iCapital® NETWORK

PRIVATE EQUITY ESSENTIALS

An Introduction to the Characteristics and Mechanics of Private Equity Investing

The vast majority of investors are familiar with one market: a liquid and public one where prices quickly reflect new data, almost everyone sees the same information, and news spreads in seconds across the global Internet. But there is a second, much larger market—the private company market—where information is highly inefficient. The lack of transparency in this vast market offers opportunity for investors who are able to access information about private companies and negotiate attractive terms to provide select companies with capital to help them pursue growth strategies and improve their operations.

This paper addresses the basic differences between private equity and public investments, such as stocks, bonds and mutual funds. It also explains how private equity fund managers create value, the mechanics of private equity, the fees charged in this asset class, and historical net returns. It describes the traditional institutional profile of PE investors, the various types of private equity strategies, how to think about a PE allocation within a high-net-worth portfolio, and concludes with some final observations for investors considering the asset class for the first time.

PRIVATE EQUITY ESSENTIALS

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KEY CONCEPTS

- Private equity investments can add high return potential to a portfolio. On a net basis (after deducting all fees, including carried interest), private equity has outperformed major public indices by 300 basis points (3%) or more over 10, 15 and 20 year periods.[1]

- A variety of characteristics make private investments different than public investments, creating the potential for greater returns. Three of the most important factors are:
  - the asymmetry of information in the private markets;
  - the illiquid nature of private equity; and
  - the large universe of private companies.

- Private equity plays a key role in the portfolios of many large sophisticated investors, including public and private pension plans, insurance companies, foundations, endowments and family offices.

- Private equity managers are different from public equity managers in that they actively seek to add value to their portfolio companies. They do this by selecting companies that have the potential for added value and then implementing creative and sometimes aggressive strategies and plans. Importantly, not all private equity managers are the same. Manager skill varies greatly and as a result, the return dispersion within private equity is much greater than in other asset classes.

- In evaluating private equity managers, investors should consider:
  - how the manager seeks to add value;
  - their track record and relative performance;
  - the quality of the organization and team;
  - the investment strategy and market opportunity;
  - the investment process.

- Before allocating to private equity, investors should consider five basic elements: 1) their time horizon; 2) any short term liquidity needs; 3) where the investment fits in their portfolio; 4) their comfort with a relative lack of transparency; and 5) their understanding of fees.

- For those who determine private equity is right for them, the asset class can provide high return potential, diversification benefits and uncorrelated investment exposure.

1 Cambridge Associates US Private Equity Index as of September 30, 2016. Past performance is not indicative of future results.

ASSET CLASS CHARACTERISTICS

It is important to note at the outset that the private company universe is magnitudes larger than the public company market. According to the US Census, there are approximately 6 million companies with employees in the U.S., only about 5,700 of which are listed on the New York Stock Exchange and the NASDAQ combined.[1] By comparison, there are nearly 200,000 private companies in the U.S. with annual revenue between $10 million and $1 billion.[2]

In addition to the size of the market, a variety of characteristics make private investments different than public investments (see Figure 1 for a summary). Two of the most important factors for investors to understand about private equity are: 1) the asymmetry of information; and 2) the illiquid nature of the asset class.

FIGURE 1

PUBLIC MARKETS vs. **PRIVATE MARKETS**

Public	Private
Frequent transactions	Infrequent transactions
Access to capital	More difficult for small companies to easily access capital
Information widely and quickly shared	Asymetric information
Performance generally in line with the markets	Performance premium to liquid markets
Minority shareholders	Hands-on, value-added control investors

Publicly listed companies are required by their regulators, namely the SEC, to issue annual reports and make other disclosures which contain extensive information about their finances, key operating metrics and strategies. Quarterly earnings announcements, press releases, and other public disclosures are heavily researched and reported on by Wall Street, and are available almost instantaneously worldwide due to the internet and a 24-hour news cycle.

Private markets are much more opaque because, unlike listed companies, privately held companies are not required by law to disclose any information to the public. As a result, it is rare for private companies to release material information about their finances or operations into the public domain. Instead, in the private marketplace, this type of information is confidential and often treated as a "trade secret".

