



TIME PARTNERS

WHITE PAPER

The Private Capital Advantage

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Introduction

The use of private capital in investor portfolios has grown tremendously over the last 20 years, aided by the public success of U.S. endowments like Yale and Harvard, who were early adopters of venture capital and private equity. In this paper, we review aspects of private capital's history, its long-term growth prospects, and why an increasing number and range of investors are utilising the private markets globally.

We consider the size of the investable universe and what proportion of it consists of private and public assets. We then outline the incredible diversity offered to private market investors and cover some portfolio construction theory to explain why investors are deciding to invest privately. Return enhancement, lower risk, increased transparency, and some truly differentiating features versus public markets are some of the benefits considered in this paper.

We conclude with the three broad themes touched on throughout the paper, which are:

1. Private capital can be a beneficial addition to a portfolio, offering a wide range of exposures and attributes that can add significant value and reduce volatility
2. The importance of thorough manager selection, a strong network, and thoughtful portfolio construction, which are key to achieving optimal outcomes. Particularly when considering the wide dispersion of returns and alpha generation among different private capital funds and the "persistence" seen across fund vintages
3. There are many advantages for the long-term investor. Capturing the ownership/illiquidity premium, investing in line with long-term themes, or reducing trading costs are some of the potential benefits we outline

We hope you enjoy this paper and, as always, would welcome the opportunity to discuss this with you in greater detail.

The Private Capital Universe

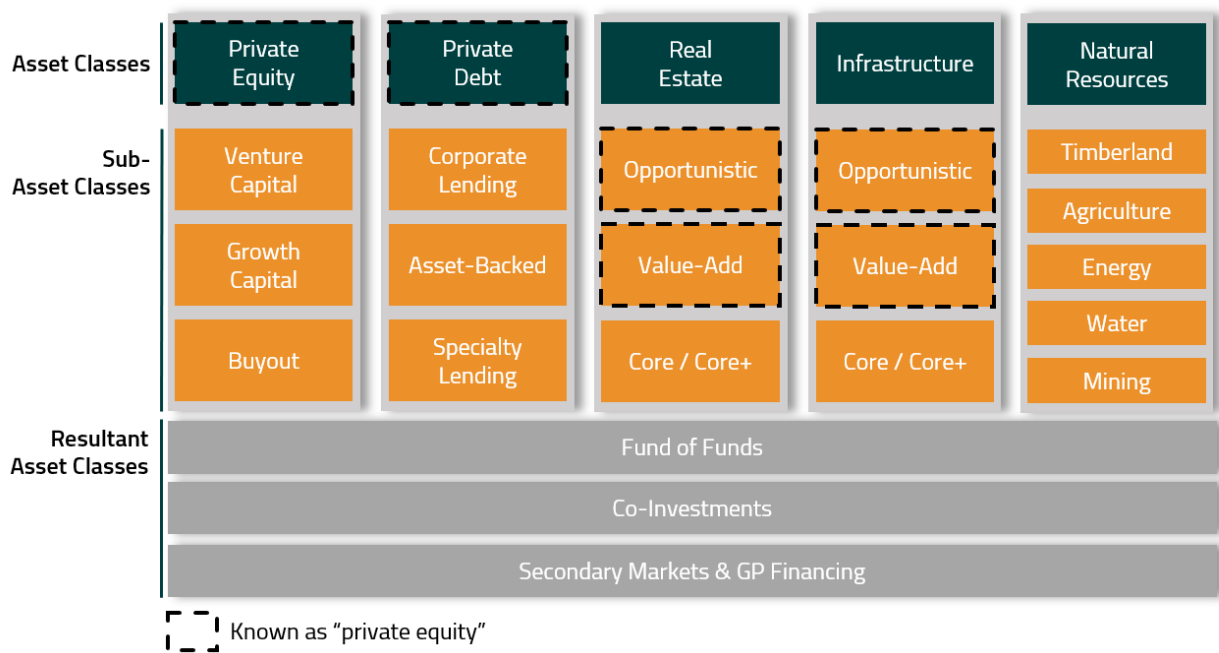
The Dutch East India Company was the first company in history to issue publicly tradable stocks and bonds back in the early 1600s, trading on the world's first organised stock exchange in Amsterdam. Continuing on with their financial pioneering, it is thought the Dutch were also the first to invent a type of mutually-owned fund, an idea of merchant Adriaan Van Ketwich in 1774. It had the name Eendragt Maakt Magt or "Unity Creates Strength". The closed-ended fund was surprisingly well constructed for its time¹, allowing investors to seed a diversified investment portfolio and then trade shares on a secondary market, in much the same way that investment trusts operate today. Closed-ended funds caught on rapidly across Europe and reached America in the 1890s, playing a large role in the financing of rail and other forms of transportation across the American continent and into Russia and the East. The first open-ended fund was formed in Boston in 1924, the Massachusetts Investors' Trust which allowed for continuous creation and destruction of shares depending on investor trading.

General and limited partnerships have been around since Roman times and carried interest was perfected by the medieval Florentines, but private equity, as now defined and organised as an asset class, is a more recent creation. Early private equity firms were the American Research and Development Corporation (ARDC) and J.H. Whitney & Co, both of which were founded in 1946 to help provide capital and professional assistance to entrepreneurs and growing companies. The private equity universe has since grown enormously and now offers an amazing array of different sub-asset classes, investment themes, sectors and regions of focus, with a variety of risk exposures. Private credit and infrastructure vehicles, the latter borne out of privatisation schemes, have seen rapid adoption by investors seeking contractual returns, duration matching, and in some cases a degree of inflation protection. The disintermediation of banks and traditional sources of debt and equity finance for these asset categories continues apace.

In Figure 1 we map key parts of the investable "private capital" universe (dotted lines denote "private equity", as may be defined). Underneath each sub-asset class, there are many additional more specialised and derivative asset classes. Asset-backed debt can, for instance, be further divided into the underlying loan, like mortgage-backed securities (MBS), credit card securitisations, and so forth. Venture capital encompasses angel investing, early-stage venture, or late-stage venture (and growth), across targeted specialised sectors, geographies and business models. There is growing interest in newer parts of the market, areas such as litigation finance or more esoteric investments in collectables, including fine art and wine. The opportunity among this illiquid set of asset categories is very broad, allowing investors and asset owners to focus on those risks and rewards which suit their portfolio preferences, if not personal enjoyment.

¹ <https://medium.com/@ritukantojha/who-was-abraham-van-ketwich-and-why-modern-mutual-fund-managers-both-admire-and-envy-him-81643b1d73e5>

Figure 1: An Overview of the Private Universe



What's Private and What's Public

Public markets are heavily regulated, skewed towards large and mid-cap companies (by survival and design), and impose a high level of public disclosure. Businesses start privately and may or may not choose to go public. Asker *et al.*² estimate that private U.S. firms accounted for 52.8% of aggregate non-residential fixed investment and an even larger share of private-sector employment and sales (68.7% and 58.7%, respectively) in 2015. By comparison, an analysis of the global investable market portfolio³ in the same year showed public equities made up 94% of the investable equity universe at \$39.8tn versus \$2.5tn in private equity.

