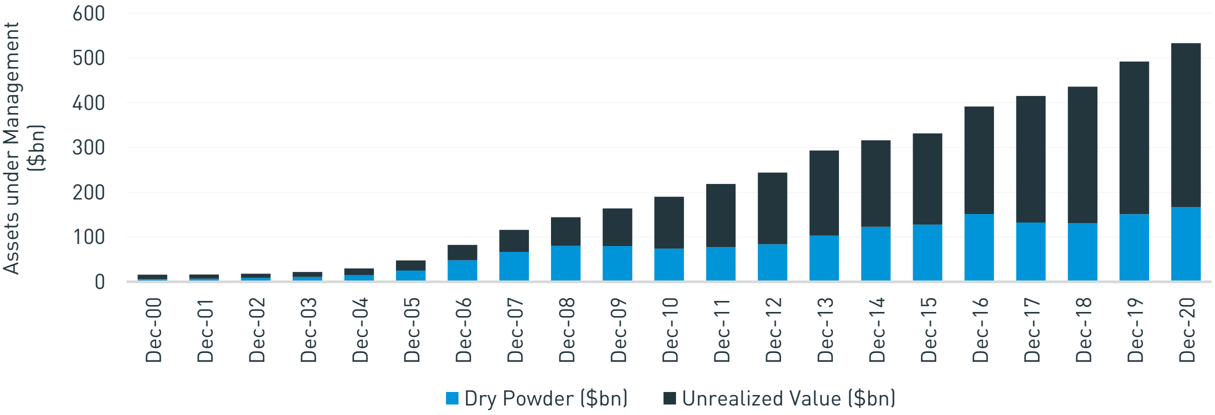
The Americas boast a huge wealth of natural resources. And with this wealth comes a wide range of potential opportunities for investment: from oil and gas extraction in Canada and corn production in the US, to the largest beef cultivators in Brazil. Across these myriad opportunities, there's a broad spectrum of risk/return profiles, meaning there's something for almost all investors. Perhaps that's why 52% of surveyed natural resources investors[1] plan to target the US in the next 12 months, and a further 26% said they would target South America.

Investors Are Engaging

Investor interest in the Americas has grown rapidly in the past 12-18 months, building upon this positive sentiment. Insurance companies and foundations have experienced some of the strongest growth in the number of active investors between 2020 and 2021, jumping 81% (from 192 to 347) and 60% (from 385 to 615) respectively, second and third only to investors in the 'other' category (Fig. 60). Investment banks and government agencies have boosted this category, seeing their active investor numbers multiply 3.5x in those 18 months.

[1] https://www.preqin.com/insights/research/investor-outlooks/preqin-investor-outlook-alternative-assets-h2-2021

Fig. 59: North America-Based Unlisted Natural Resources Assets under Management, 2000 - 2020



Source: Preqin Pro

Investors across all regions are displaying greater appetite for the asset class (Fig. 62). The mature market of North America shows the slowest growth, at 36% between 2020 and 2021 YTD. In a sign that many investors new to the asset class are taking a relatively cautious approach, many are expected to focus their investment within their own borders. Preqin data shows that 96% of natural resources funds committed to by US-based investors are targeting North American investments. While there's clearly demand from investors, this suggests that risk is a very important factor in their decision-making.

AUM in the Americas was on a strong upward trend over 2020, growing by 8% to hit $533bn as of December (Fig. 59). Back in 2006, the dry powder portion of AUM was once as high as 58%, but this has since fallen. Unrealized value now represents the majority, at 69% of AUM. Although growth in unrealized value (+7%) was lower than that of dry powder (+10%) over 2020, we expect these standings to remain.

Despite strong investor appetite and solid AUM growth, the fundraising market remains challenging. Since the pandemic, fund managers have struggled to close natural resources funds. The number of funds and aggregate capital secured fell by 36% and 28% respectively in 2020, and managers have struggled to make gains so far in 2021. In fact, 2020 was the weakest year for North America-focused fundraising since 2014, securing only $53bn across all strategies. At the end of H1 2021, North America-focused funds have secured just 40% of 2020's already weak total (Fig. 61).

First-time fund managers and smaller GPs have borne the brunt of the slowdown, as investors choose to focus on larger or more experienced fund managers. This has resulted in further capital consolidation – a trend that was already prominent prior to the pandemic. In our 2021 Preqin Global Natural Resources Report[2], North America recorded the highest average fund size of any region, topping $1.4bn.

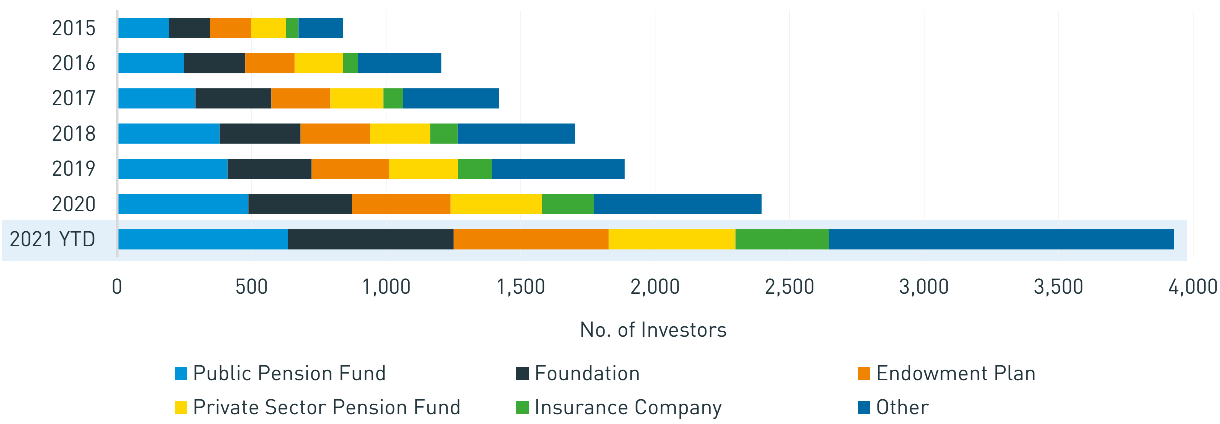
Lands of Opportunity

Across the Americas, energy is still the go-to sector for fund managers and investors alike. Historically, North America has been the prime location for investment, mostly due to plentiful oil reserves in the US and Canada. In the past decade, Preqin data shows that the US was home to around 84% of oil transactions in North America, while Canada averages 15%. Although these proportions do not change greatly year on year, there have been fewer deals since its 2016 peak.

