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Increasing allocation to **Private Markets**

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Richard Kramer is Head of Risk Management which provides independent oversight and guidance for managing risk on an enterprise-wide basis including the development and implementation of risk management measures across the company covering investment, credit, liquidity and operational risks and capital adequacy. Risk management is part of the effort to build and sustain a strong culture in which all employees understand the importance of managing risk to deliver responsible growth and serve our clients.

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Richard joined Investcorp in 2011, before which he was a Managing Director at Credit Suisse, where he started as an analyst in the M&A department of Credit Suisse First Boston in London in 1997.

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Executive summary

Investors are increasing their allocation of capital to private markets as they seek to diversify and enhance portfolio risk-return profiles. Institutional investors were early adopters of private markets' investment strategies and initially deployed capital into private equity, real estate, credit and hedge funds. Driven by superior returns against both benchmarks and peers, private markets have, over the years, attracted a wider range of investors. Investment features including excess returns, long term horizon, active management, diversification and lower correlation to public market performance have attracted capital and supported innovation and growth in private markets.

As investors seek to capitalize on megatrends such as aging populations, ESG, AI, climate change and the redefinition of global trade, private markets offer a range of asset classes and duration profiles to provide exposure to these long-term trends. Innovation and evolution of products have facilitated greater access and fit to investment portfolios.

Constructing a portfolio of private market investments is the opportunity but also the challenge for investors. Portfolio construction incorporating both strategic and tactical views on asset allocation to private markets can contribute to optimizing investors' investment portfolios. Investcorp has a long history of successfully deploying capital into private markets and is able to offer private market products across multiple asset classes and geographies. Investcorp offers products in different formats including fund offerings, direct investment in deals, discretionary and co-CIO mandates, providing the ability to tailor investment exposures to investors' requirements.

Private markets encompass private equity, private debt, real estate, absolute return, infrastructure and other related asset classes and strategies

1. Private markets go mainstream

2020 proved to be an extraordinary year for investors who had to navigate the severe impact of the pandemic on the economic and financial landscape and then reposition their portfolios for the post-covid environment. As economies recover from the troughs in activity in 2020, the scars inflicted by the pandemic may shape future political, social, economic and financial market activity for years to come. Investors' search for returns and optimizing portfolio construction will be as challenging as ever, with private markets expected to play an increasing role in investors' portfolios, building on the existing material contribution to investors' portfolios today.

In the decades leading up to 2020, a range of investors led by endowments and larger family offices have steadily increased their exposure to private markets, in order to diversify returns from fixed income and public equities, reduce volatility, and access new sources of alpha. The rationale for allocation to private markets remains compelling, particularly given the challenges facing traditional asset classes such as fixed income - where yields are near historic lows, and public market equities - whose valuations are elevated in many sectors. Private markets offer investors the opportunity to diversify returns and potentially strengthen a portfolio's return and risk profile.

Given the increasing importance and attractiveness of private markets to investors, this paper aims to define what investments fall within the domain of private markets, discuss the rationale to deploy capital into private markets, and finally, review portfolio construction considerations and how private markets can fit within an investors' portfolio.

Private markets encompass a broad range of assets classes and investable sub-strategies

Private markets encompass private equity, private debt, real estate, absolute return, infrastructure, GP stakes and other related asset classes and strategies. Underneath each of these principal asset classes is a further range of investable sub-strategies that offer additional diversification of returns and risk.

Private Equity | Real Estate | Private Debt | Infrastructure | Commodities

Although a majority of developed market economies' are made up of private sector companies, the vast majority of investable products are fixed income and listed equities. MSCI estimated in 2015 the global investable market size to be $125 trillion, of which fixed income represented 56% and public equity 32%, with real estate, infrastructure and private equity representing 6.8%, 3.2% and 2.0%, respectively. If the majority of economies is driven by private sector companies, and the role of private equity currently is relatively small, it implies an enormous potential upside for private equity and private credit in financing the private sector.

Broadly speaking, private markets asset classes have fundamental differences in strategy, investment approaches and risk-return profiles from the traditional public market asset classes of fixed income and listed equities. Investors have sought to diversify their exposures away from traditional public market assets and improve the robustness and risk profile of the portfolios. This has led to increasing capital allocated to private markets which has in turn led to the growth and increased focus on investment opportunities in private markets.

The table below summarizes how private markets have extended the traditional public markets asset classes into expanded opportunity sets in private equity, private credit, real estate and hedge funds.

Figure 1. **Overview of private markets asset classes**

Investment Instrument / Type	Investment Objective	Public Markets Asset Classes & Strategies	Private Markets Asset Classes & Strategies
Equity	Capital Growth	Public Equity	Leverage Buyouts Mid-Market Private Equity Growth Capital Venture Capital GP Stakes
Debt	Income	Fixed Income	Collateralized Loan Obligations Senior Loans Private Debt
Real Assets	Income	REITS Long-only Commodities Listed Infrastructure	Private Real Estate Private Infrastructure
Cash & Cash Equivalents (applicable to public markets)	Capital Preservation	Fiduciary Deposits	Alternative Return Investments (Hedge Funds)