There were around 15,000⁴ U.S. private equity-backed companies in 2018 compared to around 89,000⁵ private U.S. companies earning over \$20m of revenue (a proxy of the potential universe), making PE ownership around 17% of the market by number. This dwarfs the 4,397⁶ U.S. domestic publicly listed companies (although there are more conglomerates with a mix of businesses under one brand in the listed market so the comparison is not quite apples-to-apples). PE penetration, or private equity investments as a percent of GDP in 2017, was 1.6%⁷ in the U.S., the highest of all developed markets, nearly double that of the UK at 0.9%⁸ and much more than the 0.5%⁷ for Europe as a whole. As an economy develops, professional private sector PE penetration (as opposed to State directed assets) tends to increase meaning most emerging market economies show lower than these developed ratios. Central Eastern Europe had a penetration of just 0.2%⁷. Globally, private equity has remained at around 10% of M&A volume over the recent past⁹. We expect the low penetration of private equity coupled with a larger and more nascent opportunity set to naturally create more opportunity and additional capital inflows to the asset class.

Figure 2 shows the investable universe as defined by Gupta *et al.*³; or, said another way, if there was one investor who owned all of the assets in the world that were for sale, this would be their resultant portfolio. In reality, these assets are spread amongst the global investor base in differing proportions. What is still surprising to us is the incredibly small proportion of capital invested in private market strategies. We mentioned earlier that private U.S. firms account for 52.8% of U.S. non-residential fixed investment. Despite this, from Figure 2 below it is evident that private capital is only a tiny part of what is investable. Of course, many of the private companies/assets in the un-investable universe may never be for sale nor may they have sufficiently attractive characteristics for PE. Private capital, we contend, therefore still has room to grow as a proportion of investable assets as more investors commit to the asset class and as penetration increases, particularly outside of the largest developed market economies; and as public ownership is increasingly seen to be lacking in effective governance and adherence to longer-term socially responsible criteria.

² Corporate Investment and Stock Market Listing: A Puzzle? Review of Financial Studies 28, no. 2 342-390, Asker *et al.* 2015

³ Global Markets & Return Drivers, Analysis for the Ministry of Finance, Norway, MSCI, Gupta *et al.* 2016

⁴ AEA

⁵ Economic contribution of the U.S. private equity sector in 2018, Prepared for the American Investment Council

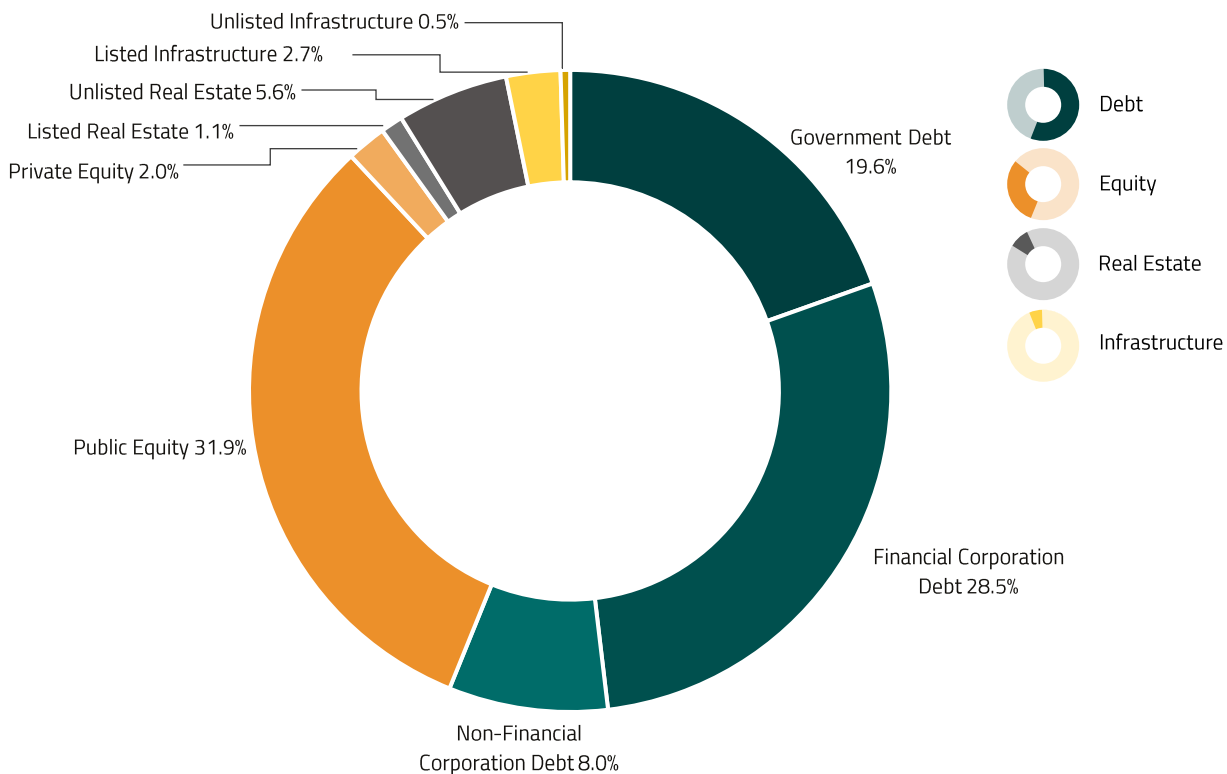
⁶ World Federation of Exchanges, 2018, Nasdaq and NYSE combined

⁷ <https://www.bcg.com/en-gb/publications/2018/private-equity-hot-but-not-overheating>

⁸ Invest Europe

⁹ Global Private Equity Report 2020, Bain & Company

Figure 2: The \$125 Trillion Global Investable Universe



Source: MSCI, Gupta et al., as of June 2015. *The MSCI data contained herein is the property of MSCI Inc. and/or its affiliates (collectively, "MSCI"). MSCI and its information providers make no warranties with respect to any such data and the MSCI data may not be further used, distributed or disseminated without the express written consent of MSCI.*

Morgan Stanley¹⁰ suggest four reasons for businesses wanting to remain private: (1) the expansion of private capital availability (2) technological advancements (3) barriers to public market entry and (4) more attractive private market valuations. Technology has increased the levels of intangible assets at young companies, which are usually scalable. Technology is a "non-rival" good meaning more than one person can use it at the same time, creating more capital-efficient businesses needing less in physical and working capital assets, which, in turn, need less incremental capital investment as they grow. Listed companies are also getting larger, the average listed company in the U.S.¹⁰ now has a market cap of \$10.4bn up from around \$700m in 1976 (adjusted for inflation), increasing concentration. The bulk of U.S. de-listings are due to strategic corporate M&A. Morgan Stanley show that the average age of companies undertaking an IPO is increasing, with the median age going from 7.9 years in 1976-1997 to 10.8 years from 1998-2019, a 37% increase. A related data point is that almost 100% of U.S. venture capital exits in the 1980s were via an IPO, which now represent <10%¹⁰. The growth in buyout forms of private equity (leveraged buyout, management buyout, management buy-in etc.) has given late-stage VC investee firms a viable alternative to listing.