Managers' search for conventional energy opportunities has shifted focus in recent years, particularly onto emerging markets such as Brazil.

[2] https://www.preqin.com/insights/global-reports/2021-preqin-global-natural-resources-report

Fig. 60: Active North America-Focused Investors in Natural Resources by Type, 2015 - 2021 YTD



Source: Preqin Pro. Data as of July 2021

According to Preqin data, 80% of Brazil's energy deals were for conventional energy assets in 2016. This is partly due to the discovery of potentially vast oil reserves years before in an exploratory frontier known as the 'pre-salt' zone. The area covers approximately 149,000km² offshore and lies about 300km from the coast[3], in a band stretching from the north of the state of Santa Catarina to the south of the state of Espírito Santo. This has created a new option for investors looking to gain exposure to upstream processes in emerging markets.

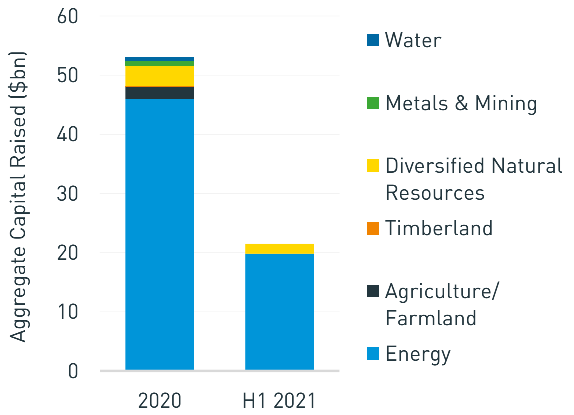
Seeing Green

For many managers and investors, however, conventional energy is a no-go area. With many pivoting away from 'old' sources of energy, where are the opportunities in the renewable sector? Countries including Mexico, Brazil, Peru, and Chile are seeing considerable interest and investment in wind, solar, and hydro projects. According to Preqin data for these countries, greenfield deals in this sector were near all-time highs in 2020, at 69 deals completed.

The largest of these was the $1.8bn acquisition of the Andes Renovables Wind and Solar Portfolio[4] by Mainstream Renewable Power in August 2020. Mainstream secured $620mn in debt financing from IDB Invest, KfW IPEX-Bank, DNB, CaixaBank, and MUFG Bank for the development of the Huemul Wind and Solar Project Portfolio (part of the Andes Renovables Wind and Solar Portfolio). This transaction is one of a series of debt financings for the project between 2019 and 2021. Andes Renovables Wind and Solar Portfolio consists of seven wind and three solar energy projects with a total capacity of 1,349.5 MW, located in Chile.

Emerging markets opportunities abound across the Americas. Many nations are implementing significant renewable energy programs as they diversify their

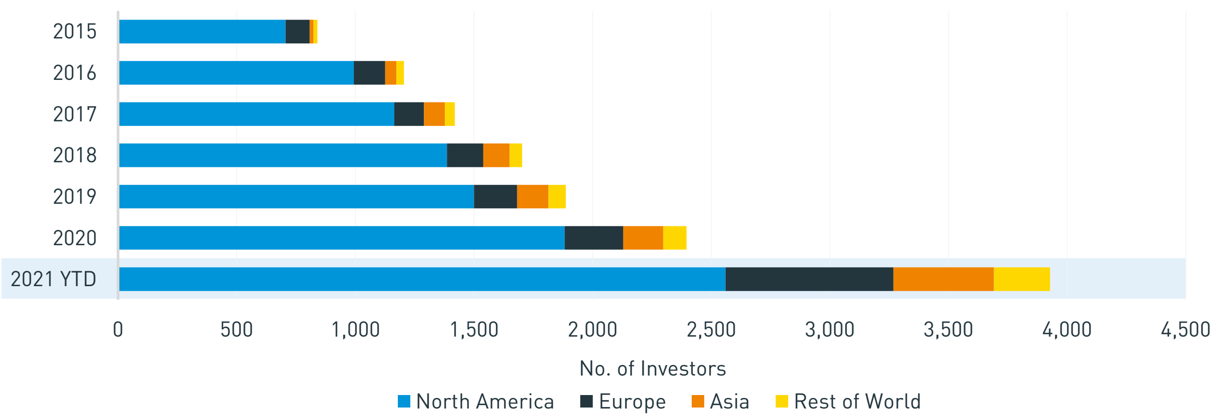
Fig. 61: Aggregate Capital Raised by North America-Focused Unlisted Natural Resources Funds Closed by Fund Type, 2020 vs. H1 2021



Source: Preqin Pro

[3] https://www2.deloitte.com/br/en/pages/energy-and-resources/upstream-guide/articles/pre-salt-brazil.html
[4] https://pro.preqin.com/asset/347064

Fig. 62: Number of North America-Focused Natural Resources Investors by Location, 2015 - 2021 YTD



Source: Preqin Pro. Data as of July 2021

energy sources and aim to decarbonize. Private market participants have an important role to play, particularly as they leverage experience with similar projects elsewhere.

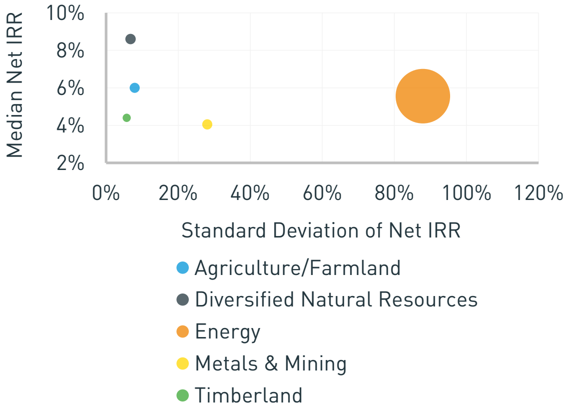
Growth regions in the Americas can provide opportunities for those managers and investors that may be struggling to drive returns in more mature or competitive markets. The state of Oaxaca in Mexico, for example, has an estimated wind generation capacity of over 10,000 MW.[5] The Istmo de Tehuantepec region in that state presents some particularly advantageous conditions for wind power projects. The average wind speed in Oaxaca has been recorded above 9m/s, compared with the global land average of 3.28m/s.[6] The measured load factor is also above 50%, meaning that the load (energy being used) is using the electric system more efficiently.