Second, private company investments are far more "illiquid" than public markets where investors of all types can transact instantly online. Private market investors generally transact very infrequently. Opportunities to invest in private companies occur when the existing owners decide to sell a minority or majority stake to monetize their holdings and/or raise capital to grow their businesses. Such events happen infrequently during the life cycle of a private company and, even

1 Fortune, February 2017.

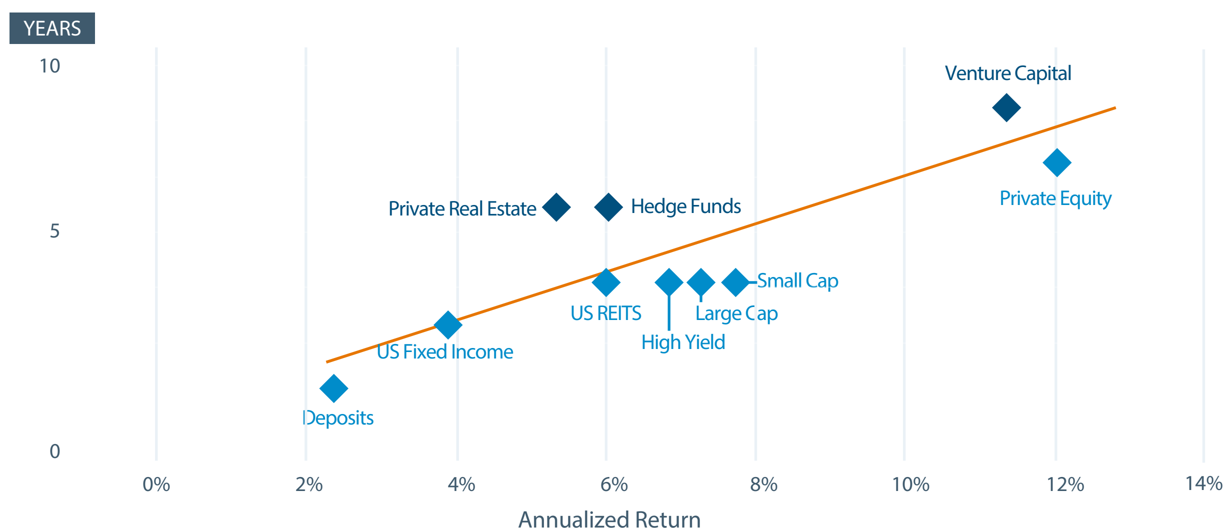
2 National Center for the Middle Market as of Q1 2017.

when an opportunity to invest arises, prospective investors must be "invited" into a confidential sale process, which very often involves competing bidders. Buying and selling investors must ultimately agree on the value of shares based on confidential information and without the benefit of a public market that confirms their value. Because private company shares cannot be sold easily or quickly, they are considered "illiquid" assets.

Investors expect to be compensated for this illiquidity by receiving higher returns relative to other, more liquid asset classes. The longer-term investment horizon of private equity allows companies to pursue aggressive growth plans, restructurings, acquisition campaigns, and other strategies that are sometimes difficult to execute in a public market environment. Moreover, the vast majority of private companies are too small to issue shares in a public offering, and thus private equity provides them with flexible capital that is often otherwise unavailable. The long-term nature of private equity investments is part of what allows PE managers to create meaningful value and thereby provide investors with the illiquidity premium they require for locking up their capital.

The dynamic between the degree of liquidity and the expected return on investment is fairly intuitive. As Figure 2 shows, the more illiquid the asset, the higher the potential return. For example, the most liquid market in the world (U.S. Treasuries) offers zero illiquidity premium as all investors have the same information and can transact instantly, while the most illiquid market (venture capital) depends on information shared person to person and negotiated valuations and typically requires a long time for early stage companies to validate their business models and become profitable. A venture capital investment can take as long as a decade to achieve a successful exit.

FIGURE 2
ILLIQUIDITY PREMIUM



Past performance is not indicative of future results. This example is provided for illustrative purposes only.

Source: Returns data from JP Morgan, 2016 Long Term Capital Markets Assumptions (pg. 70, Compound Return 2016, Data as of September 30, 2015), and Cambridge Associates, Real Estate, US Venture Capital and US Private Equity Benchmarks, (Data as of September 30, 2015).

HOW PRIVATE EQUITY MANAGERS CREATE VALUE

While the illiquid nature of the private market increases the potential for higher returns, selecting the right private equity fund manager is critical as the inter-quartile spread—the gap between bottom quartile and top quartile performing managers—is significant relative to other asset classes. Private equity is highly labor intensive, especially when compared to traditional mutual fund investing, for example. Traditional public equity managers create portfolios of public stocks that they believe will outperform their benchmarks, but, unlike private equity managers, they do not actively work with the underlying company management teams to improve the performance of these companies. While private equity managers sometimes make minority investments, in most cases private equity involves taking majority equity control of a company, enabling real operational involvement and strategic decision-making. Even the largest institutional shareholders of public companies often own only a few percentage points of the company.

Value creation in private equity begins with effective sourcing and due diligence. The manager must find potential private investment opportunities using channels such as investment banks, brokers and the investment team's industry contacts and broader network. The latter channel is called "proprietary" deal sourcing and often results in a richer opportunity set than pursuing deals being marketed by an intermediary, which usually involve competitive auctions that can result in inflated pricing. Sourcing potentially attractive private investments takes time—PE managers sometimes comb through a hundred deals or more to find an attractive target and can spend years cultivating relationships with management teams before consummating an investment.