The number of companies listed on the AIM (the Alternative Investment Market, a UK market for smaller cap names), has fallen to a 10-year low, according to the Telegraph¹¹ at end 2019. There is a distinct lack of liquidity in many of the small-cap names and market dysfunctionality post-MiFID and other regulatory changes. The dramatic downfall of Neil Woodford showed his firm's liquidity

¹⁰ Public to Private Equity in the United States: A Long-Term Look, Morgan Stanley, Mauboussin et al. 2020

¹¹ <https://www.telegraph.co.uk/business/2019/12/27/number-aim-listed-companies-falls-10-year-low/>

mismatch, evident during the sale of his 'daily traded' portfolio which led to glaring losses. What is initially marketed to investors as liquid might not necessarily be so in its underlying portfolio construction. Taking on illiquidity risk while missing out on many of the advantages gained when investing via PE is a missed opportunity.

We see a similar dynamic in real assets. As at 2016 investable real estate was estimated at \$8.4tn globally, with listed real estate accounting for around 17% (\$1.4tn)³, leaving investors who only invest via liquid routes with a very small piece of the pie. This number would be even smaller when we consider how much of the real estate market is not institutionally managed ('investable') around the world.

The direct (non-bank intermediated) corporate lending market probably exceeds \$1tn in size, and other parts of "alternative credit" more widely defined may exceed \$4.1tn (financial assets, real assets, and specialty assets). Banks have substantially retrenched from leveraged loan markets, as holders (as opposed to originators) of these assets. In the U.S. and Europe, they held over 70% of U.S. issuance in the early '90s. Direct lending strategies have filled the void as institutional capital has pursued incremental yield post-2008. The story is much the same when looking at other areas of private debt, regulations such as Basel III have dramatically increased the cost of capital for banks, causing them to manage their balance sheets very differently.

Private Capital Growth

Private capital fundraising has grown at a CAGR of 10.7% from 2004 to 2019¹². This dipped in 2009/10 following the years of the Great Financial Crisis and has been growing at a rate of 13.0%¹² since. This growth is evident across all private market asset classes. Infrastructure has grown particularly fast with the privatisation of government-owned infrastructure assets being a driving force of growth, with fundraising increasing at a rate of 21.6%¹² annually since 2004. McKinsey¹³ note that the privatisation of government-owned infrastructure has been expanding at a rate of 27% annually over the last 5 years. We expect this privatisation and the secondary trading of infrastructure assets to continue given the asset class' attractiveness for liability-driven and inflation-sensitive investors like pension funds.

Private equity continues to be the largest segment of the private markets at around 60% of funds raised or \$689bn¹² in 2019. Megafunds have driven this volume growth, making up around half of the total 2019 fundraising with the proportion of funds above \$10bn at 35% of this, up from 23% in 2018¹³. We expect private debt accumulation to grow again in the coronavirus aftermath. Private debt typically enjoys higher interest rates (which may be fixed or floating, senior or subordinated) than bank-syndicated corporate debt with the benefit of having better covenant protection on the whole.

This growth has seen the average duration of dry powder (dry powder divided by M&A volume) increase slightly over the last few years to 2.6¹⁴ years, although still well below the 2008 peak of 4.7¹⁴ years and slightly above the average of the last five years (2.2 years). This suggests that the growth in fundraising has been met with firms finding more deals and succeeding in putting capital to work in a timely manner.

This growth has come despite regulations that have been causing many institutional investors to stick to more liquid securities. ERISA and Dodd-Frank rules in the U.S., the defined contribution (DC) pension charge cap in the UK for default funds, and the introduction of Solvency II across Europe has reduced demand from regulated investors, while wealthy families and endowments remain largely unconstrained. Nb, there is some evidence that regulators are starting to see the benefits of private capital in some of the more regulated parts of the market: one example is the Department of Labour encouraging private equity in 401(k) plans (employer-sponsored US DC pensions).

¹² Preqin Ltd

¹³ A New Decade for Private Markets, McKinsey Global Private Markets Review 2020

¹⁴ Global Private Equity Report 2020, Bain & Company

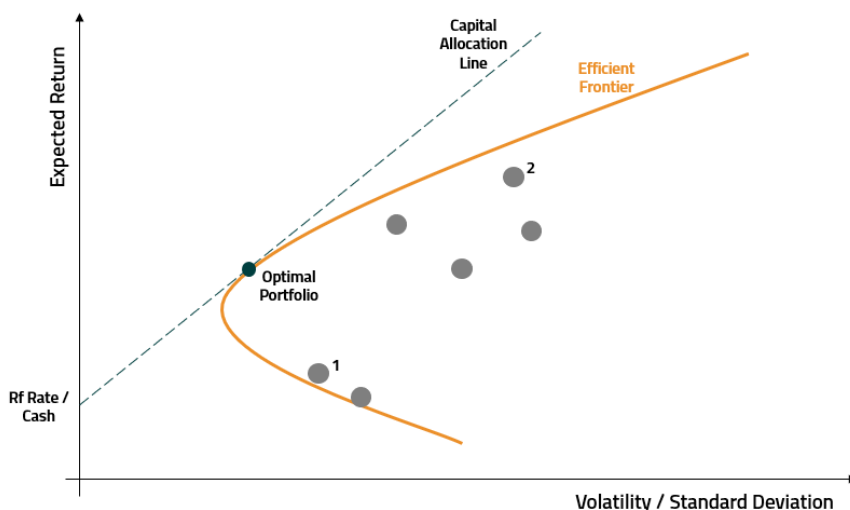
The Efficient Frontier

Thus far, we have outlined the diversity and growth of private capital, while reflecting on its size relative to both the investable and un-investable universe. In this section, we consider how the introduction of private assets affects portfolio construction and why an increasing number of investors are allocating to this part of the market. The Efficient Frontier, created by economist Harry Markowitz in 1952, lays the foundation of modern portfolio construction.

Modern portfolio theory and the efficient frontier has led to the well-known 60/40 stock and bond portfolios many investors still hold today. This section covers some of that theory at a high level and rolls it forward to today, taking into account new investable asset classes, such as those seen in private capital.

Markowitz found a way of computing a proxy for a portfolio's level of diversification. He did this by plotting the standard deviation and expected returns of all possible assets in the portfolio in varying combinations, Figure 3 shows this in pictorial form (NB: we say 'proxy' as volatility is only one measure of risk, which is covered in more detail elsewhere in this paper). All the possible assets available are shown as grey dots with, say, asset #1 being U.S. Treasuries (low return near the risk-free rate (R_f) or cash, with low volatility) and asset #2 being UK equities (higher volatility, higher return). In this particular portfolio, therefore, there are six investable assets. Computing all possible combinations of these assets, taking into account their correlation with one another (i.e. how related or dependent their volatilities and returns are with the other assets in the portfolio), creates the "efficient frontier" shown in gold. If a portfolio sits on this line, it has the maximum return for that level of risk (without utilising leverage).