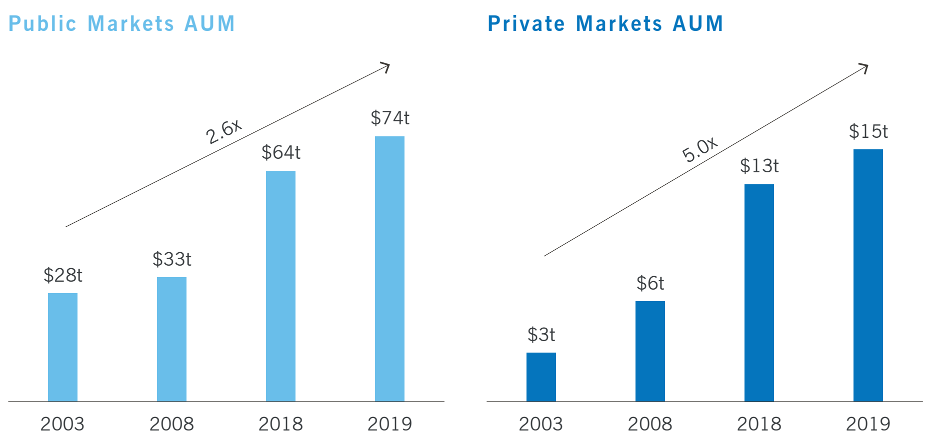
The general lack of a listing on a public exchange or market distinguishes private from public markets, and historically has led to more limited accessibility of private markets to investors. Lack of quoted prices and platform to trade generally results in lower liquidity and less efficient price discovery process. In return for lower liquidity, an ‘illiquidity premium’ can be expected which supports higher returns. Put another way, investors in private markets are willing to be paid – with the prospect of higher returns – in order to give up liquidity.

Private markets have expanded significantly - by a factor of 5x since 2003

Investor fund flows into private markets asset classes, together with capital appreciation, has seen AUM in private markets asset classes grow at a rate of 11% between 2003 and 2019, reaching $15 trillion in 2019, growing nearly twice as fast as public markets AUM which saw growth of 6% over the same period.

Private markets have continued to show strong absolute and relative performance, as well as lower volatility, in addition to the diversification benefits of investments in private markets

Figure 2. **AUM growth of private markets vs public markets**

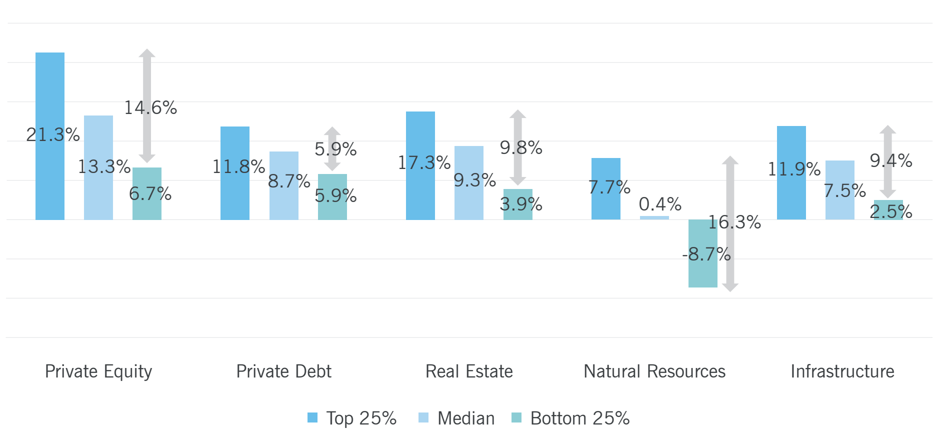


Source: BCG Global Asset Management 2020

The increase in capital flowing into private markets has led to a proliferation of products available to investors, providing investors greater choice and flexibility to meet their objectives. The diversity of product allows for improved portfolio construction as investors are better able to adjust exposures to suit their objectives. Not only has the product set increased, the formats through which to deploy capital has also expanded from vanilla funds, to deal-by-deal, to fund-of-funds and derivative products.

The growth in AuM does not seem to have compromised performance, as private markets have continued to show strong absolute and relative performance, as well as lower volatility, in addition to the diversification benefits of investments in private markets. These compelling features have attracted a wider range of institutions to earmark capital.

Figure 3. **Private equity has outperformed other asset classes (Global fund median IRR and percentile spread by asset type, net IRR to date through September 30, 2020 for vintage 2007-2017).**

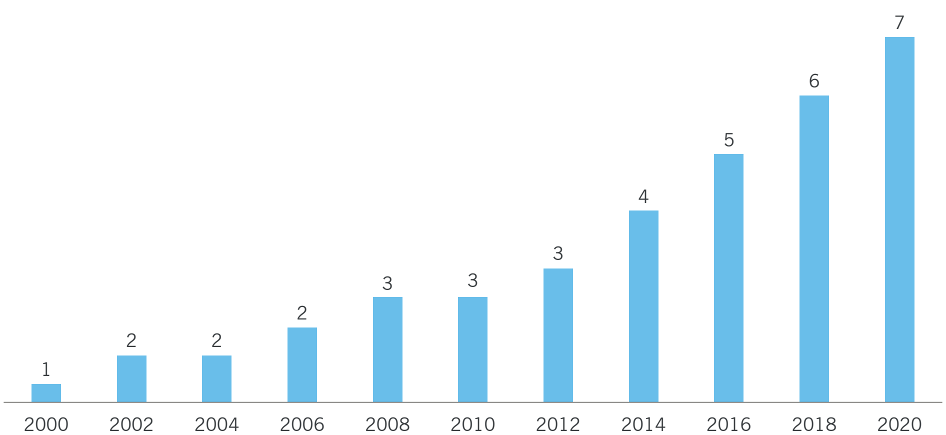


Source: McKinsey Global Private Markets Review 2021

The growth in private markets has supported growth in the number of products available, providing investors with greater choice and fit

The increase in capital flowing into private markets has led to an increase in number of products to serve investor needs. Product diversification enables investors to structure investments to focus on specific geographies, or sectors, or different levels of the capital structure, to gain exposure to desired growth drivers for a given risk profile. More capital has also meant more managers, driving both competition and innovation.

Figure 4. **Number of private market products for top 10 GPs**



Source: McKinsey Global Private Markets Review 2021

Innovation in private markets is seen in the development of new formats through which investors are able to gain exposure to private markets. Conventional fund products have expanded to include fund-of-fund products which allow investors to gain diversification across managers. Secondary funds seek to capitalize on LPs' desire to exit investments and in turn create a degree of liquidity for investors. Indeed, providing liquidity to otherwise illiquid assets is an evolving area, with product innovation leading to a range of solutions to provide liquidity to LPs, whether through financing or outright sale.