For those willing and able to accept the risks, there are several opportunities to deploy capital to renewable projects in the Americas. Those that can't cite political risks, sovereign credit, and market maturity as the reasons why. In an asset class where performance is delicately balanced between the prices of the underlying commodities and the outputs generated, the added volatility within some economies is enough to preclude investment.

Despite the Americas' abundant natural resources, fund managers have mainly focused on energy investments. In H1 2021, only four funds closed with a strategy other than energy, raising $1.7bn collectively. One of the largest funds yet to close is BTG Pactual Brazil Timberland Fund II[7], managed by São Paulo-headquartered BTG Pactual. The closed-end timber vehicle is looking to raise $1.2bn, with a primary focus on sustainably managed commercial timberland assets located in Latin America and diversified across geography, species, and end-markets.

As more and more firms and governments commit to significant reductions in their carbon footprints or aim for net-zero positions, the use of carbon offsets is one way these targets could be met. This represents a significant opportunity for institutional timberland investment, particularly in nations like the US, Canada, and Brazil.

Fig. 63: Risk/Return of North America-Focused Natural Resources by Primary Strategy (Vintages 2009-2018)



Source: Preqin Pro

While there are many definitions for a carbon offset program, a key element of timberland assets is the ability of trees to sequester carbon dioxide from the atmosphere, helping reduce greenhouse gas concentration. And investors are noticing. With momentum building in the battle against global emissions and climate change, timber funds and forestry assets may become a more common feature in natural resources fundraising and deal flow.

Although natural resources in the Americas isn't without its challenges, there are several areas where managers and investors can deliver solid risk-adjusted returns. The outlook for parts of the asset class – particularly renewables – is benefiting from these long-term shifts, which bodes well for future activity.

[5] https://www.financierworldwide.com/ma-and-investment-in-latin-americas-natural-resources-sector#.YPbUI-hKhPZ
[6] https://web.stanford.edu/group/efmh/winds/global_winds.html
[7] https://pro.preqin.com/funds/119730

Fig. 64: Largest North America-Focused Unlisted Natural Resources Funds Closed in 2020-H1 2021

Fund	Firm	Headquarters	Fund Size ($mn)	Fund Type	Final Close Date
Brookfield Infrastructure Fund IV	Brookfield Asset Management	Canada	20,000	Energy	Feb-20
Blackrock Global Energy & Power Infrastructure Fund III	BlackRock	US	5,100	Energy	Apr-20
Brookfield Infrastructure Fund IV Co-Invest	Brookfield Asset Management	Canada	5,000	Energy	Mar-21
BlackRock Global Renewable Power Fund III	BlackRock	US	4,800	Energy	Mar-21
ArcLight Energy Partners Fund VII	ArcLight Capital Partners	US	3,400	Energy	Feb-20
Energy Capital Partners IV	Energy Capital Partners	US	3,320	Energy	Jan-20
Brookfield Infrastructure Debt Fund II	Brookfield Asset Management	Canada	2,700	Energy	Dec-20
Mercer Private Investment Partners V	Mercer Alternatives AG	Switzerland	2,700	Diversified Natural Resources	Feb-20
Argo Series 3	Argo Infrastructure Partners	US	2,000	Energy	Apr-21
Kayne Private Energy Income Fund II	Kayne Anderson Capital Advisors	US	1,700	Energy	Jan-20

Source: Preqin Pro

Fig. 65: Largest North America-Focused Unlisted Natural Resources Funds in Market

Fund	Firm	Headquarters	Target Size ($mn)	Fund Type	Geographic Focus
ISQ Global Infrastructure Fund III	I Squared Capital	US	12,000	Energy	North America
KKR Global Infrastructure Investors IV	KKR	US	12,000	Energy	North America
Alliance Venture Collaborative QOZ Fund	West End CDE Inc	US	10,000	Energy	US
Stonepeak Infrastructure Partners IV	Stonepeak Infrastructure Partners	US	10,000	Energy	North America
Macquarie Infrastructure Partners V	Macquarie Infrastructure and Real Assets (MIRA)	Australia	5,000	Energy	North America
Quantum Energy Partners VIII	Quantum Energy Partners	US	4,500	Energy	North America
Blackstone Energy Partners III	Blackstone Group	US	4,000	Energy	North America
Blackstone Tactical Opportunities Fund IV	Blackstone Group	US	4,000	Diversified Natural Resources	North America
First Reserve Fund XIV	First Reserve	US	3,000	Energy	North America
Energy & Minerals Group Fund V	Energy & Minerals Group	US	2,500	Diversified Natural Resources	North America
Ardian Americas Infrastructure Fund V	Ardian	France	1,500	Infrastructure Core-Plus	North America
Melody Communications Infrastructure Fund II	Melody Investment Advisors	US	1,500	Infrastructure Core	North America

Source: Preqin Pro. Data as of July 2021

Fig. 66: Largest Fund Managers by Total Capital Raised for North America-Focused Unlisted Natural Resources Funds since 2016

Firm	Headquarters	Total Capital Raised ($bn)
Brookfield Asset Management	Toronto, Canada	44.0
Global Infrastructure Partners	New York, US	40.7
Stonepeak Infrastructure Partners	New York, US	21.8
I Squared Capital	Miami, US	16.0
BlackRock	New York, US	13.2
AMP Capital Investors	Sydney, Australia	11.3
Morgan Stanley	New York, US	9.1
Macquarie Infrastructure and Real Assets (MIRA)	London, UK	9.0
Blackstone Group	New York, US	8.7
KKR	New York, US	7.4

Source: Preqin Pro

Fig. 67: Most Consistent Top Performing North America-Focused Natural Resources Fund Managers (All Vintages)*

Firm	Headquarters	Overall No. of Funds with Quartile Ranking	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Average Quartile Ranking
AMP Capital Investors	Australia	3	2	1	1.33
EIV Capital	US	3	2	1	1.33
Phillips Energy	US	5	3	2	1.40
Area One Farms	Canada	3	1	2	1.67
Ecotrust Forest Management	US	3	1	2	1.67
Stonepeak Infrastructure Partners	US	3	1	2	1.67
Macquarie Infrastructure and Real Assets (MIRA)	UK	4	1	3	1.75
Veripath Partners	Canada	5	3	0	1.80
Kayne Anderson Capital Advisors	US	7	2	4	1.86
The Children's Investment Fund Management	UK	3	2	1	1.33

Source: Preqin Pro

*The most consistent top performing fund manager table is based on the average quartile ranking of a manager's funds. The entire pool of natural resources funds is ranked within each vintage year according to its net IRR. The funds are given a score based on their quartile: 1 for top-quartile funds, 2 for second-quartile funds, and so on. This is the fund's 'quartile ranking.'