Figure 3: A Constrained Investor



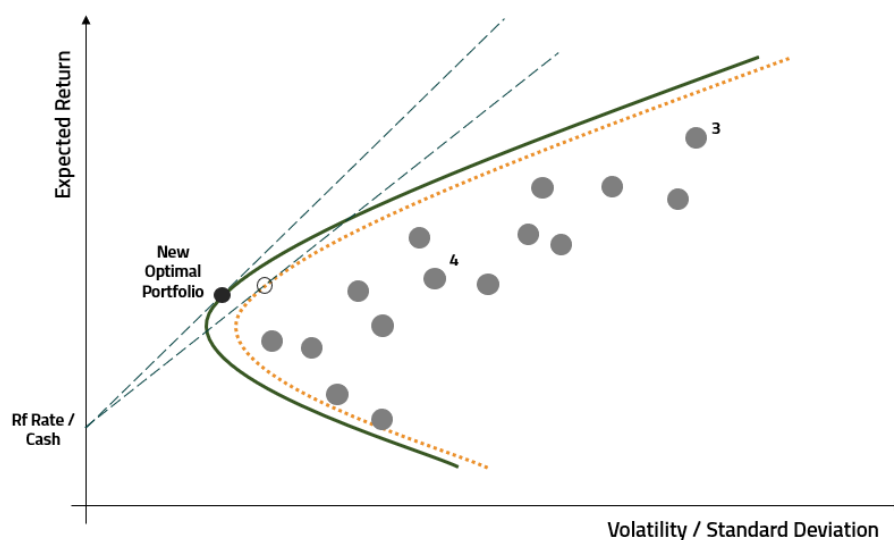
For illustrative purposes only

The dotted capital allocation line introduces the risk-free (R_f) asset into the portfolio. The optimal portfolio is where the capital allocation line touches the efficient frontier, this is the most efficient (i.e. the lowest level of risk per unit of return) portfolio possible when using cash or leverage. If you move left on the capital allocation line, you hold an increasing percentage of the risk-free asset with the optimal portfolio to achieve your return. Moving to the right means borrowing and adding leverage

to the optimal portfolio. In reality, it is much more expensive than the risk-free rate to borrow and increase returns, which is why you rarely see this at scale in practice.

Figure 4 takes this theory one step further and introduces some additional assets to the portfolio (we now have 15). Perhaps asset #3 is European private equity and #4 is U.S. infrastructure. Adding additional assets which are uncorrelated to the existing portfolio creates more possible combinations, pushing the efficient frontier to the left, this means you take less risk (volatility) for a given level of return. This result ultimately explains why so many institutional investors have begun investing in alternative assets like hedge funds and private capital. An increased opportunity set means there are more possible assets to add to your portfolio. This either leads to substitution, whereby a new asset replaces an existing one, or addition where an extra asset is added alongside all the others. The latter option has limits, of course, as a portfolio should be kept as simple as possible (see Complexity later).

Figure 4: An Unconstrained Investor



For illustrative purposes only

Markowitz's efficient frontier is great in theory but misses many real-world problems that arise when constructing a portfolio in practice. The theory also relies entirely on sensitive assumptions, some of which may be hard to model. In the next section, we think through some of these and consider the benefits private capital can provide.

Portfolio Construction & Private Assets

Thinking Holistically

The complexity of the world in which we live makes efficient portfolio management a difficult task; there are lots of variables to consider all of which are constantly evolving in a complex adaptive system¹⁵. Here we outline some important areas to consider when constructing a portfolio and review them from the private capital perspective. The first two, return and volatility, build on the efficient frontier framework mentioned above; the factors that follow are examples of others that should also be considered.

Return

One of the driving forces of private capital growth has been the additional long-term return that many of these investments may provide versus their liquid counterparts, particularly in the low interest rate environment we find ourselves in today. The additional return available in private equity is well evidenced in academia, such as one study by Brown *et al.*¹⁶ which found global private equity consistently outperformed against the MSCI ACWI (a developed and emerging market equity index) for all years since 1988. A meta-study by Kaplan and Sensoy¹⁷ also finds buyout funds have outperformed listed markets by around 20% over the life of the fund. It is important to adjust the returns of public and private investments to make them comparable - IRR is typically calculated as a money-weighted return while compound returns are time-weighted. In the low interest rate world of today, private capital is of huge importance for investors seeking to reach their inflation-adjusted return objectives.^{18,19}

Investors demand an 'illiquidity premium' which compensates them for taking on some additional risk in the form of lower liquidity (which we extend to also being a cost relating to higher governance). Research supports this: a study by Amihud *et al.*²⁰ shows that less liquid public stocks generate higher returns than similar more liquid stocks, even when it is the same company trading in two locations (although some studies find this trait is less evident in frontier markets, thought to be offset by the additional diversification these markets offer²¹). The private markets are able to meet this extra return requirement because one can access fundamentally different return drivers here versus public assets. When investing in a public company, you often own a fraction of its market cap and exerting influence on the management team is left to proxy voting on quasi-related issues to what you may care about (e.g. trying to change the board composition to catalyse a reduction in carbon emissions). Trading in public stock outside of any engagement is reduced to a zero-sum endeavour between the buyer and the seller. The ability of private market managers to promote and effect change at companies or assets

¹⁵ A complex adaptive system is a system in which a perfect understanding of the individual parts does not automatically convey a perfect understanding of the whole system's behaviour

¹⁶ Have Private Equity Returns Really Declined? Brown *et al.*, 2019

¹⁷ Charles A. Dice Center for Research in Financial Economics, Private Equity Performance: A Survey, Kaplan and Sensoy, 2014

¹⁸ Such as CalPERS whose assumed rate of return has been largely constant since the 1980s, while Treasury yields have fallen from the low teens to low single digits today

¹⁹ <https://www.ft.com/content/fdb793a4-712e-477f-9a81-7f67aefda21a>

²⁰ Liquidity and Asset Prices, Foundations and Trends in Finance Vol. 1, No 4 (2005) 269–364, Amihud *et al.*, 2005

²¹ Is there an illiquidity premium in frontier markets? Stereńczak *et al.*, 2020

through direct ownership, negotiate bilateral terms, and/or convince the founder of a company to sell some equity at a discounted price (perhaps because the private equity sponsor is able to add significant value to the company beyond just its capital contribution) are uniquely private and value accretive.