Many larger and more sophisticated investors continue to invest directly, deploying their own investment teams' resources to diligence, negotiate and execute direct investments. This provides investors the highest degree of control and discretion on their choice of capital deployment, but requires significant scale of a platform and cost base to support this investment strategy.

As private markets mature further, we expect to see product designs evolve to cater to changing investor appetites and also to position to capitalize on new investment opportunities.

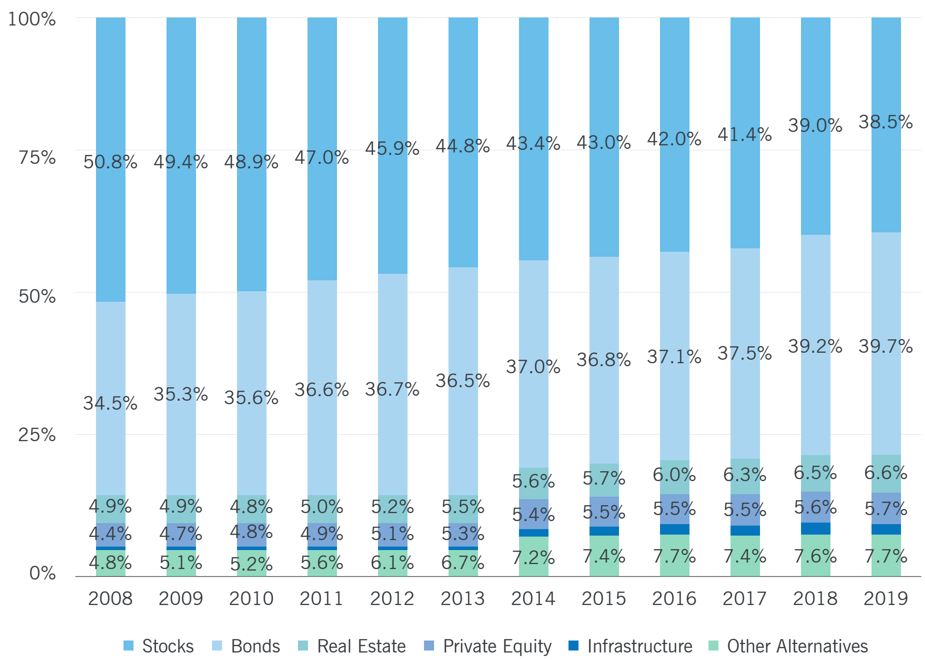
The investor base expanded over the years to include a wider range of investors including sovereign wealth funds, pension funds, banks, insurance companies and foundations

Investors in private markets encompass a wide range of institutions and private clients, globally

The Yale Endowment under the late David Swensen was one of the first institutional investors to recognize and articulate the rationale for increasing allocation to private markets. In 1989, nearly 75% of the Yale Endowment was committed to U.S. stocks, bonds, and cash, while as of 2019, alternative asset classes account for approximately 77% of the endowment's asset allocation. The endowment's rationale for increasing their allocation to alternatives was based on the return potential, diversifying power, and the ability to exploit illiquid, less efficient markets over a longer time horizon. We believe that this rationale for investing in private markets is as strong as ever, supported by a marked shift in US equities away from public markets and towards private markets over the past 25 years.

Initially, investors in private markets asset classes were mostly large institutions, family offices and ultra-high net worth individuals that had the resources and access that enabled deployment of capital into private markets. Institutional investors are steadily increasing allocation to alternatives, as shown in the table below from McKinsey.

Figure 5. **Investors are steadily increasing allocation to alternatives**
Institutional investors' portfolio allocations, 2008-19, %

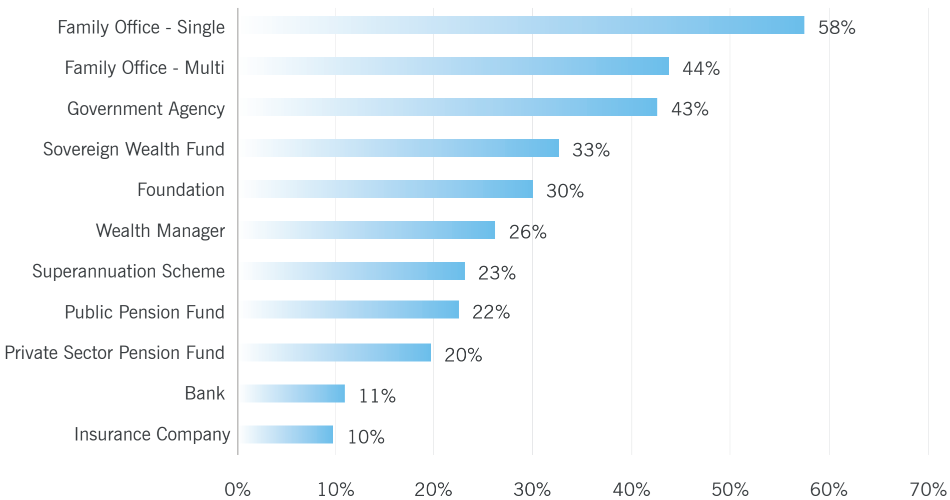


Source: CEM Benchmarking

The investor base expanded over the years to include a wider range of investors including sovereign wealth funds, pension funds, banks, insurance companies and foundations. Accessibility has improved as the number of managers, products and distributors has grown. This has enabled an increasing number of private clients to allocate to these asset classes.

Some institutions, such as pension funds, banks and insurance companies, maintain relatively lower exposures to alternative investments in private markets as they are more closely regulated with less flexibility to deploy capital. These institutions also typically have longer dated obligations that historically have been met with large investments in fixed income. The outlook for returns from fixed income remains very low, which may drive additional capital into alternative assets and private markets.