A manager's average quartile ranking is the average of all of the funds' quartile scores, with a minimum of three funds required in order to appear in the table. The average quartile rankings can vary from 1.00, for a fund manager with only top-quartile funds, to 4.00 for a fund manager with only bottom-quartile funds.

Hedge Funds in North America

The asset class is benefiting from the current market environment and exceeding investors' expectations

Hedge funds have become a hot topic once again. As the largest market by AUM, North America has always played a key role in leading the direction of the industry. Post-GFC, hedge fund managers started paying more attention to risk management – not the preferred emphasis of those solely focused on returns. But, fast-forward to 2020, and many North American allocators with reduced allocations to alternatives experienced massive drawdowns in their portfolios, while hedge funds managed to protect capital in Q1 2020.

The asset class also participated in the V-shaped recovery in a meaningful way and outperformed public markets, returning +22.15% to investors last year, while the S&P 500 PR Index and S&P/TSX Composite Index went up 16.26% and 3.99%, respectively.

The US Leads the Industry

Hedge funds' total AUM reached $4.33tn in Q2 2021. North America-based hedge funds accounted for $3.39tn of the aggregate amount, or 78% of the share (Fig. 68), highlighting the importance of this region to the asset class.

There are currently 4,722 hedge fund managers located in North America; 4,500 of these managers reside in the US, with Canada home to 154.
Hedge fund liquidations in the region have never exceeded launches, with the market offering great opportunities to managers. In fact, even in 2020, the net number of launches (377) exceeded 2019 (150). During the first half of 2021, this trend has continued, and the industry has seen 501 launches and 220 liquidations.

Fig. 68: North America-Based Hedge Fund Assets under Management, Q1 2015 - Q2 2021

Source: Preqin Pro

Credit Is Still Struggling

Credit strategies hedge funds had a hard time in Q1 2020, along with public credit markets, but managed to recover from losses throughout the year with the help of central banks. Performance ended up disappointing many investors, but some hedge funds launched new products with the assumption that the dislocations in the market would create opportunities down the road. In fact, credit strategies' share of fund launches increased from 15% in 2019 to 18% in 2020 (Fig. 69). This year, due to a lack of opportunities, credit strategies accounted for only 9% of launches in H1.

In contrast, the niche category, which houses cryptocurrency hedge funds, has increased its share of launches significantly in 2021. In H1, 19% of new launches fell under this umbrella, compared with 8% across the whole of 2020.

The North American hedge fund industry has experienced outflows in 11 out of 20 quarters over the past five years (through Q2 2021, Fig. 70). In aggregate, hedge funds have recorded $234bn in outflows and $136bn of inflows during this time. Despite the pressure from investors, industry AUM has only declined twice in the past five years, indicating that the growth has been coming mostly from performance.

Since Q1 2020, the industry has experienced negative outflows every quarter, with the exception of Q1 2021. But strong performance in 2020 (+22.15%), and the first half of 2021 (+13.46%) may reverse that trend. In the first half of 2021, North America-focused and US-based hedge funds returned +13.46% and +15.63%, respectively. During the same time interval the S&P 500 PR Index increased by 15.20%. This strong performance indicates that hedge funds can compete with and outperform public markets.

Performance, however, isn't the only reason investors allocate capital to hedge funds. Risk management plays a key role in the way investors think about the asset class. In fact, historically, North America-focused hedge funds have underperformed the S&P 500. Hedge funds returned +13.81% and +13.20% for the past three- and five-year horizons, while the S&P 500 increased by 16.76% and 15.57% respectively (Fig. 71).

Risky Business

A look beyond returns is needed to assess the validity of hedge funds as sound investment vehicles. The

Fig. 69: North America-Based Hedge Fund Launches by Top-Level Strategy and Date of Inception, 2010 - H1 2021

	Equity Strategies	Macro Strategies	Event Driven Strategies	Credit Strategies	Relative Value Strategies	Multi-Strategy	Niche Strategies	Alternative Risk Premia
2010	344	54	124	132	70	48	9	3
2011	423	65	129	141	91	69	8	4
2012	491	99	119	203	93	71	16	4
2013	583	64	158	172	76	75	26	9
2014	489	64	148	130	82	85	25	6
2015	488	52	155	136	90	78	16	15
2016	502	84	153	129	70	92	12	14
2017	343	58	117	129	77	84	95	18
2018	409	56	86	109	80	79	138	17
2019	320	36	68	108	76	60	62	9
2020	283	28	78	116	45	55	55	3
H1 2021	126	11	27	25	18	14	51	-

Source: Preqin Pro

first measure is risk. Over the past three and five years, North America-focused hedge fund returns came with standard deviation of 11.24% and 8.93%, while the S&P 500 recorded 18.56% and 15.03% standard deviation (Fig. 71). In terms of skewness, hedge funds are negatively skewed but comparable to public equity markets. When it comes to the gain/loss ratio, hedge funds beat the S&P 500 over the past three and five years.

Maximum drawdown is where hedge funds truly shine relative to public markets. Over the past five years, the S&P 500 had a 20.00% maximum drawdown, which took place during Q1 last year. In the same interval, hedge funds in all regions experienced significantly smaller drawdowns. North America posted a -12.07% drawdown over the past five years (vs. -11.44% for Europe and -10.57% for Asia-Pacific).

North America- focused hedge funds have also done a great job of controlling tail risk over the past five years, as shown by 95% CVaR, which looks into extreme losses in the tail of the distribution. These funds recorded -5.77% CVaR compared with the S&P 500's -10.03%.