Once a possible investment has been identified, PE managers sign confidentiality agreements with the target company to obtain access to financial and other information in order to conduct due diligence. Thorough due diligence is key to pinpointing any issues at the company (e.g. customer concentration, competitive threats, unsustainable pricing, excessively high cost structures, weak management), creating an investment thesis and business plan to increase the value of the company, and generally verifying the risk/return profile of the investment. The decision to invest also depends on the PE fund manager's ability to negotiate a price and investment structure that will allow the manager's return target to be met, while sufficiently mitigating risk.

Managers generally use one of four main strategies to add value (Figure 3): 1) optimizing the capital structure through leverage or debt restructuring; 2) implementing growth strategies, both organic and via acquisitions; 3) cutting costs and/or executing restructuring plans or turnarounds; or 4) by selling a company at a higher revenue or EBITDA multiple than the multiple at which the fund manager originally acquired it (commonly referred to as "multiple expansion"). Most managers use a combination of these strategies to add

value. Successfully executing growth strategies and operational improvements, such as those described in the Dunkin' Donuts case study below, can take several years. It is worth noting that certain value creation strategies that increase long-term value but require an increase in short term costs may be difficult or impossible for management to implement with the pressure of daily public market scrutiny and quarterly earnings reports.

Finally, private equity firms must manage to successful exits and typically cannot take profits until their investors receive profits. Ultimately, PE managers seek to realize returns through one of three exit strategies (or a combination thereof):

- Private sale of the company through a merger or acquisition (M&A)—where the portfolio company is sold for either cash or shares in another company.
- Initial public offering (IPO)—where shares of the portfolio company are offered to the public.
- Recapitalization—where cash is distributed to the private equity fund through raising debt or adjusting the capital structure at the portfolio company level.

FIGURE 3

MAIN STRATEGIES TO ADD VALUE

1	2	3	4
Optimize Capital Structure	**Growth Strategies**	**Operational Improvements**	**Multiple Expansion**
Boosting equity returns with increased leverage Guidance in helping companies navigate the capital markets	Consolidations, acquisions, divestments Developing new products	Increase net revenue through operating efficiencies	Selling portfolio companies at higher multiples than what they were acquired for

CASE STUDY: Dunkin' Donuts

An example illustrates how private equity works in the real world. When Bain Capital, Thomas H. Lee Partners and the Carlyle Group bought Dunkin' Brands (Dunkin' Donuts and Baskin-Robbins ice cream shops) in 2006, they didn't just take control of a popular breakfast and dessert business.

By buying the company from a larger and more diversified parent, they brought performance focus and attention to a relatively neglected asset in a larger family of companies.

Many private equity acquisitions involve carve-outs, aimed at maximizing the value of an overlooked asset. The private equity firms' strategy was to infuse talent and capital into the business to expand Dunkin' Donuts west of the Mississippi and diversify the brand beyond donuts by emphasizing coffee and other food products. They also sought to relocate many Baskin-Robbins stores to areas that were more likely to be visited by customers who wanted to buy ice cream.

The change in strategy required significant expenditures. If the company had still been part of a publicly-traded entity, a decline in short-term earnings would likely have hurt the stock price and exerted immediate pressure on the management team to rein costs back in. But under private equity ownership, investing in long-term growth was an attractive option. The private equity investment gave management a reprieve from the public obsession on quarterly earnings, which enabled it to pursue a complex value creation strategy for the business.

The company has made tremendous strides since the change in ownership. First, the private equity owners changed the management team and imposed a service-oriented culture so customers could move through the line faster.

In addition to changing the team and culture, the private equity consortium expanded the number of stores in the United States and overseas, and changed the menu. Dunkin' Donuts focused increasingly on beverages, which drives customer frequency. It also added healthier options such as egg-white breakfasts and extended the menu to include lunch items. Finally, the new owners aggressively promoted these changes with a highly successful marketing campaign called "America Runs on Dunkin'."

Since the change in ownership, Dunkin' Brands has created thousands of new jobs as stores opened across the western United States and sales at the company's ice cream shops rose. Its success has also created a new class of small business entrepreneurs who find owning multiple Dunkin' Donut franchises a way to achieve personal financial security and success.

In 2007, the CEO of Dunkin' Brands, Jon Luther, told the U.S. House of Representatives Financial Services Committee: "The benefits of our new ownership to our company have been enormous. Their financial expertise led to a groundbreaking securitization deal that resulted in very favorable financing at favorable interest rates. This has enabled us to make significant investments in our infrastructure and our growth initiatives...They have opened the door to opportunities that were previously beyond our reach."

Past performance is not indicative of future results. This example is provided for illustrative purposes only.