Figure 6. **Average allocation to private markets by investor type**



Source: Preqin data, as of September 2020

2. Rationale for investing in private markets

As the previous section lays out, "private markets are going mainstream"[1]. The following paragraphs seek to elicit why the private market universe has rapidly expanded by focusing on its value proposition. In short, private market investors have enjoyed excess returns relative to their public market peers and have benefited from attractive portfolio diversification features. We begin by laying out the drivers of excess performance in the asset class, and reviewing the large body of existing literature dedicated to the subject. We then cover the sources of diversification available within the universe. We conclude by highlighting certain pitfalls of private market investing.

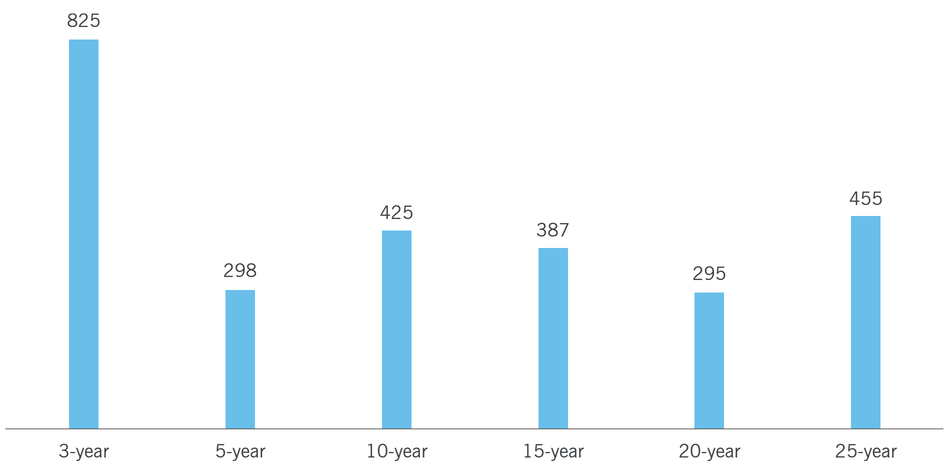
Excess returns

A key attraction of private markets for investors is the track record of delivering higher returns than public markets. According to research by Cambridge Associates, the global PE index has outperformed MSCI World index by around 500 bps on average when compared over time periods which vary from 5 years to 25 years. These higher returns net of the fees paid by investors justify the faith placed by investors in private assets over the long term. This elevated return expectation of private assets is often referred to as the "illiquidity premium" for private assets as investors demand and expect a higher return for illiquid investments as compared to the return expectations for liquid public investments.

[1] McKinsey Global Private Markets Review 2019

Private equity, private real estate and private infrastructure investments have long term investment horizons with lower liquidity compared to public market assets

Figure 7. **Private equity value-add relative to public small cap** (in basis points)



Source: Cambridge Associates, as of December 2020

Long term investment horizon

Private equity, private real estate and private infrastructure investments have long term investment horizons with lower liquidity compared to public market assets. Capital is generally returned to investors several years after initial deployment, providing managers with the time required to implement value creation strategies. Some strategies offer cash distribution during the investment period, such as real estate, CLO equity and private debt. Overall, private markets attract patient capital with a longer investment horizon.

Research conducted by John Asker[2], compared the investment behavior of observably similar public and private firms. The results showed that compared with private firms, public firms invest substantially less and are less responsive to changes in investment opportunities, especially in industries in which stock prices are most sensitive to earnings news. These findings are consistent with the notion that short-termist pressures distort investment decisions.

Manager activism / superior governance

Managers of private market investments adopt a highly active management approach, as opposed to public markets assets where ownership is typically highly diluted and managers are effectively passive investors, with active management limited to rebalancing and reallocating a fund's investments. Private equity managers on the other hand generally work directly with the management teams of the businesses they acquire to implement value creation strategies to generate returns for their investors.

Increased governance, activism and ownership offers the ability to influence management and business strategy. For instance, this provides greater influence on ESG strategies and is particularly conducive to investments strategies that emphasize the importance of impact investing.

[2] The Review of Financial Studies, Volume 28, Issue 2, February 2015, Pages 342–390

Performance variation

As a result of the confluence of higher market correlation, higher liquidity and the passive investor approach, performance variation between managers in similar strategies within different public markets asset classes is lower than observed among private markets managers. The greater dispersion amongst managers means alpha is unevenly spread.

Diversification and limited correlation to public assets

In assessing portfolio diversification, investors first need to measure quantitatively how individual portfolio components behave relative to each other. While imperfect, this is best captured through the correlation coefficient, a standardized statistical metric that captures the degree of covariance between two timeseries. Quantitative analysis has shown that private markets exhibit low to moderate correlations to other public asset classes. For example, research by Burgiss encompassing returns of various asset classes from March 2005 to March 2018, demonstrated that global private equity buyout returns had a correlation of 0.32 to US equities and 0.59 for European equities. Similarly, real estate and private debt investments typically have a low correlation to public equities and bonds and also provide further diversification away from private equity.

Figure 8. **Private markets offer lower correlation of returns to public markets**

Correlation Table	1	2	3	4	5	6	7	8	9	10	11	12	13
1 PE Global Buyout	1.00												
2 PE Global VC	0.75	1.00											
3 Infra Global	0.88	0.71	1.00										
4 RE Global Value Add	0.60	0.62	0.71	1.00									
5 RE Global Opportunistic	0.83	0.73	0.81	0.83	1.00								
6 Natural Resources	0.54	0.29	0.51	0.30	0.46	1.00							
7 Private Debt Global	0.86	0.61	0.67	0.35	0.62	0.51	1.00						
8 European Equities	0.59	0.37	0.41	0.14	0.36	0.31	0.66	1.00					
9 US Equities	0.32	0.29	0.14	0.07	0.26	0.13	0.44	0.77	1.00				
10 Barclays Global Aggregate Bond	0.28	0.07	0.17	-0.16	-0.01	0.05	0.59	0.60	0.37	1.00			
11 UK Equities	0.66	0.44	0.46	0.15	0.41	0.39	0.76	0.95	0.78	0.63	1.00		
12 Pacific (ex-J) Equities	0.74	0.44	0.60	0.19	0.42	0.41	0.81	0.80	0.47	0.69	0.86	1.00	
13 Japanese Equities	0.52	0.52	0.41	0.24	0.38	0.28	0.61	0.56	0.52	0.30	0.63	0.56	1.00