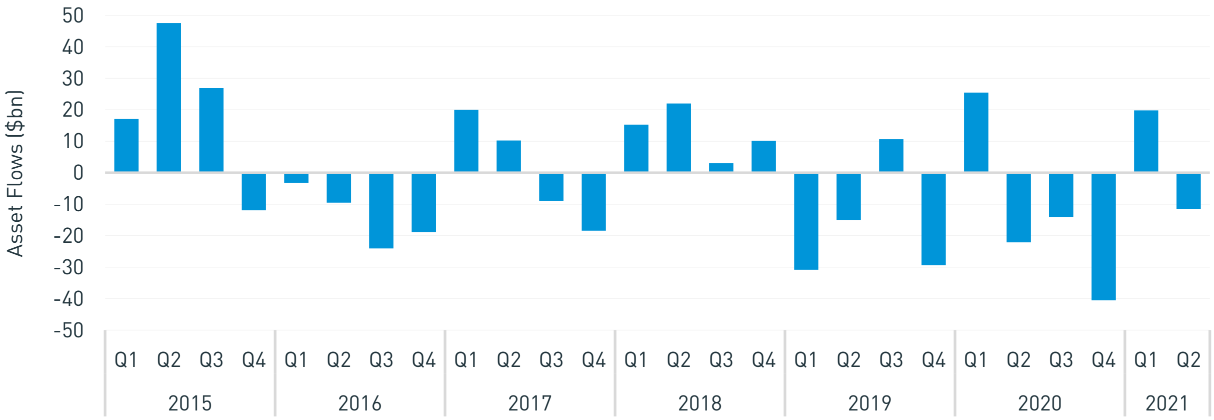
Omega, which is the probability-weighted ratio of gains over losses, incorporates the entire distribution and is generally considered a better risk-adjusted measure than the Sharpe ratio. When Omega is above one, it's an indication that the fund has provided more opportunities to earn a return that exceeds the target level, in this case 0%. The higher the number the better. North America-focused hedge funds beat the S&P 500 over the past five years with 3.33 Omega relative to the S&P's 2.26. In fact, hedge funds in all regions beat the S&P 500 on a risk-adjusted basis as measured by Omega.

Running the returns against Carhart North American factors also delivers great numbers for the asset class. North America-focused hedge funds show a statistically significant +4.94% alpha with +0.45% beta. This is also considered positive as it shows hedge funds' ability to partially block systematic risk infusion into portfolios.

At the strategy level, equities (+16.10%) have performed better than other hedge fund strategies over the past five years, with CTAs (+4.91%) the worst performers (Fig. 72). On the risk side and when it comes to drawdowns, CTAs (-3.32%) and relative value strategies (-2.61%) had the least peak-to-valley pullback. On a risk-adjusted basis as measured by Omega, relative value strategies (8.45) win over other categories by a significant margin, looking at the past five years. All categories show above-one Omega.

Running the returns against Carhart factors reveals that CTAs and event driven strategies have failed to produce statistically significant alphas. It's important to note that equity risk factors are used in this analysis, and further investigation is needed

Fig. 70: Quarterly North America-Based Hedge Fund Asset Flows, Q1 2015 - Q2 2021



Source: Preqin Pro

to assess these strategies when it comes to alpha generation. All strategies have statistically significant betas; credit, relative value, and CTAs, however, show very little exposure to the market premium factor.

Looking to the Future

Hedge funds are well positioned to benefit from the current environment. High levels of volatility and dispersion, and the divergence in recovery between countries, have all created an attractive opportunity set for managers. Although the return to normality started early in the US, different states and industries are recovering at different rates due to the non-uniform nature of crisis. Canada is well behind the US in its recovery and is slowly coming out of a prolonged lockdown. The abundance of liquidity in the system has also resulted in inefficiencies and certain assets being overpriced. As a result, hedge funds focused on North America still have room to grow and offer benefits to investors and portfolios.

Fig. 71: Risk Analysis of Hedge Funds by Geographic Focus vs. S&P 500 PR Index over the Past Three and Five Years

Benchmark	North America	Europe	Asia-Pacific	S&P 500 PR Index	North America	Europe	Asia-Pacific	S&P 500 PR Index
Interval/Monthly Data	3 Years (July 2018-June 2021)				5 Years (July 2016-June 2021)			
Annualized Return	13.81%	5.61%	10.25%	16.76%	13.20%	6.59%	10.58%	15.57%
Standard Deviation	11.24%	8.05%	8.79%	18.56%	8.93%	6.43%	7.25%	15.03%
Skewness	-0.68	-1.90	-1.04	-0.60	-0.74	-2.29	-1.15	-0.60
Kurtosis	2.20	7.75	2.20	0.51	4.61	12.82	3.74	1.78
Gain/Loss Ratio	0.88	0.63	1.20	0.76	0.83	0.77	1.27	0.82
Maximum Drawdown	-12.07%	-11.44%	-9.83%	-20.00%	-12.07%	-11.44%	-10.57%	-20.00%
Downside Deviation	6.99%	6.13%	5.78%	12.30%	5.44%	4.76%	4.60%	9.76%
CVaR (95%)	-9.57%	-9.42%	-7.77%	-12.51%	-5.77%	-4.66%	-4.74%	-10.03%
Sharpe Ratio	1.12	0.55	1.03	0.84	1.35	0.85	1.31	0.96
Sortino (MAR Rf)	1.80	0.72	1.56	1.26	2.23	1.15	2.06	1.48
Omega	2.63	1.89	2.40	1.97	3.33	2.53	2.96	2.26
Carhart Alpha (North American Factors)	5.74%*	0.87%	4.06%*	0.76%	4.94%*	1.73%	3.77%*	0.58%
Carhart Beta (North American Factors)	0.43*	0.30*	0.35*	1.00*	0.45*	0.31*	0.40*	0.99*
Carhart SMB (North American Factors)	0.40*	0.19*	0.38*	-0.26*	0.30*	0.09	0.19*	-0.24*
Carhart HML (North American Factors)	0.07*	0.17*	0.11*	0.05	0.06*	0.14*	0.09	0.03
Carhart MOM (North American Factors)	0.06	0.08	0.19*	0.01	0.04	0.04	0.16*	0
Carhart Alpha (Global Factors)	6.63%*	1.06%	3.84%*	2.63%	5.40%*	1.46%	3.11%*	1.65%
Carhart Beta (Global Factors)	0.46*	0.34*	0.41*	1.09*	0.45*	0.34*	0.45*	1.04*
Carhart SMB (Global Factors)	0.54*	0.24*	0.45*	-0.31*	0.51*	0.18*	0.31*	-0.20*
Carhart HML (Global Factors)	0.05	0.20*	0.12*	-0.03	0.05	0.17*	0.12*	-0.05
Carhart MOM (Global Factors)	0.01	0.08	0.20*	0.04	-0.01	0.05	0.22*	0