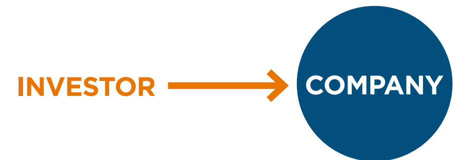
Source: Statement of Jon L. Luther, CEO of Dunkin' Brands, Inc. before the Committee on Financial Services of the US House of Representatives, May 16, 2007 http://archives.financialservices.house.gov/hearing110/htluther051607.pdf

Value Added: Dunkin' brings private equity firms a sweet profit, Thomas Heath, August 18, 2012, ***The Washington Post***

PRIVATE EQUITY MECHANICS

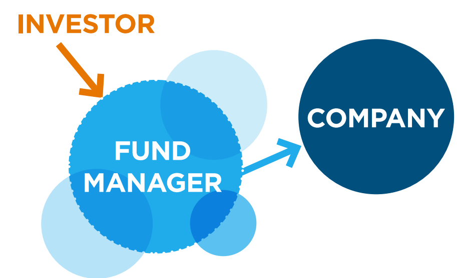
There are **three ways to invest** in private equity:

Direct



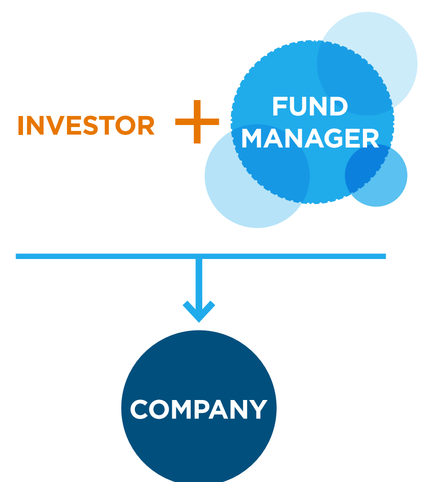
A direct private equity investment consists of a capital infusion into a privately owned company. Most investors do not invest directly in private companies because they tend to lack the expertise and resources necessary to source attractive investments, conduct due diligence, negotiate and structure the transaction, and monitor the investment. Instead, most private equity investors will invest indirectly through a private equity fund, which affords the benefits of professional management.

Fund



Just as a stock or bond manager will create a portfolio of investments, so too will a private equity fund manager. A key difference, however, is how the manager seeks to generate returns. A stock or bond manager selects investments and then manages the composition of the portfolio over time to match or beat a benchmark; a private equity fund manager invests into private companies, generally taking a controlling stake, and then actively works to improve their performance at the operational level. Private equity investing is hands on and highly labor intensive and fund managers often communicate weekly, sometimes daily, with their portfolio companies, working closely with the management teams on strategy, business development, capital structure, etc. (See the prior section and Figure 3 above for how managers typically seek to add value.)

Co-investment



A co-investment is a minority, non-controlling investment alongside a private equity firm into a particular portfolio company. Typically, co-investors already have a relationship with the private equity firm and become aware of a co-investment opportunity because they have a broader financial commitment with the firm. Because co-investments are made alongside an existing private equity fund, co-investors do not typically pay management fees or carried interest (see below for more on typical private equity fund fees). For this reason, private equity firms typically offer a "first look" at co-investment opportunities to important investors in their funds as an added perk to committing capital with them. Like direct investments, co-investments require the investor to evaluate the merits of the individual target company.

Given the size (and expertise) needed to make direct private investments or co-investments, many investors choose to invest via private equity funds. In addition to professional management, this route offers greater diversification than direct investing, as investors gain exposure to a greater number of private assets/companies with a single commitment.

Some basic elements of a private equity fund:

Partnership Structure

Private equity funds are generally structured as limited partnerships. The manager of the fund is called the general partner ("GP") and the investors that commit capital to the fund are called limited partners ("LPs"). The GP invests the fund's capital, manages the portfolio of investments and executes exit events, while the LPs are passive investors who receive distributions from the fund.