Source: Thomson Reuters, Burgiss. Correlation of returns from 31 March 2005 to 31 March 2018

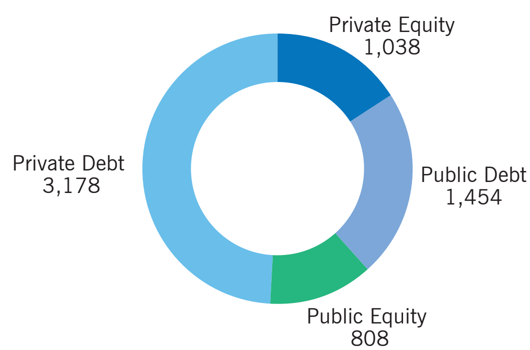
Portfolio diversification is best achieved through a balanced exposure to assets whose fundamentals are best suited to a specific macro-economic regime

Building resilience throughout the business cycle

In addition to quantitative metrics of diversification, it is also important to consider fundamental qualitative measures of how different asset classes are likely to perform during the business cycle. In this sense, portfolio diversification is best achieved through a balanced exposure to assets whose fundamentals are best suited to a specific macro-economic regime. If we consider growth and inflation as the two primary drivers of the business cycle, investors should hold assets likely to do well in each quadrant of: high growth/low inflation, high growth/high inflation, low growth/low inflation, low growth/high inflation. Public markets offer a great toolbox of assets that will perform in periods of low inflation: government bonds are likely to appreciate during low growth periods while equities and credit securities will do well in higher growth environments. However, the depth of assets offering some protection against inflation, the so-called 'real assets', is limited within public markets.

Real assets include real estate, infrastructure, commodities, and related exposure (farmland, timber, etc.). To take the example of real estate, research from Andrew Ang[3] has shown that both listed and private real estate share exposure to a common real estate factor but that listed real estate also exposes investors to, at times significant, deviations related to the performance of broader equity and government bonds indices. In addition, the next chart shows that the bulk of the US real estate market can only be accessed through private markets.

Figure 9. **Size of the institutional U.S. real estate market** (in $bn)



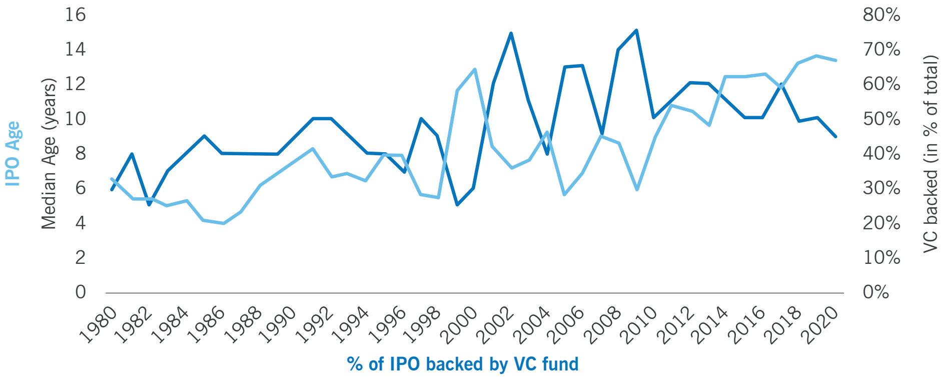
Source: Investcorp

Accessing innovation and growth opportunities

Much has been written already on the profound economic transformation[4] we have witnessed since the onset of the Third Industrial Revolution and how the rise of intangible assets has dramatically lowered growth companies' capital intensity. This emerging feature of modern economies is affecting how growth opportunities are split between private and public markets. Recent research has evidenced that high growth companies are able to remain private for longer thanks to both lower capital requirements and more mature private markets that can easily accommodate substantial fundraising needs. The delayed IPO process has resulted in the bulk of the gains accruing to private markets investors to the detriment of their public peers.

[3] Searching for a Common Factor in Public and Private Real Estate Returns, 2012
[4] Capitalism without Capital: The Rise of the Intangible Economy, 2018

Figure 10. **Median IPO age and share of IPOs backed by venture capital funds**



Source: J. Ritter, Investcorp

Another issue that investors in only public markets face is that companies are increasingly moving away from listing on public markets and choosing to stay private for a longer period. The number of publicly listed companies in developed markets has decreased by around 50% of the peak number in the 1990s. For investors in public markets, this reduces the number and quality of companies available for investment, which may have implications for returns in the long term. A better approach wherein investors invest in a combination of public and private markets allows investors to make superior asset allocation decisions within various asset classes, improving the efficient frontier of their portfolio and increasing the sharpe ratio.

Selected risks of investing in private markets

Higher barriers to entry

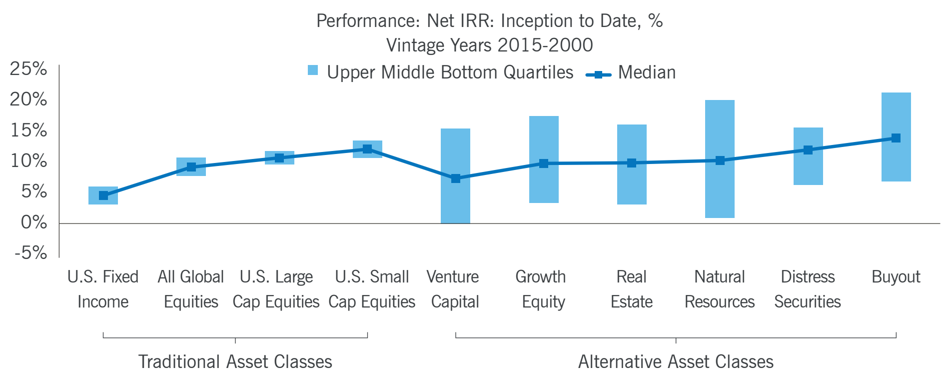
Barriers to entry are higher in private markets investing than trading of publicly listed securities. Private markets offer less transparency and disclosure relative to public markets, which therefore requires a higher degree of caution and diligence. Retail investors in public markets benefit from regulatory oversight, while in private markets investors shoulder more of the responsibility, hence the reliance on asset managers for asset selection, investment management and exit. In addition, investors may face capacity constraints on specific funds or deals that can make the appropriate scaling of capital in the asset class a challenging exercise.