Alignment is hugely important. At Time Partners, we spend a lot of time understanding the alignment of a general partner (the manager) and its employees to limited partners (investors). Moreover, the alignment of an underlying company's management team to the private equity fund is equally, if not more, important. Private capital creates unique incentive structures for each investment to much better unite an investor and management/agents versus public markets. We are even seeing some PE firms set management KPIs on environmental or social objectives, for instance, to reduce CO₂ or waste products. The nature of public markets create short-termism and executive compensation is often not strongly enough linked to the longer-term success of a company. This short-termism is evidenced in research; Graham *et al.*²² show that the majority of company management avoid pursuing an ultimately profitable project if it hurts that quarter's earnings. Harvard Business Review²³ finds the salaries of typical LBO business-unit managers are around 20 times more sensitive to company performance than in the typical public company. It is this additional sensitivity that is so effective in aligning the interests of PE investors and company management.

When private and public assets are compared, researchers use the average of many private markets funds in that cohort. Looking below the surface we find the private universe has a much wider dispersion of returns than is seen in public markets. The difference between the best and the worst fund in U.S. private equity is around 10 times larger than the divergence of the highest and lowest returning active manager in U.S. public equities. There are several possible explanations for this: the more active nature of private market investing (viz. returns come from manager skill, not from index inclusion), having more concentrated funds, the benchmark agnostic nature of private funds, or differences in the capital structure. Whatever the reason (or combination of them), it makes fund selection extremely important in the private landscape.

There is evidence to suggest that *performance persistence* exists in private markets; a study²⁴ by Pantheon finds GPs are more likely than by chance to remain in their previous performance quartile (this is particularly strong for venture capital) with a follow-on fund, but conclude there are a number of other factors at play requiring both quantitative and qualitative diligence to understand. Top-performing GPs tend to be heavily oversubscribed while spin-outs with great management teams need extra underwriting care given the heightened business/operational risk. Cavagnaro *et al.*²⁵ study performance persistence at the LP-level and demonstrate that some LPs can earn consistently higher returns (than is expected by chance) versus the average of their peers. This speaks to the importance of GP-LP relationships and thorough due diligence, both of which add a lot of value to sourcing, understanding, and negotiating access to the best managers.

Volatility & Correlation

We have outlined how broad and diverse the private capital universe is, something that is extremely useful when constructing a portfolio. Adding assets with a correlation of less than one to your portfolio will make it more efficient (although this should not be done *ad infinitum* as we note in the complexity

²² The Economic Implications of Corporate Financial Reporting, Graham *et al.*, 2005

²³ <https://hbr.org/1989/09/eclipse-of-the-public-corporation>

²⁴ https://www.pantheon.com/wp-content/uploads/2020/02/Infocus_Persistence_pays_off.pdf

²⁵ Measuring Institutional Investors' Skill at Making Private Equity Investments, Cavagnaro, 2017

section). An asset's returns are linked to the underlying drivers for that return. The return on a forestry investment will be dependent on very different risks to a direct lending fund. When we look within credit, lending to homeowners has a different set of risk characteristics than to businesses (e.g. the latter are shorter-term loans and will be more correlated to equities, given the loans are to corporates).

It is often assumed that private equity is just levered equity and many investors create assumptions for their portfolio construction algorithms to reflect that (higher volatility than listed markets and a beta to equities of above one to reflect a correlation of one to equities). While buyout private equity does use debt to acquire a company, there is often less debt in the resultant capital structure than is used in listed equity²⁶. Additionally, PE sponsors structure their investments to create favourable risk/return dynamics. This could be via a mixture of debt, preferred shares, and common equity, and/or through investing gradually over time. Growth equity and venture capital sponsors regularly use little or no debt when investing.

In a paper for State Street Global Advisors, Rudin *et al.*²⁷ find that U.S. private equity has a beta to the S&P 500 of around 0.5. That means that if the S&P moved 10% up or down, U.S. private equity funds, in aggregate, would only move 5% in the same direction, showing there is much more to PE than just leveraged equity. Private returns are more skill-based than those in the listed space. The value/skill a manager adds is inherently idiosyncratic to each manager and hence largely uncorrelated, creating additional diversification. Moreover, a study²⁸ of the differences in private equity and listed equity showed that the private investment universe is underweight to the developed market Americas (-12%) in favour of the rest of the world, particularly Europe (+7%) and emerging Asia-Pac (+10%), the main overweight in the latter being China. When drilling down into the sector splits globally, private equity is underweight financials (-15%), consumer staples (-5%), and telecommunication services (-2%). This is in favour of information technology (+9%), real estate (+5%), and consumer discretionary (+5%). Private equity gives investors access to different geographies and sectors to listed markets, often naturally over-allocating to areas of highest growth. This is evidenced by many managers raising flexible capital or distressed/special situation funds to provide capital to companies under stress from the pandemic.

The same study showed the true²⁹ volatility of private equity to be around 13.3%, comparing favourably to listed equities. The authors posit that listed equities exhibit 8.5% more volatility than the one-year forward expected earnings of their underlying index constituents. The excess volatility is larger for more liquid indices such as the S&P 500 when compared to less liquid ones like the Russell 2000. Private equity has less exposure to excess volatility as the process used to value investments is based less on investor sentiment or speculation. The growth of ETFs and retail trading platforms like Robinhood is further increasing the volatility of listed stocks. Figure 5 shows this in more detail.

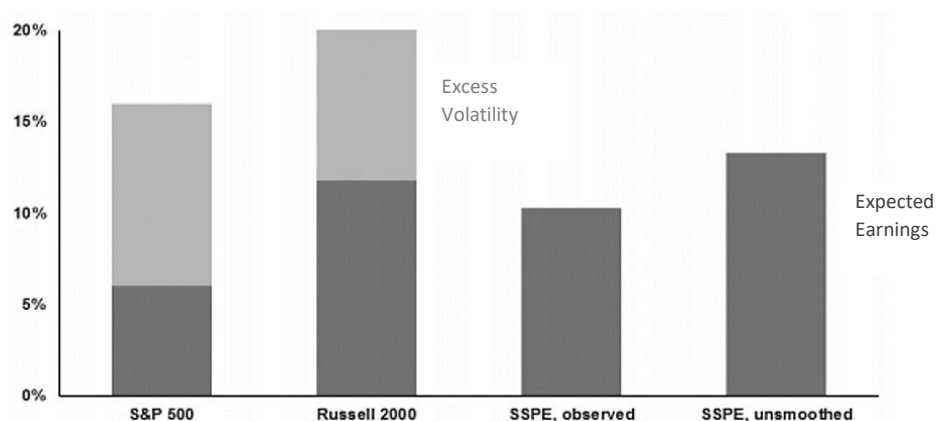
²⁶ <https://www.cobaltlp.com/blog/leverage-multiples-private-equity/>

²⁷ The Private Equity Conundrum: Reconciling Private and Public Equity Risk/Return Profiles, SSgA, Rudin *et al.*, 2019

²⁸ Evaluating Investments In Unlisted Equity For the Norwegian Government Pension Fund Global (GPF), Døskeland *et al.*, 2018