Eligibility

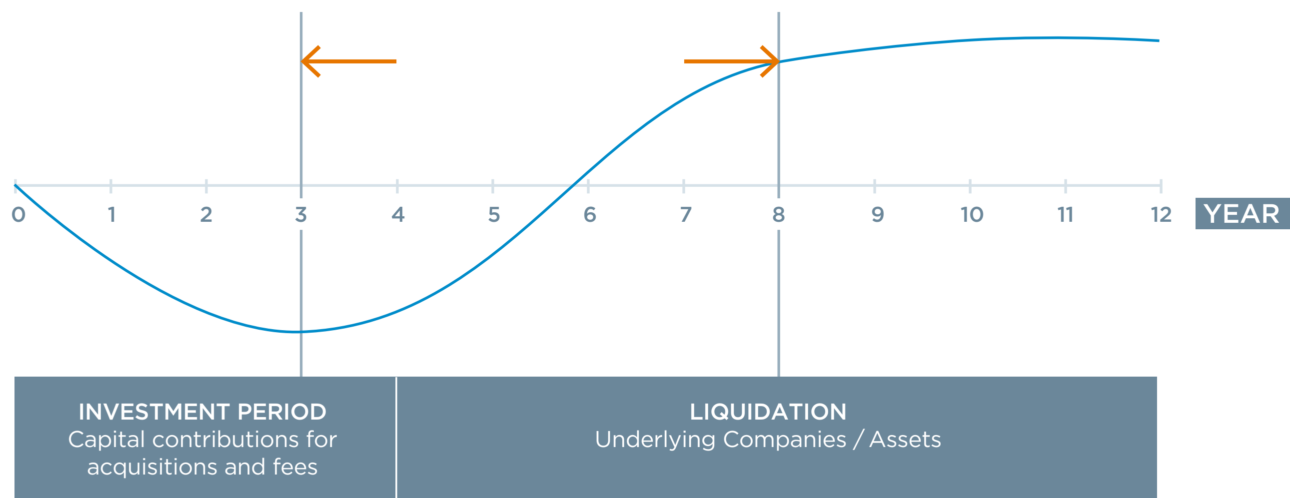
Importantly, investors must qualify for private equity investments. Many funds require "qualified purchaser" status—that is, a person with not less than $5 million in investable assets, excluding their primary residence, or a company with not less than $25 million of investable assets. The minimum commitment levels required from investors by GPs typically range from $5 million to $20 million. These high minimums reflect the fact that private equity has historically been the domain of large institutional investors, such as public and private pension funds, endowments, and foundations.

Investment Mechanics

Investors commit a total amount to a fund upfront via a "capital commitment", which the GP then draws down and deploys over the fund's investment period. The investment period is usually 5–7 years, at which point the fund manager can no longer call capital from its investors to make new platform investments and the fund essentially goes into full harvest mode. Fund managers often draw down 70% or more of an investor's committed capital in the first three years.

Once the fund manager, or GP, has identified an investment, the firm will ask for investors' capital to fund that investment via a "capital call" (referred to as "drawing down" capital). This structure causes what is known as the J-curve, where private equity funds experience negative returns for the first several years when the amount of capital that is called exceeds the exits or distributions of the fund. Thus, returns to investors typically form a J-curve as illustrated in Figure 4, as the fund monetizes or exits its portfolio investments during the latter half of its term and distributes the invested capital and profits back to LPs.

FIGURE 4
THE J-CURVE



For illustrative purposes only.

PRIVATE EQUITY FEES AND DISTRIBUTIONS

Private equity managers charge their investors an annual management fee, typically 1.5% - 2.0% of committed capital, which goes to support overhead costs such as investment staff salaries, due diligence expenses, and ongoing portfolio company monitoring. In addition, GPs collect performance fees, known as carried interest, which traditionally represents 20% of any value appreciation or aggregated profits generated by the fund. Most private equity funds must first achieve a stated hurdle rate, also known as the preferred return, which is the minimum annual return that LPs are entitled to before the GP may begin receiving carried interest. The typical hurdle rate is approximately 8%.

Distributions from private equity funds typically follow a waterfall structure. A standard distribution waterfall flows according to the hurdle rate, the "catch-up rate" and carried interest rate. In the first phase of a fund's life where returns have not exceeded its hurdle rate, all distributions are allocated to limited partners. Once a fund exceeds its hurdle rate, the general partner typically is paid a higher proportional amount until the GP has caught up to the profit percentage distributed to LPs (commonly referred to as a "catch-up" provision). For example, once the fund reaches its hurdle rate and has delivered that to LPs, 80% of the next distributions will be allocated to the GP until the GP's own return equals the pre-specified share of profits (traditionally, 20%). Once this occurs, the remaining profits generated by the fund are then distributed 80% to LPs and 20% to the GP.

It is also worth noting that PE fund agreements generally include "clawback" provisions, which require GPs to hold a portion of carried interest collected over the life of the fund in escrow to account for scenarios under which the overall performance of the fully liquidated fund dips below the hurdle rate. This allows investors to "claw back" any excess carried interest that the GP may have received to ensure investors receive their net hurdle rate.