Greater performance dispersion

Performance dispersion among private markets funds has historically been much larger relative to funds investing in publicly listed securities. Even for active managers, benchmarks play a very important role in driving asset allocation in public markets. This focus on benchmarks naturally reduces the dispersion among funds. On the contrary, private markets investors operate free of any industry benchmarks. In this sense, active risk or the share of risk derived from the asset manager's investment decisions is much larger in private markets. This is also evident in the higher fees generally charged by private markets asset managers.

An additional form of diversification which may be critical in private markets is diversification across vintages

Figure 11. **Higher dispersion of returns in private markets than public markets**



Source: KKR, data as at 3Q 2017. Data for alternative investments based on the average since-inception-IRR for vintage years 2000-2015 from Cambridge Associates. Data for traditional asset classes based on average CAGR for time periods 2000-3Q17, 2001-3Q17, etc. through 2010-3Q16 from eVestment Alliance database to match the alternative asset class time frame. Source: Cambridge Associates, eVestment.

Illiquidity and longer duration

A key feature of private assets is their illiquidity and uncertainty in the timing of exit. This may increase the burden faced by investors in managing the duration of their liabilities and assets. Additionally, while the investment may have a long duration, the timing of the investment may also be uncertain, as investors do not know when managers will make capital calls on their commitments. This may also result in lower portfolio returns as investors have to make provisions for liquidity in anticipation of future capital calls. However, investing on a deal-by-deal basis (co-investment basis) may mitigate risks related to timing of the investment as well as increase the due diligence that an investor may be able to make on individual investments in private markets.

An additional form of diversification which may be critical in private markets is diversification across vintages. This form of diversification may be more important in more volatile, less certain environments, including the current macroeconomic context.

3. Portfolio construction

The macro outlook featuring low absolute yields on bonds, higher political and geopolitical risks, and an expansion of fiscal and monetary stimulus are key factors driving portfolio construction and the objective to optimize returns for the risks taken. In this context, investors are seeking investments in private markets that contribute attractive return profiles, partly in return for illiquidity risks.

Approach to portfolio construction

Constructing a portfolio of private market investments is the opportunity but also the challenge for investors. To begin with, ‘private’ suggests some difficulty in accessing or limited visibility. Indeed, private markets are less transparent and less accessible, which implies a greater burden on investors to identify investments and construct a portfolio of investments in private markets.

The previous section highlighted the value proposition of private markets. This next part discusses the process required to design a private markets portfolio that meets an investor's objectives. It addresses the unique challenges private markets investors face in portfolio construction.

The first layer of portfolio construction consists of devising a robust and transparent set of Capital Markets Assumptions – essentially return and risk expectations - that will serve as the critical inputs for the Strategic Asset Allocation framework. A hybrid approach of quantitative modelling and qualitative judgement is best suited to then transform these forward-looking assumptions into a set of asset class target weights in a portfolio. The process is underpinned by the investors' bespoke objectives and constraints.

Investors should remain cognizant of the market environment and consider opportunistic deviations from target weights to monetize potential dislocations across asset classes or capture secular trends. The Tactical Asset Allocation process covers the research required to build conviction and size appropriately these themes. Finally, an optimal execution strategy is required to converge and maintain the portfolio of investment exposures in line with the target asset allocation.

Capital market assumptions (or 'CMAs')

Capital Market Assumptions formalize an initial set of expectations for the asset classes considered in the portfolio. They are informed by historical data but seek to be forward-looking. They should be as granular as possible, breaking down each asset class into its relevant sub-strategies. They should hold for the long-term, with a five-to-ten-year horizon representing a full business cycle.

Capital Market Assumptions will include a view on the asset class expected return, broken down between a cash yield and price appreciation, if relevant. CMAs will also capture risk information, including the asset class expected volatility, drawdown metrics and potential for extreme losses. The analytical process underpinning the CMAs should go beyond this initial step by capturing the asset class sensitivity to major macro-economic risk factors like real growth and price inflation.

Unlike their public markets peers, private markets investors face daunting challenges in their analysis. Data is scarce, often requires statistical adjustments to correct for autocorrelation ('smoothing effect') and averages can be meaningless when dispersion around the peer group mean is elevated. There is no single correct answer here and investors should embrace the uncertainty that comes with the exercise. Still, building a rich data environment drawing from the investor's own investing experience, industry benchmarks, publicly listed peers and proxies, current market knowledge and valuations should allow a reasonable estimation of the key parameters required. The process should be transparent, marry insights derived from rigorous quantitative analysis and qualitative judgement earned from years of experience in the space.

CMAs are a key input for optimization engines. Together with an investor's bespoke objective and constraints, CMAs will drive the optimization results with varying degrees of sensitivity depending on the specific optimization model used.

The breadth and depth of private markets offers many building blocks that can be assembled to meet various objectives or constraints

Strategic asset allocation (or 'SAA')

The Strategic Asset Allocation refers to the long-term target weights by asset class, in a portfolio, that maximize the probability of achieving a desired outcome for the investor.

The breadth and depth of private markets offers many building blocks that can be assembled to meet various objectives or constraints. The objectives can include a client's return targets, risk tolerance, desire for income, liquidity appetite, ESG focus or inflation protection needs. Multiple objectives can be weighted differently. Once a consistent set of objectives has been identified, these feed into an optimization engine that seeks to deliver the most efficient portfolio to achieve the desired outcome. Optimization engines can transform a set of inputs – including the CMAs and investor's set of objectives – into target allocation weights.