²⁹ After adjusting for any effects of return smoothing

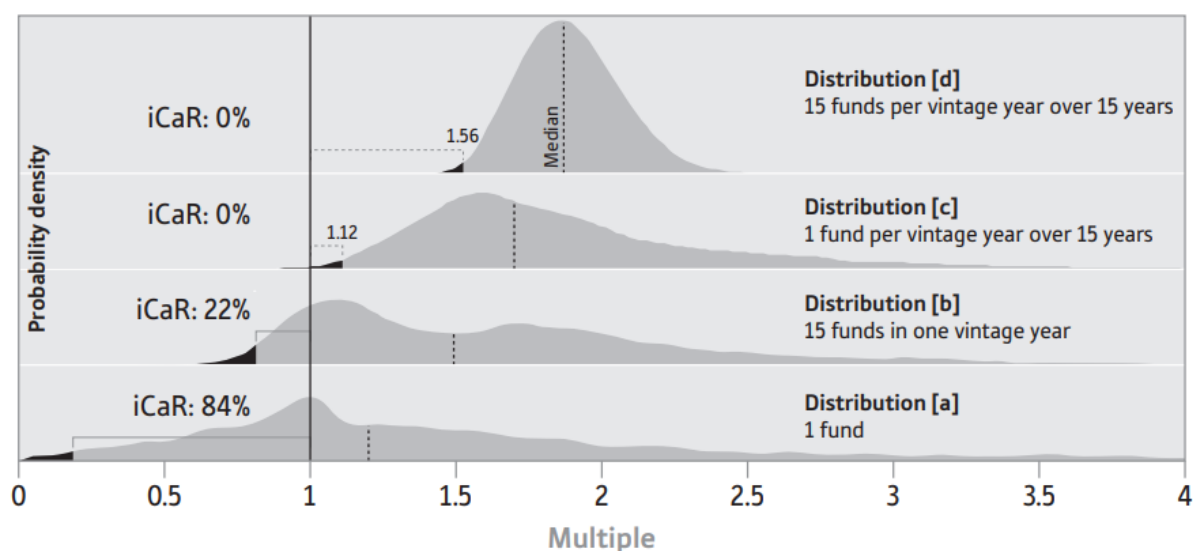
Figure 5: Private versus Public Equity Volatility



Source: State Street Global Advisors, 'The Private Equity Conundrum: Reconciling Private and Public Equity Risk/Return Profiles' Investment Research, August 2019; SSPE = State Street Private Equity Buyout Index

Finally, one important way to reduce volatility is diversification within private markets by fund and vintage year. Diller and Herger of Capital Dynamics completed a study³⁰ using random selection and Monte Carlo simulations; Figure 6 below shows their results. Picking funds at random can create enough diversification to reduce the iCaR (meaning Invested Capital at Risk at a 99% confidence level, or, said another way, there is expected to be a 99% chance of not losing as much as the iCaR) to 0%, given enough fund and vintage diversification (noting that they use just U.S. and European funds across VC and buyout, so more diversity can be easily introduced). Adding in high-quality portfolio construction, in-depth fund due diligence, and a direct/co-investment programme is likely to improve outcomes even more.

Figure 6: The Effects of Fund and Vintage Diversification



Source: Capital Dynamics analysis based on Venture Economics data up to 30 June 2007 including European and US funds as well as VC and buyout funds with vintage years 1983 to 2003 (2,699 funds). Monte Carlo Simulation with random selection

³⁰ Assessing the risk of private equity fund investments, Christian Diller and Ivan Herger, Capital Dynamics, 2009

Liquidity

Brunnermeier and Pedersen outline two types of liquidity in their 2008 paper³¹: market liquidity and funding liquidity. Market liquidity is the difference between fundamental value and transaction price – the more illiquid an asset the further it should trade away from fundamental value. Funding liquidity is the ease by which an investor can obtain funding for an asset, although the two are obviously strongly linked in periods of tightening liquidity. Relating these to private equity, market liquidity is how quickly an investor can realise cash or buy a secondary position, while funding liquidity is the demand on investors to meet drawdowns or redeploy distributions.

The secondary market in direct PE assets and partnership interests has developed quickly, with liquidity deepening and the market now spanning a broader universe of funds, such as infrastructure and private debt. As a result of this maturity, there have been lots of innovations to reduce the spread between fundamental value and transaction price, deferred payments are an example of this and are a form of ‘free’ leverage whereby the purchaser doesn’t pay for the secondary interest until after a set period following completion. Even with these advances, transactions still take a matter of weeks to months to complete, giving private capital lower market liquidity than listed assets. Lower liquidity reduces an investors ability to rebalance creating potential slippage to their target allocation; although we believe this is more than compensated for with the additional return from illiquid strategies. The reduction in trading costs should also be considered, a study by Johnson³² finds that liquidity-driven trading (viz. forced trading around things like open-end fund inflows and outflows) reduces open-ended mutual fund returns by 1.12% per annum.

Funding liquidity can be significantly mitigated through diversification. A mature programme across vintages can be predicted over time with distributed cash matching, if not exceeding, capital calls, possible because a large proportion of the cashflow variation (92.1%³³) is idiosyncratic to each fund (and hence diversifiable). During times of market stress, the demand for cash in private capital portfolios can exhibit some pro-cyclical characteristics. A study on the procyclicality of private equity cash flow³³ finds that capital calls stay consistent to pre-crisis levels, while distributions reduce. However, given the large proportion of cashflow variation that is idiosyncratic (the 92.1%), this effect is relatively small.

Many investors overestimate the level of liquidity they require. BlackRock³⁴ simulated investors liquidity needs over the Great Financial Crisis, a period of extreme liquidity stress, and found that even investors with high spending needs (defined as spending over 8% pa) can have a 20% allocation to illiquid assets based on conservative modelling. Investors with low spending needs can increase this to nearly 80% (at 0% spending), depending on the mix of assets in the liquid part of the portfolio, without considering curtailing commitments or accessing the secondary market for liquidity.

Long-term investors such as endowments have utilised private equity for many years. Their spending rates are typically around 5% with private market allocations varying across institutions. Two of the largest, Yale and Harvard, have 47% and 28% in private markets (private equity, venture capital, and real estate, as at 2019), respectively. Harvard are trying to grow their private equity holdings and have allocated additional capital to hedge funds which sit somewhere between listed and private equities

³¹ Market Liquidity and Funding Liquidity, Brunnermeier *et al.*, 2008

³² Predictable Investment Horizons and Wealth Transfers among Mutual Fund Shareholders, Johnson *et al.* 2003

³³ Cyclicity, Performance Measurement, and Cash Flow Liquidity in Private Equity, Robinson *et al.* 2011