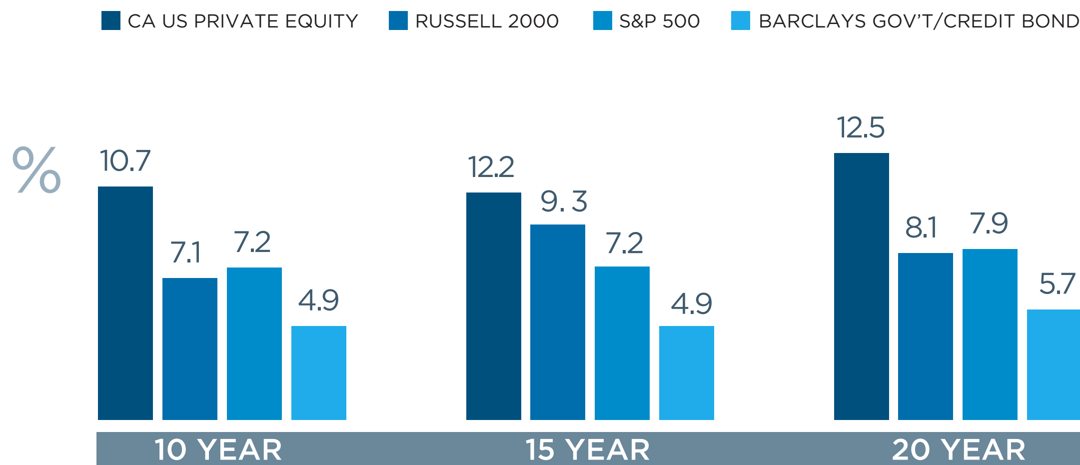
HISTORICAL RETURNS

Why do pension funds, endowments and foundations allow GPs to share in their fund's profits through carried interest? Because private equity firms are supposed to deliver outsized returns and, for doing so, the fund managers have historically participated in that upside. This begs the question: has private equity historically out-performed other asset classes to merit this profit participation? The answer is yes.

As shown in Figure 5, private equity returns have consistently matched or exceeded public market returns over multi-year time periods. On a net basis (after deducting all fees, including carried interest), private equity has outperformed major public indices by 300 basis points (3%) or more over 10, 15 and 20-year periods.[1] Top quartile private equity fund managers have generated significantly more alpha. According to an analysis from Cambridge Associates, U.S. private equity funds have produced net returns of 10.7%, 12.2%, and 12.5% over the last

1 Cambridge Associates US Private Equity Index as of September 30, 2016.

FIGURE 5
PRIVATE EQUITY RETURNS VS. PUBLIC MARKETS[1]



Past performance is not indicative of future results. Historical returns are included solely for the purpose of providing information regarding private equity industry returns and returns of other asset classes over certain time periods. While investments in private equity funds provide potential for attractive returns, they also present significant risks not typically present in public equity markets, including, but not limited to, illiquidity, long term horizons, loss of capital and significant execution and operating risks.

10, 15 and 20 years, respectively, compared to 7.2%, 7.2%, and 7.9% for the S&P 500.

TRADITIONAL PRIVATE EQUITY INVESTOR BASE

Despite a compelling return profile that could help many individual qualified investors reach their long term goals, sophisticated institutional investors have historically dominated the private equity market because of their long investment horizons and the fact that they can make significant commitments to these funds. The private equity industry has catered to these large institutional investors and primarily markets to them, spending comparatively little time focusing on the HNW channel, which is highly fragmented and difficult to efficiently raise capital from. Large family offices, endowments, foundations, and public & private pension plans have long recognized the value in private equity and, as seen in Figure 6, have healthy allocations to match, while the average allocation for the independent wealth advisor channel has been negligible.

Many of the top wealth management firms, which have professionals who specialize in alternative investments, similarly use private equity investments to help boost returns and diversify portfolios on behalf of HNW clients with long-term investment objectives. However, these allocations still generally represent

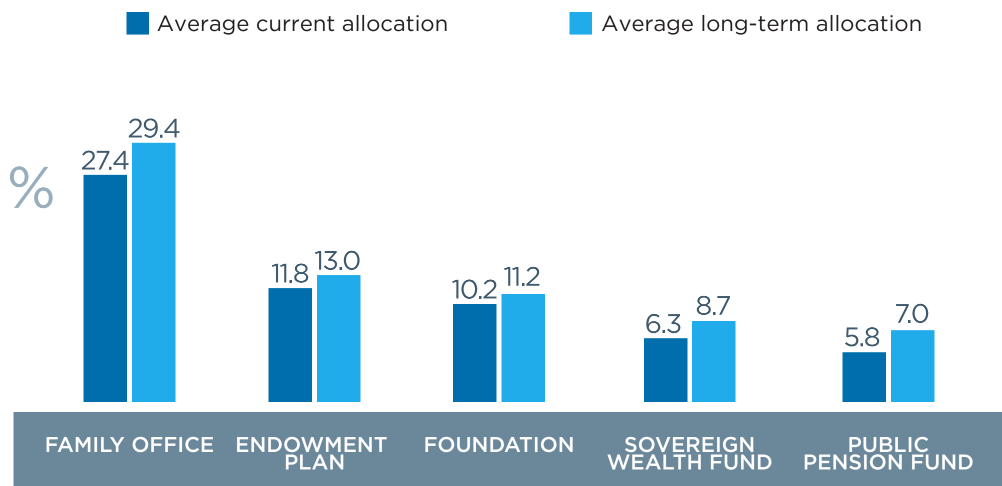
1 Cambridge Associates Horizon Calculation as of September 30, 2016 based on data compiled from 1,334 U.S. private equity funds (buyout, growth equity, private equity energy and mezzanine funds), including fully liquidated partnerships, formed between 1986 and 2016. Past performance is not indicative of future results. Cambridge Associates is a leading PE consultant to the institutional investment community.