Portfolio theory was first pioneered by Nobel Prize winner Harry Markowitz who devised the Mean-Variance Optimization ('MVO') framework still in use today. 'Efficient frontiers' that plot the optimal portfolios on risk-return axis are still an important feature of most portfolio allocation processes. Over the years, other optimization engines have been developed to address some of the weaknesses typically associated with Mean Variance algorithms. They include stochastic processes or techniques to introduce non-linear constraints, for example. We see value in stochastic optimization engines that offer greater flexibility in defining objectives and greater robustness by mitigating the sensitivity to initial conditions associated with MVO. This class of optimizers take a probabilistic approach and seek to maximize the probability of achieving a given objective. Beyond setting optimal weights, the optimizer brings a wealth of information regarding the likely distribution of portfolio returns, data that can prove valuable in refining objectives and constraints.

Figure 12. **Key literature references by optimization topic**

Optimization Topics	Technique Used	Academic References
Optimization Engine	Bespoke utility function, optimized through Monte Carlo simulation	Terhaar, Staub (2003), Schweizer (2008)
Objective Function	Maximize the probability of hitting a return threshold while minimizing the risk of returns below a certain hurdle	Morton, Popova (2005), Cumming, Hass, Schweizer (2008)
Resampling	Create realistic allocation by introducing uncertainty in the decision process	Jorion (1992), Michaud (1998), Roncalli (2013)
Autocorrelation	Standard Auto-Regressive model to adjust autocorrelation	Getmansky, Lo, Makarov (2004), Alexander (2008), Pedersen, Page, He (2014)
Covariance Estimation	Reduce estimation error of the sample covariance matrix using shrinkage	Ledoit & Wolf (2003)

Source: Investcorp

The optimization engines yield target weights or ranges for each asset class considered. But the portfolio construction process benefits from another layer of analysis that considers qualitative insights and judgement to refine and iterate on the initial set of results. In addition, private markets portfolios also need to be considered on a dynamic basis, an exercise that is difficult to achieve through optimizers. This is a key difference with standard practice in public markets. As we will discuss further in the following section, portfolio construction in private markets should account for time as a key diversification axis. The performance of private markets across vintages has exhibited significant volatility and investors should therefore consider diversifying their exposure across vintages. This final qualitative overlay will also look to stress-test the portfolio and ensure its resilience.

Tactical asset allocation (or 'TAA')

The SAA process should provide a solid foundation to meet an investor's objectives over the long-term. However, by definition, the SAA is blind to short-term changes in the market's environment. Therefore investors should build in a process to enable their portfolios to be able to capitalize on opportunities along the way. A rigorous process to identify, quantify and size tactical investment opportunities can offer incremental value by tilting the portfolio's exposures to the most attractive asset classes, on a short-to-medium-term horizon.

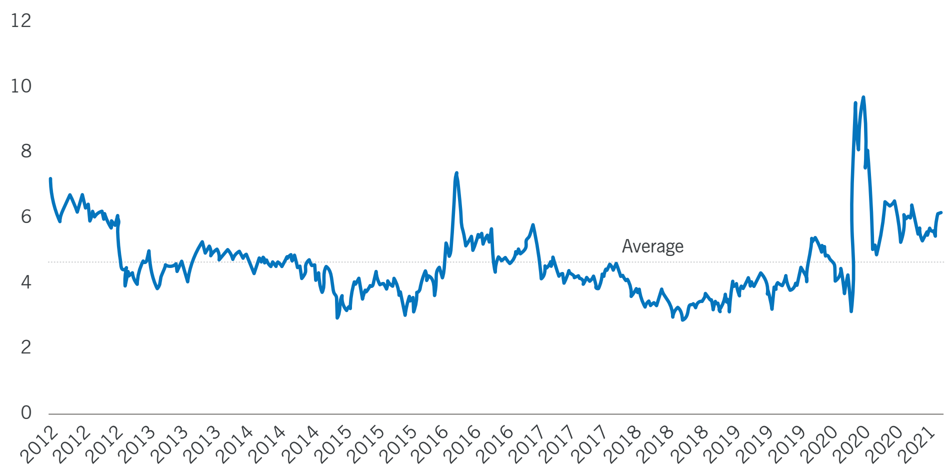
Tactical investment opportunities can be identified through a mix of bottom-up insights, filtered and aggregated from on-the-ground investment teams and top-down macro research that will systematically scan the investment universe for dislocations. Deal teams in private equity or real estate are best positioned to offer granular color on micro developments, for example the rapid evolution of industrial real estate properties. On the other hand, top-down research will focus on offering context over macro-economic trends, policy developments as well as quantitative evidence on valuations including timeseries, cross-sectional and cross-asset signals.

A dynamic hedging policy that seeks to opportunistically reduce portfolio risks through active investments in hedging overlays can also be part of a TAA process.

The relative sizing between the tactical and strategic portfolio depends on individual investors' preferences. A tactical portfolio requires appropriate planning and a liquidity budget so opportunities can be seized in a timely manner, without affecting the planned deployment of the strategic portfolio. The next chart illustrates the benefits of timing one's entry into structured credit, taking the example of CLOs. It tracks the spread between AAA and BB tranches in the CLO markets versus corporate credit cash bonds. Keeping dry powder allowed investors to quickly scale in during periods of dislocation in the asset class, earning extra returns relative to a static allocation.