Source: Preqin

Fig. 72: Risk Analysis of North America-Focused Hedge Funds over the Past Three and Five Years by Top-Level Strategy

Benchmark (North America-Focused)	Equity Strategies	Event Driven Strategies	Credit Strategies	Relative Value Strategies	CTAs	Multi-Strategy	Equity Strategies	Event Driven Strategies	Credit Strategies	Relative Value Strategies	CTAs	Multi-Strategy
Interval/Monthly Data	**3 Years (July 2018-June 2021)**						**5 Years (July 2016-June 2021)**					
Annualized Return	16.97%	15.60%	6.54%	7.64%	4.30%	8.95%	16.10%	12.72%	7.51%	6.42%	4.91%	10.67%
Standard Deviation	15.10%	17.13%	6.14%	2.95%	3.64%	9.10%	12.05%	13.52%	4.79%	2.41%	3.40%	7.37%
Skewness	-0.44	-0.82	-4.07	-0.06	-0.67	-0.76	-0.45	-0.80	-5.21	0.26	-0.87	-0.97
Kurtosis	1.66	3.27	19.52	0.00	0.90	1.45	3.73	6.26	33.85	1.03	1.67	3.32
Gain/Loss Ratio	1.08	1.11	0.37	1.29	1.27	0.71	0.94	0.97	0.33	1.49	1.02	0.83
Maximum Drawdown	-15.67%	-19.47%	-8.82%	-2.61%	-3.12%	-9.71%	-15.67%	-19.47%	-8.82%	-2.61%	-3.32%	-9.71%
Downside Deviation	9.21%	11.16%	5.23%	1.27%	2.36%	5.98%	7.20%	8.68%	4.02%	0.98%	2.17%	4.64%
CVaR (95%)	-12.02%	-16.18%	-8.77%	-1.31%	-2.65%	-7.63%	-7.73%	-8.99%	-3.35%	-1.07%	-2.38%	-4.69%
Sharpe Ratio	1.04	0.84	0.87	2.18	0.85	0.85	1.24	0.86	1.34	2.21	1.12	1.30
Sortino (MAR Rf)	1.71	1.29	1.02	5.07	1.31	1.29	2.08	1.34	1.59	5.46	1.75	2.06
Omega	2.45	2.22	2.94	6.46	2.43	2.12	3.01	2.44	4.65	8.45	3.00	3.00
Carhart Alpha (North American Factors)	6.20%*	6.96%*	4.20%*	4.16%*	0.44%	2.91%	5.05%*	3.64%	4.72%*	3.36%*	1.41%	4.01%*
Carhart Beta (North American Factors)	0.58*	0.55*	0.19*	0.13*	0.14*	0.32*	0.60*	0.58*	0.19*	0.12*	0.15*	0.34*
Carhart SMB (North American Factors)	0.50*	0.60*	0.28*	0.05	-0.06	0.38*	0.41*	0.41*	0.17*	0.03	-0.09	0.27*
Carhart HML (North American Factors)	0.04	0.21*	0.24*	-0.01	-0.06	0.07	0.04	0.20*	0.20*	0	-0.05	0.04
Carhart MOM (North American Factors)	0.03	0.01	0.21*	0.02	-0.01	0.09	0.02	-0.02	0.15*	0.02	-0.02	0.06
Carhart Alpha (Global Factors)	7.69%*	8.20%*	3.69%	4.41%*	0.70%	3.39%	5.98%*	4.07%*	4.00%*	3.50%*	1.48%	4.19%*
Carhart Beta (Global Factors)	0.61*	0.61*	0.21*	0.13*	0.17*	0.36*	0.60*	0.60*	0.20*	0.12*	0.18*	0.37*
Carhart SMB (Global Factors)	0.68*	0.78*	0.34*	0.08	-0.07	0.41*	0.67*	0.70*	0.28*	0.08	-0.11	0.37*
Carhart HML (Global Factors)	-0.01	0.25*	0.29*	-0.03	-0.07	0.1	-0.01	0.23*	0.24*	-0.01	-0.05	0.07
Carhart MOM (Global Factors)	-0.05	-0.04	0.21*	0.03	0.02	0.08	-0.06	-0.07	0.16*	0.02	0.02	0.07

Source: Preqin

Fig. 73: Largest North America-Based Hedge Funds by Assets under Management

Fund	Manager	Fund Type	Core Strategy	Assets under Management
Bridgewater Pure Alpha Strategy 12%	Bridgewater Associates	Commingled	Macro Strategies	$81,100bn as of 31 May 2021
Bridgewater All Weather Strategy 12%	Bridgewater Associates	Commingled	Macro Strategies	$62,600bn as of 31 May 2021
BlackRock Strategic Income Opportunities Fund	BlackRock	Alternative Mutual Fund	Credit Strategies	$41,212bn as of 30 June 2021
Guggenheim Total Return Bond Fund	Guggenheim Investments	Alternative Mutual Fund	Credit Strategies	$24,376bn as of 31 March 2021
Grayscale Bitcoin Trust (BTC)	Grayscale Investments	Listed Funds	Niche Strategies	$24,066bn as of 31 May 2021
BlackRock High Yield Bond Fund	BlackRock	Alternative Mutual Fund	Credit Strategies	$23,584bn as of 30 June 2021
Renaissance Institutional Equities Fund	Renaissance Technologies	Commingled	Equity Strategies	$21,845bn as of 31 May 2021
BlackRock Multi-Asset Income Fund	BlackRock	Alternative Mutual Fund	Credit Strategies	$18,140bn as of 30 June 2021
Global Targeted Returns Fund (UK)	Invesco	UCITS	Multi-Strategy	$16,416bn as of 30 September 2020
Calamos Market Neutral Income Fund	Calamos Investments	Alternative Mutual Fund	Relative Value Strategies	$12,669bn as of 31 March 2021

Source: Preqin Pro

Fig. 74: Net Returns of Top Performing North America-Based Hedge Funds in 2021 YTD