small slices of these investors' overall portfolios, indicating that many qualified investors may be under allocated to private equity and missing out on the benefits of the asset class. While some of the larger pension plans have drawn attention for the amount of fees they pay to private equity managers, the returns they generate are often overlooked by the media. For example, the California Public Employees' Retirement System, or Calpers, which is the nation's largest pension system, disclosed that it had paid $3.4 billion in fees from 1990 through 2015 to private equity managers. However, the pension fund's private equity portfolio earned $24.2 billion over the prior 17 years, leading Calpers' CIO to remark, "We have been rewarded for the risk we took in the [private-equity] program, and the costs we incurred".[1]

Endowments are often considered thought leaders in the institutional investor community and have had among the highest exposure of any investor type to private equity, with allocations tending to increase with endowment size, as shown in Figure 7. The Yale endowment, for example, had 31% of its $25.4 billion in assets in private equity and venture capital investments as of mid 2016.

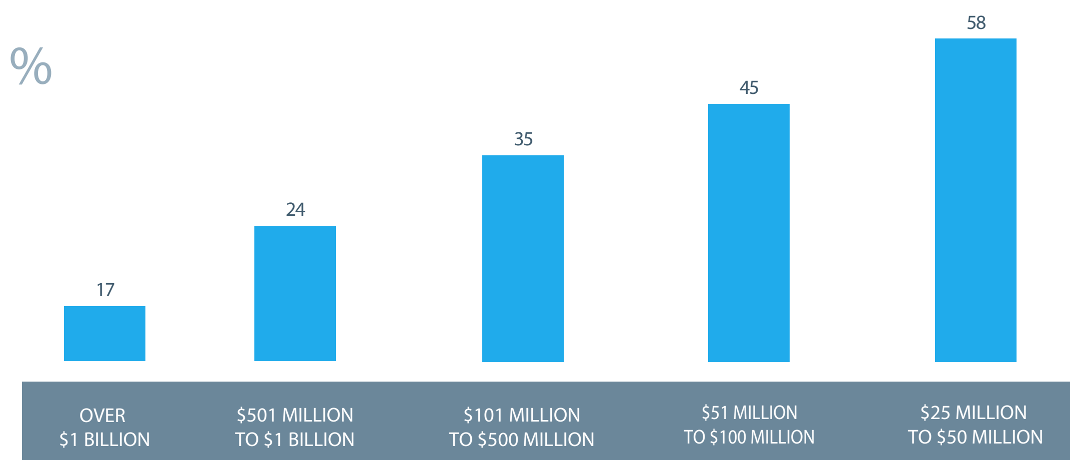
FIGURE 6

AVERAGE PRIVATE EQUITY ALLOCATION BY INVESTOR TYPE



Source: Cerulli Report, U.S. Institutional Markets 2016.

FIGURE 7
US ENDOWMENT'S 2016 ALTERNATIVES ALLOCATIONS

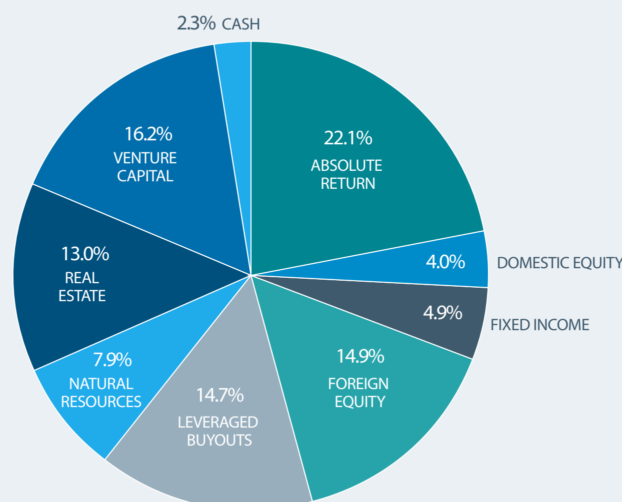


Alternative strategies include: Private equity (LBOs, mezzanine, M&A funds, and international private equity); Marketable alternative strategies (hedge funds, absolute return, market neutral, long/short, 130/30, and event-driven and derivatives); Venture capital; Private equity real estate (non-campus); Energy and natural resources (oil, gas, timber, commodities and managed futures); Distressed dept. Source: 2016 NACUBO - Commonfund Study of Endowments