Implementing a private markets portfolio requires greater oversight, with particular attention paid to the liquidity profile of investments, their cash flows and a pace of investing consistent with the diversification strategy

Figure 13. **Excess spread in CLOs relative to corporate credit (AAA vs BB ratings)**



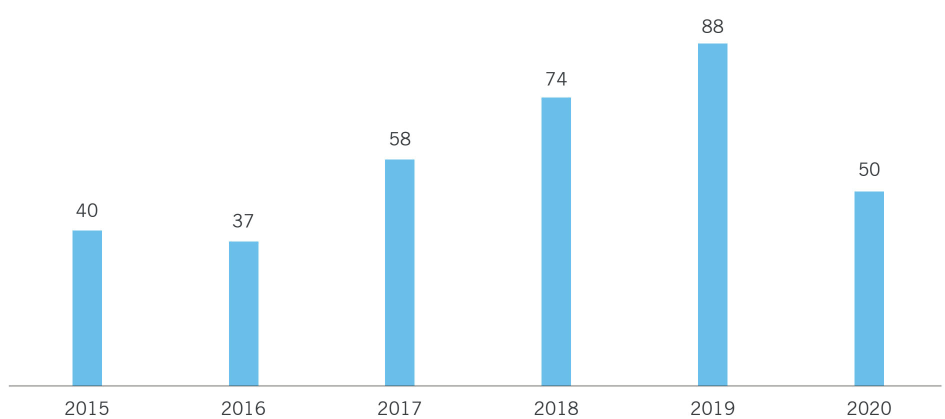
Source: JPMorgan, Bloomberg, Investcorp

Deploying capital and cash management

Private markets investors face a final challenge in portfolio construction. The nature of private markets, with self-liquidating closed-end funds, requires an ongoing strategy to ensure a portfolio first converges and then stays within the pre-determined target weights. Over the past twenty-five years, an emerging body of academic and practitioner literature has developed models to help investors with cash flow prediction and commitment strategies.

The industry has also witnessed organic innovations to allow investors to manage exposures more actively. The secondary market for most private asset classes has seen a rapid surge in volume, with a more balanced supply/demand dynamic helping tighten pricing.

Figure 14. **Historical Volume in Secondary Private Equity Transactions (in $bn)**



Source: Greenhill Capital

Still, no magic silver bullet exists. Implementing a private markets portfolio requires greater oversight, with particular attention paid to the liquidity profile of investments, their cash flows and a pace of investing consistent with the diversification strategy discussed in the SAA section.

4. Investcorp angle

Investcorp recognized the potential of private markets some 40 years ago when it developed one of the first transatlantic private equity franchises and built a substantial track record of investing in private markets with a core focus on private equity, real estate and credit. Investcorp also operates a hedge fund and outsourced CIO platform that seeks to identify superior performance amongst hedge fund managers. This broad-based investing expertise in alternative assets enables Investcorp to offer its clients access to private markets through a range of products and services.

Today, Investcorp is able to offer private market products across multiple asset classes and geographies, as well as different formats including fund offerings, direct investment in deals, in addition to discretionary and co-CIO mandates.

Implementing a private markets investment portfolio can be achieved through a self-directed manner or with the contribution of an external adviser in a 'co-CIO' model

Although there are a number of approaches to implement a portfolio, we discuss three approaches: self-directed; working with an external adviser in a co-CIO model; or complete outsourcing of a discretionary mandate to a third-party manager.

A self directed approach relies on an investors' ability to access product and build a portfolio. This approach allows for maximum customization and is not constrained by outside opinions, thereby potentially reducing costs. However, this approach requires a significant amount of time and effort to diligence, source, invest, monitor and manage investments. Innovation in this area of investing is generating many tools and platforms to support self-directed investment strategies to allow investors to monitor markets, access product and manage portfolios efficiently.

Although building a portfolio may be rewarding to some investors, others who seek to gain access to professional advice can construct a co-CIO model to benefit from external input into portfolio construction and investment decision making. In this model, investors still have a say in their investing goals and can set their own risk tolerance levels, but can work with a partner on a strategy toward pursuing those goals and executing the strategy within a portfolio which is the responsibility of the CIOs. The additional cost is offset by greater portfolio oversight – and saving of time. Full transparency and an institutional investment approached formalized with policies and procedures add confidence and discipline to the investment process.

A hybrid between self-directed and co-CIO is another alternative, catering to investors who want to have an active role in their portfolio, but they may not want to make decisions completely on their own. In that case, a hybrid strategy of both self-directing and co-CIO partner to execute the investment strategy may be ideal.

A third alternative is for investors to delegate investment decisions to a third-party manager tasked with managing a discretionary mandate. Investors determine the preferred risk and return profile and any specific needs, following which the investment

Investcorp offers private market products across multiple asset classes and geographies, as well as different formats including fund offerings, direct investments in deals, in addition to discretionary and co-CIO mandates

manager constructs the portfolio with a view to achieving the agreed investment objectives. Depending on the mandate guidelines agreed with the investors, the portfolio would be managed proactively, and the asset allocation adapted dynamically according to market conditions.

Investcorp products and services cater to each of the three approaches above. Private equity, real estate and credit investments are offered in a range of products, suitable for the self-directed investment strategy as well as an outsourced investment strategy. Investcorp offers access to products on a direct investment basis, a fund format and a discretionary, separate account mandate. The common element is a deep understanding of alternative investments in private markets.

ABOUT INVESTCORP

Investcorp is a global investment manager, specializing in alternative investments across private equity, real estate, credit, absolute return strategies, GP stakes and infrastructure. Since our inception in 1982, we have focused on generating attractive returns for our clients while creating long-term value in our investee companies and for our shareholders as a prudent and responsible investor.

We invest a meaningful portion of our own capital in products we offer to our clients, ensuring that our interests are aligned with our stakeholders, including the communities that we operate within, towards driving sustainable value creation. We take pride in partnering with our clients to deliver tailored solutions for their needs, utilizing a disciplined investment process, employing world-class talent and combining the resources of a global institution with an innovative, entrepreneurial approach.

Investcorp today has a presence in 12 countries across the US, Europe, GCC and Asia, including India, China and Singapore. As of March 31, 2021, Investcorp Group had US $35.4 billion in total AUM, including assets managed by third party managers, and employed approximately 430 people from 45 nationalities globally across its offices. For further information, including our most recent periodic financial statements, which details our assets under management, please refer to:

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