Rank	Fund	Manager	Headquarters	Core Strategy	Net Return in 2021 YTD (%)
1	Hestia Capital Partners	Hestia Capital Management	US	Long/Short Equity	199.80
2	Grayscale Ethereum Trust (ETH)	Grayscale Investments	US	Cryptocurrency	197.50
3	The Ether Fund - Class A	3iQ Corp.	Canada	Cryptocurrency	197.21
4	Bitwise Ethereum Fund	Bitwise Asset Management	US	Cryptocurrency	193.30
5	Crypto20	Invictus Capital	Cayman Islands	Cryptocurrency	191.97
6	Pantera Liquid Token Fund	Pantera Capital	US	Cryptocurrency	171.24
7	Makalu International Equity Master Fund	Makalu Fund Management	US	Long Bias	141.96
8	Blockforce Multi-Strategy Fund	Blockforce Capital	US	Multi-Strategy	139.26
9	Arca Digital Assets Master Fund	Arca	US	Cryptocurrency	137.33
10	JEI Fund	JEI Investment Management	US	Value-Oriented	120.32

Source: Preqin Pro

Fig. 75: Largest North America-Based Investors in Hedge Funds by Type

Investor Type	Investor	Assets under Management ($mn)
Endowment Plan	University of Texas Investment Management Company	59,068
	Harvard Management Company	41,900
	Stanford Management Company	37,575
	Yale University Endowment	31,200
	Princeton University Investment Company (Princo)	26,251
Family Office	Ensign Peak Advisors	100,000
	Bill & Melinda Gates Foundation Trust	49,337
	Kaiser Permanente	40,835
	UPMC Health System	21,586
	CommonSpirit Health	19,224
Foundation	Tudor Trust	295,055
	Ensign Peak Advisors	100,000
	Bill & Melinda Gates Foundation Trust	49,337
	Wellcome Trust	42,085
	Kaiser Permanente	40,835
Insurance Company	Prudential Financial	1,720,900
	Principal Life Insurance Company	731,300
	AIG	721,336
	Nippon Life Global Investors Americas	631,514
	New York Life Insurance Company	550,000
Private Sector Pension Fund	TIAA	1,183,000
	Nokia US Retirement Plan	220,456
	National Steel Corporation	130,926
	United Nations Joint Staff Pension Fund	80,770
	General Motors Investment Management Corporation	74,923
Public Pension Fund	CalPERS - California Public Employees' Retirement System	467,440
	CPP Investment Board	453,499
	California State Teachers' Retirement System (CalSTRS)	291,726
	CDPQ	287,282
	New York State Common Retirement Fund	254,800
Sovereign Wealth Fund	Alaska Permanent Fund Corporation	74,242
	Texas Permanent School Fund State Board of Education	33,787
	New Mexico State Investment Council	32,181
	Wyoming State Treasurer's Office	23,018
	Alberta Heritage Savings Trust Fund	13,404

Source: Preqin Pro

ESG Advances in the US

Under the Biden administration and backed by businesses, the US is poised to catch up to Europe on ESG

For the Biden administration, addressing climate change is a top priority, and the government is moving quickly to implement changes across key industries. The administration's added emphasis has bolstered environmental, social, and governance (ESG) activity across all sectors, training the US's sights on the 'E' of ESG.

Regulatory Developments

One of Biden's first acts as President was to fulfil his commitment to rejoin the Paris Climate Agreement. In April, he organized the Leaders' Summit on Climate, announcing the administration's updated Nationally Determined Contribution (NDC) under the Agreement, effectively setting a target to reduce emissions by 50-52% (compared to 2005 levels) by 2030. This is a significant increase in carbon reduction compared to the first NDC, which targeted a 26-28% decrease. To achieve this ambitious target, the Biden administration has enhanced climate regulation across various sectors.

In conjunction with the White House, several key financial regulators are strengthening their capabilities in relation to climate risk and ESG. Some recent developments include:

- The Commodity Futures Trading Commission established a new climate risk unit.[1]
- The Federal Reserve[2] created two committees to identify and respond to climate-related risks to financial stability.
- The Financial Accounting Standards Board released a staff educational paper[3] on ESG matters in relation to financial accounting standards.
- The House Financial Services Committee advanced the Climate Risk Disclosure Act[4] to amend the Securities Exchange Act of 1934 to require disclosures related to climate change.
- The Securities and Exchange Commission (SEC) announced the formation of the Climate and ESG Task Force[5], requested input[6] on whether current climate change disclosures adequately informed investors, and issued a risk alert[7] on ESG investing.

Further regulatory developments are on the horizon. In April, Gary Gensler was appointed as Chairman of the US Securities and Exchange Commission. His particular focus on ESG investing led to a request for input on climate change disclosure[8] as well as a call for the House of Representatives to pass the ESG Disclosure Simplification Act. The EDSA bill would require the SEC to define ESG metrics and would oblige publicly traded companies to annually disclose how ESG affects their business strategy to shareholders and the SEC.

---

[1] https://www.cftc.gov/PressRoom/PressReleases/8368-21
[2] https://www.federalreserve.gov/newsevents/speech/brainard20210323a.htm
[3] https://fasb.org/cs/ContentServer?c=Document_C&pagename=FASB%2FDocument_C%2FDocumentPage&cid=1176176379917
[4] https://www.jdsupra.com/legalnews/ready-or-not-here-they-come-climate-2874580/
[5] https://www.sec.gov/news/press-release/2021-42
[6] https://www.sec.gov/news/public-statement/lee-climate-change-disclosures
[7] https://www.sec.gov/files/esg-risk-alert.pdf
[8] https://www.sec.gov/comments/climate-disclosure/cll12-8911586-244362.pdf

Moreover, the legislation would require the SEC to establish a Sustainable Finance Advisory Committee, tasked with identifying challenges and opportunities for investors in relation to sustainable finance, recommending policy changes to facilitate the flow of capital toward sustainable investments, and advising the SEC on sustainable finance. Whether the legislation passes in the Senate is still uncertain.

Asia and Europe are also experiencing movement within the ESG space. Similarly to the US, Asia is looking to rapidly develop further ESG guidance, but it's more focused on the Green Bond market. Europe leads the pack with the most explicit guidelines surrounding ESG – most recently looking to implement the SFDR and EU taxonomy into financial reporting.

The Impact
So far, regulatory developments have matched the growing ESG momentum among industry leaders in private sectors. Prior to the Leaders' Summit of Climate, 408 businesses and investors published an open letter[9] to indicate their support for stronger climate action, setting federal climate targets to reduce emissions. Similarly, several of the US's largest banks have announced plans[10] to harmonize their financing activities with the Paris Agreement.