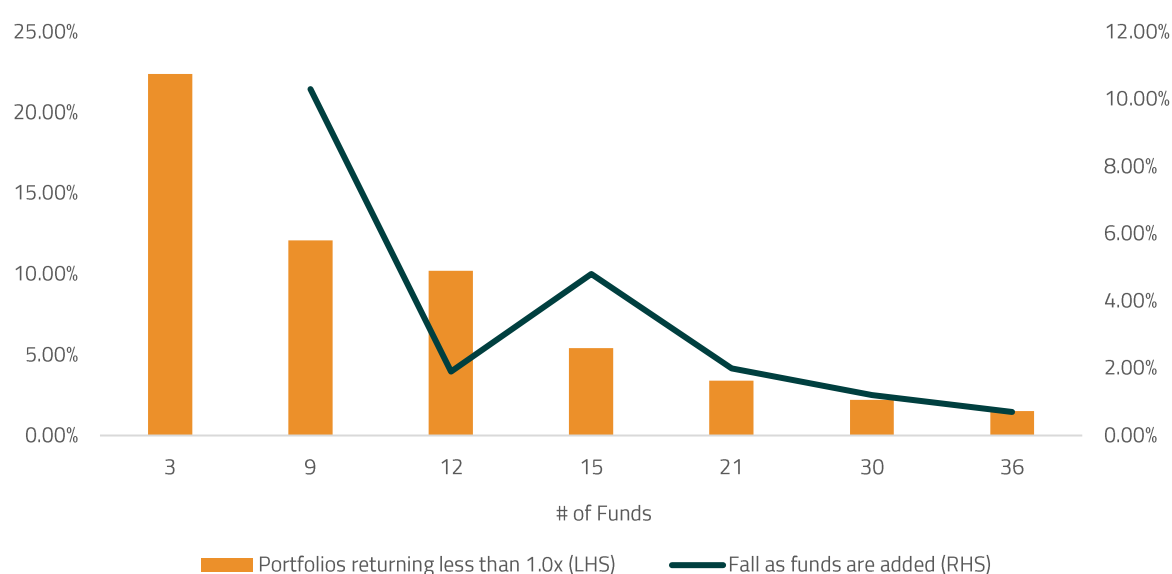
³⁴ <https://www.blackrock.com/institutions/en-us/insights/portfolio-design/private-markets-in-modern-portfolios>

in terms of liquidity, accounting for some of the difference between the two. Pension funds are more heavily regulated than endowments and generally newer to private asset classes. Mercer³⁵ note that only 14% of European pension funds invest in private equity as of 2020, which is a marked increase from the year before (8%). Their overall average weight to private equity is still relatively low, however, at circa 6.5% of return-seeking assets.³⁶ They also note that the use of alternatives (generally private assets and hedge funds) increases greatly with pension fund size (perhaps a proxy for governance), with the smallest having an allocation of around 12%, and the largest nearly 30%.

Complexity

Limiting portfolio complexity is related to the level of outsourcing/use of service providers and to the additional gain to the portfolio versus taking on an amount of complexity. An investor would be irrational to have five different managers trading U.S. government bonds as there will almost certainly be offsetting/competing positions and the managers will require an unnecessary amount of monitoring. Conversely, adding international equities to an investor 100% allocated to their home country would be a worthwhile decision for almost zero long-term additional cost. Figure 6 above shows the additional benefit of adding a larger number of funds, while Figure 7 below shows how this effect diminishes (for funds of the same type). The paper³⁷ for Figure 7 creates many possible portfolios from a pool of venture capital funds, below is the proportion of resulting portfolios that have an overall return of less than 1.0x (i.e. that lose money). We see that as funds are added, this proportion drops. The green line shows that with more and more funds, the resultant benefit to the portfolio (the reduction in loss rate) is reducing (Nb the result at 12 funds is likely an anomaly).

Figure 7: Adding more funds to a portfolio



Source: HarbourVest, Time Partners. Venture capital fund portfolio of 80% US, 10% Europe, 10% Asia. Vintage years 1995-2017.

Pantheon produced a similar white paper on the optimal number of private capital funds (buyout and venture) and come out at a comparable number to that detailed above, suggesting 20-25 funds in a

³⁵ Mercer European Asset Allocation Insights 2020

³⁶ Estimated by Time Partners. Private equity is 3% of assets, this is adjusted to account for the 54% in fixed income, taken to be purely liability matching assets

³⁷ Rethinking risk: the myth of over-diversification, HarbourVest, 2018

mature portfolio across vintages.³⁸ Investors ought to balance diversification, return enhancement, and complexity. A portfolio with 100 private market funds might be suitable for a very large universal owner, a sovereign wealth fund is a good example, but would not be suitable for a pension fund with £10m in total assets. Additionally, allocating to many funds can cause a loss of conviction and pull a portfolio's return towards the industry average. Investors need to be mindful of their commitment as a share of the total private market fund, large investors will want to share capital between managers to control this. Owning less than 10% of a private capital fund means the manager is not too reliant on your capital when it comes to the next fundraise, which restricts large asset owners or asset managers from many smaller funds, therefore pushing their ownership to larger-cap companies. It is necessary to balance this with influence though. Owning ~5% of a partnership will usually put an investor in the running for a seat on the advisory committee, promoting closer engagement and oversight of the GP's management of the partnership.

Using private capital funds increases a portfolio's complexity, particularly due to the finite nature of many funds and continuous two-way cashflows. Having a finite fund life creates the requirement to endlessly underwrite and renew funds (although, we would argue an investor needs to do this work regularly anyway, even if they are in liquid funds) and potentially find new managers if the buyout manager you liked a few years ago now has a different team and has altered its strategy to target larger companies. Constant cashflows require more ongoing work than a simple buy and hold listed equity fund with reinvested dividends. The use of an adviser can greatly reduce the burden associated with both of these elements.

ESG

Given our long-term horizon and heritage, having been part of the foundation of impact investing, we are strong proponents for the incorporation of environmental, social, and governance (ESG) factors into decision making. This is not a matter of philanthropy; a meta-study³⁹ of 200 academic studies, newspaper articles, and books found 88% of research linked good ESG practice to better operational performance, with 80% of studies positively linking stock price performance with good sustainability practices. ESG integration is an important portfolio construction lens because it helps manage risk while forcing an investor to consider long-term trends. A company can make more money today by skirting regulations to minimise cost, but do you trust your asset manager to redeem before the regulatory fine is posted tomorrow? Better run companies with a positive purpose will attract more customers, attract higher quality employees, and have higher brand value.

ESG is strongly linked to reputational risk. In an increasingly interconnected world, corporate fraud or malpractice is more prone to be discovered and is more widely disseminated once it is. Considering ESG factors means investors are less likely to see themselves in a newspaper headline as backers of socially unacceptable practice. This is particularly important where capital is managed for the younger generation.