Keeping up with regulatory pressure is one of the main drivers behind LPs demanding further ESG disclosure and GPs creating more robust ESG practices. As demand for ESG data and carbon reduction becomes increasingly visible within financial markets, a surge in climate-related information is expected. This includes, but isn't limited to, a flood of climate change initiatives and carbon reduction plans, and significant growth in the number of signatories to organizations such as the CDP, Task Force on Climate-Related Financial Disclosures (TCFD), and Climate Action 100+, among others. As regulators provide more guidance and regulation for market players, this data will improve in quality over time.

While we wait to see the direct effects of these developments, it's safe to say that the changing regulatory landscape indicates a strengthened commitment to climate change mitigation, further driving the industry toward consistent, comparable, and decision-useful ESG data.

While we continue to debate the shortcomings of data, sign on to aspirational principles, and wait for others to act first, the relentless march of global warming continues. We must take a stewardship approach and harmonize actionable and sustainable leadership now.

Bill Kelly
CEO
CAIA Association

[9] https://www.wemeanbusinesscoalition.org/ambitious-u-s-2030-ndc/
[10] https://www.law360.com/pulse/articles/1363388/wells-fargo-joins-5-big-banks-in-greenhouse-gas-goal

Canada in Focus: Swensen's Lasting Legacy

Canadian pension funds are putting the evolved iteration of the Swensen model to use

Endowment/pension investment models have evolved significantly over the past 35 years. Prior to the introduction of Yale University's endowment model, most institutional long-term allocators largely focused on domestic public equity, bonds, and cash. Only 11% of Yale's endowment was invested in alternative assets in 1985, and at the time the portfolio faced a 21% chance of purchasing power impairment, in which real endowment values fall by 50% over a 50-year horizon.[1] By 2019, alternatives accounted for 77% of Yale's endowment, and the purchasing power impairment risk had declined to 2%.

This alternatives-heavy portfolio, also widely known as the Swensen model – named after Yale's recently deceased former CIO, David Swensen – has become the blueprint for other endowments, pensions, and foundations globally.

The Swensen Model

While the Swensen model has evolved over time, one factor has remained consistent: the increased use of private capital and hedge funds. There are a few fundamentals that made the original Swensen model successful.[2] First, a strong focus on outside managers for all assets, except for traditional or indexed investments. Second, focusing on private and public equities, with increased allocations to leveraged buyouts and venture capital. Third, diversification by limiting exposure to any single class. Fourth, focusing on less efficient markets and picking private market managers to benefit from inefficiencies and illiquidity premium. Fifth, forming strong relationships with successful outside managers, while controlling the fees to make sure interests are aligned.

Since Swensen first joined Yale's endowment on 1 April 1985, the US 10-year Treasury rate has dropped significantly, from 11.37% down to 1.3% as of mid-August 2021.[3] In fact, the ICE BofA US high-yield index effective yield is only around 4.20% (as of 16 August 2021). This downward trend created a bull market in fixed income, resulting in high prices in fixed-income assets and capping the upside. Swensen realized this trend early on and shifted capital to private equity and hedge funds.

According to Yale's 2020 report, the endowment has the following asset mix: 21.6% in absolute return, 22.6% in venture capital, 15.8% in leveraged buyouts, 8.6% in real estate, 3.9% in natural resources, 11.4% in foreign equity, 2.3% in domestic equity, and 13.7% in cash and fixed income.[4]

Swensen benefited from pioneering this model, locking investments with top managers that are now closed to big pools of capital. Other investors gradually noticed the same trend in rates and replicated the model, resulting in additional interest in alternative assets – proving that once a secret

[1] https://investments.yale.edu/about-the-yio

[2] Josh Lerner (2015), "Yale University Investments Office: February 2015," Harvard Business School: https://www.hbs.edu/faculty/Pages/item.aspx?num=49035

[3] https://fred.stlouisfed.org/series/DGS10, https://fred.stlouisfed.org/series/BAMLH0A0HYM2EY

[4] https://investments.yale.edu/s/2020-Yale-Endowment.pdf

is revealed, its value declines. Institutions are now thinking about the next evolution of the Swensen model to stay ahead of the curve. The model that has received a lot of attention over the past few years is the one implemented by several Canadian pensions, including the country's largest.

Canadian Pension Plans Are Innovating

Canada Pension Plan (CCP) has AUM of CAD 497.2bn (roughly $412bn) according to its 2021 annual report.[5] Replicating Swensen's model for a pension fund much larger than Yale ($31.2bn) is extremely challenging. The first challenge is to find talented managers with the investment and operational capacity to accept big allocations. The second is to avoid over-diversification as the pension is forced to invest with many managers due to capacity constraints.

CPP has noticed these issues and brought its own flavor to the model by adding in-house investment teams to invest directly in private equity. CPP's direct program considers the full spectrum of ownership structures and focuses on sizable investments alongside aligned partners, entrepreneurs, and management teams (with minimum size of CAD 100mn, and no maximum).[6]

Other Canadian pensions have also implemented similar structures and directly invest in private companies and infrastructure projects. This has proven costly, but the model has worked in Canada.

CPP's asset mix is 29.2% in public equities; 26.7% in private equities; 13.5% in credit; 9.6% in government bonds, cash, and absolute return; 8.7% in real estate; 8.3% in infrastructure; and 4% in other real assets. This is different to Yale's, so it makes sense to compare the performance of these two models. Over the 10 years ending March 2020, CPP returned 9.9% on an annualized basis after costs (10.8%, ending March 2021). For the 10-year period ending June 2020, Yale's endowment returned 10.9% per annum net of fees. It appears these two similar but different philosophies have generated similar returns.

The Critical Question

How should institutional investors think about the future when certain parts of the private markets are becoming overcrowded? It appears the Canadian model provides additional flexibility and agility to pensions while maintaining the same respectable level of returns. These could prove valuable traits when many institutions are increasing allocations to alternatives, or are at least planning to do so. Investing through qualified managers will never become outdated, but bringing them in house could be the new recipe for success in future.

---

[5] https://www.cppinvestments.com/wp-content/uploads/2021/05/CPP-Investments-F2021-Annual-Report-ENG.pdf

[6] https://www.cppinvestments.com/about-us/our-investment-teams/teams-private-equity/teams-direct-private-equity

The Home
of Alternatives®

preqin

www.preqin.com
info@preqin.com