Many investors now incorporate ESG factors into their decision-making process, from considering long-term investment trends (e.g. renewable energy) to studying their investment manager's ESG policy and examining their portfolio decisions versus it. It is extremely hard to lobby a company to change in the public markets – it has taken a long time and lots of resistance to get big oil to commit to going carbon neutral. Climate Action 100+ and the Institutional Investors Group on Climate Change

³⁸ <https://www.pantheon.com/wp-content/uploads/2020/01/Diversification-Study-Trend-Towards-More-Concentrated-Primary-Portfolios.pdf>

³⁹ How sustainability can drive financial outperformance, University of Oxford and Arabesque Partners, 2015

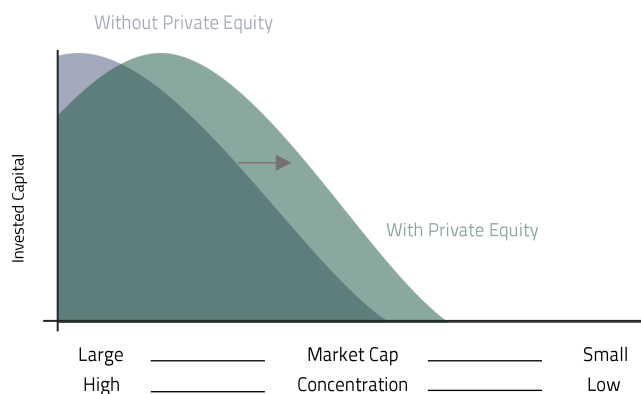
(IIGCC) are examples of initiatives connecting larger, likeminded asset owners to exert greater influence in this regard.

When considering ESG within private capital, there is a wide spectrum of beliefs and approaches among managers. Many, particularly in the U.S. and some emerging markets, can be relatively dismissive of ESG factors or may consider them only at a superficial ‘tick box’ level. Conversely, some managers see ESG as an extremely important part of underwriting and may create direct KPIs linked to financial incentives for company management to work towards. Then there are impact managers, specifically investing to catalyse positive change in a particular area, which is often not at the detriment of financial returns (we actually believe it can yield better outcomes in some cases). Investors utilising private capital can invest with firms with a similar set of beliefs to them. In turn, this uses stewardship and ownership to create change in line with those beliefs. It is a much more direct, transparent, and accountable relationship.

Other considerations

There are many other areas to consider, most falling underneath the umbrella of volatility, correlation, and return, and many might be specific to you as an investor. For example, tax considerations, cost/value for money, incorporating macro views, inflation sensitivity, transparency, and currency exposure all require assessment and may be aided through the use of private capital. Figure 8 illustrates how adding middle-market private equity to a portfolio can reduce its market cap and stock concentration (perhaps by moving away from the dominance of technology in the S&P500).

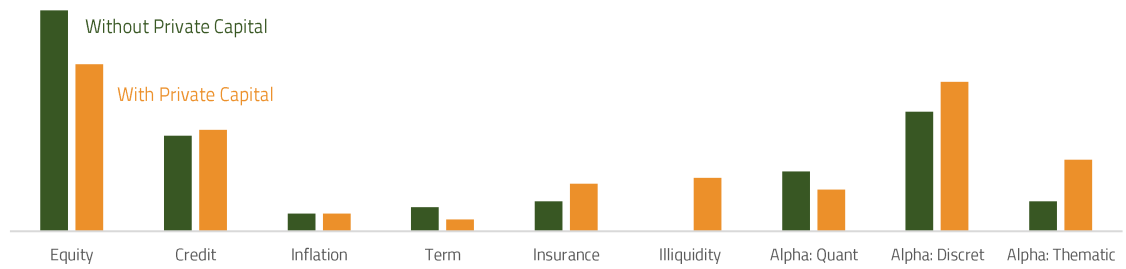
Figure 8: Market Cap and Concentration



For illustration only

Figure 9 splits out some different return drivers and shows how adding private capital to a portfolio can favourably adjust these exposures, adding some illiquidity and increasing the return coming from skill (alpha) while reducing the reliance on pure equity risk.

Figure 9: Changing the Mix of Return Drivers



For illustration only. Alpha Qant = quantitative skill (perhaps from a quantitative macro hedge fund); Alpha Discret = discretionary skill; Alpha Thematic = skill in picking and investing in long-term themes

Conclusion

There are three broad themes throughout this paper:

1. Private capital can be a beneficial addition to a portfolio, offering a wide range of exposures and attributes that can add significant value and reduce volatility
2. The importance of thorough manager selection, a strong network, and thoughtful portfolio construction, which are key to achieving optimal outcomes. Particularly when considering the wide dispersion of returns and alpha generation among different private capital funds and the “persistence” seen across fund vintages
3. There are many advantages for the long-term investor. Capturing the ownership/illiquidity premium, investing in line with long-term themes, or reducing trading costs are some of the potential benefits we outline

COVID-19 has created much uncertainty, depressing real interest rates with a wave of monetary and fiscal stimulus introduced to support the global economy. From a financial perspective, the volatile markets are creating a lot of opportunities which private capital is very well placed to capitalise on, while also cementing the need to create a robust and well-diversified portfolio to deal with a wide range of possible future outcomes. The additional return and differentiated set of risks that private market investments now offer is itself encouraging more and more investors to allocate capital to the asset class. This is increasing private capital’s importance, penetration, and share of the investable universe around the world. For socially or environmentally focussed investors, private capital, particularly through managers with strong ESG integration or perhaps thematically or impact focussed, can create strong alignment while catalysing change more quickly than is possible through public markets.

Private capital managers are able to change and improve assets in a way that is very difficult to do in a public setting, adding value through improving governance, operations, and financial structure/alignment. Studies of limited partner performance show return persistence, those that are skilled at due diligence and have strong LP-GP relationships tend to do better than their peers.

We expect the private capital market to continue to grow in size and depth, as well as increasing as a proportion of investor portfolios globally, as investors take advantage of its many benefits.

About Time Partners

Time Partners was formed in 2015 combining best advice, creative solutions, and a client-first philosophy.

Time Partners is a specialist adviser focused on private markets. We provide high-quality, strategic advice to investment platforms, asset managers, family offices, and entrepreneurs worldwide, helping them across all aspects of private market investing. We pride ourselves on our independence, network, and ability to influence change.

Our investment advisory services include:

- Assisting in the development of long-term investment strategies, tailored to each client's particular requirements
- Supporting across all stages of the investment process, including sourcing, selecting, reviewing, and building a portfolio of the best-in-class private equity managers
- Helping with accessing and securing allocations to the most in-demand funds
- Expert advice across private equity, private credit, real assets, venture capital, and impact investing

Time Partners has significant expertise in sustainable investing and impact investing. We played a crucial part in the development of the impact investment industry globally. We were founder members of the G8 Impact Investing Taskforce, an initiative set up to catalyse the development of the social impact investment market; we currently chair the Sustainable Development Capital Initiative (SDCI) for the City of London Corporation, developing the UK as a leading hub for development finance; and we were chair of the DNA Summit, a world gathering of innovation leaders looking to solve some of humanity's most testing challenges.

We recognise that the ability to measure the impact of an investment is key. Time Partners co-created a metric known as the External Rate of Return (the "ERR") with Robyn Klinger-Vidra of the LSE. The ERR is a holistic, inclusive and transparent platform for measuring the overall social and economic impact of a business's activities, allowing greater ability for assessment of whether impact is being created on a continuous basis.

Our senior team has significant experience in private equity at both the GP and LP level, and as directors or chairs of private companies. We also have a network of Industry Advisers with a breadth of experience across private markets. We wish to thank a number of our Industry Advisers for their input into this paper.

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