The Endowment Approach to Investing

Yale's Chief Investment Officer, David Swensen, is often credited as a pioneer of the "endowment model" of investing, which weights heavily toward private equity. He has consistently delivered superior risk-adjusted returns with lower volatility compared to traditional stock and bond portfolios, and has accomplished this both by making a high allocation to private equity and by picking strong fund managers. The Yale endowment had 31% of its $25.4 billion in assets in private equity and venture capital investments as of mid 2016. Over the long term, Yale seeks to allocate approximately one-half of its portfolio to the illiquid asset classes of leveraged buyouts, venture capital, real estate and natural resources. This approach has resulted in outsized returns over time: over the past twenty years, Yale's leveraged buyout program has earned 13.6% per annum and its venture capital investments have returned 77.4% per annum. Notably, the university's most recent annual report pointed out that if Yale's assets had been invested for the past 30 years in a traditional portfolio comprised 60% U.S. equities and 40% U.S. bonds, the endowment would be over $28 billion smaller today.

FIGURE 8
YALE UNIVERSITY ASSET ALLOCATION
JUNE 2016



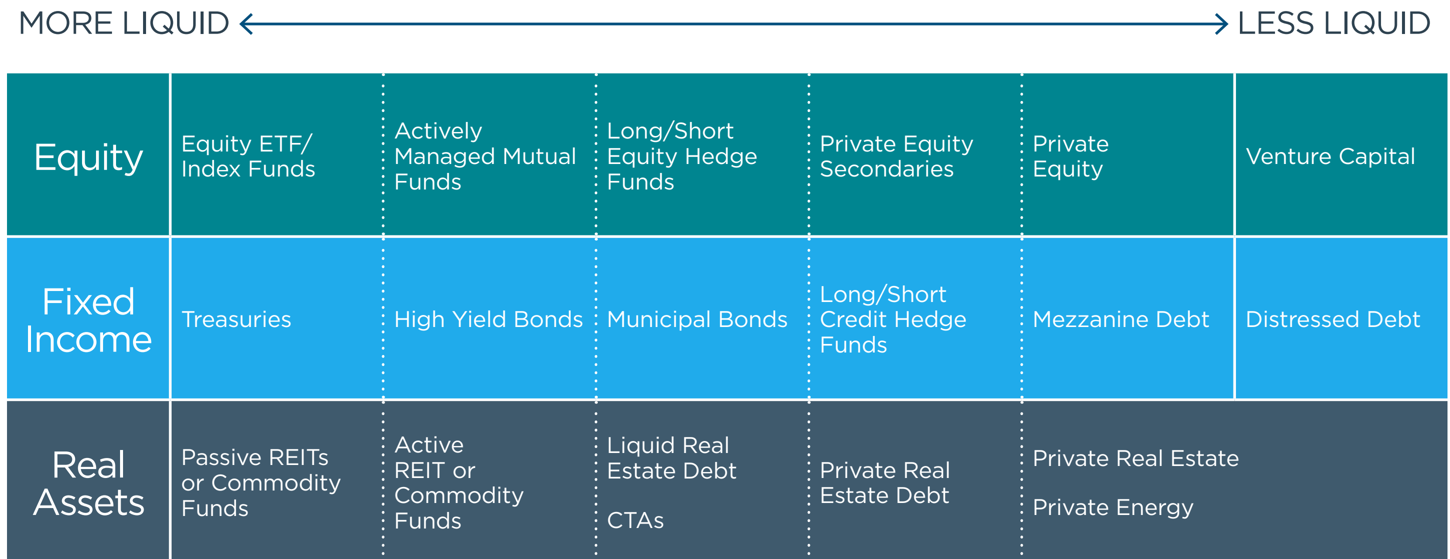
Past performance is not indicative of future results.
This example is provided for illustrative purposes only.

Source: Yale University Endowment 2016 Annual Report

1 Source: Wall Street Journal, Calpers' Private Equity Fees: $3.4 Billion, November 24, 2015, Timothy Martin
http://www.wsj.com/articles/calpers-discloses-performance-fees-paid-to-private-equity-managers-1448386229

FIGURE 9

ALLOCATING ACROSS THE LIQUIDITY SPECTRUM


MORE LIQUID ⟵⟶ LESS LIQUID

Equity	Equity ETF/ Index Funds	Actively Managed Mutual Funds	Long/Short Equity Hedge Funds	Private Equity Secondaries	Private Equity	Venture Capital
Fixed Income	Treasuries	High Yield Bonds	Municipal Bonds	Long/Short Credit Hedge Funds	Mezzanine Debt	Distressed Debt
Real Assets	Passive REITs or Commodity Funds	Active REIT or Commodity Funds	Liquid Real Estate Debt CTAs	Private Real Estate Debt	Private Real Estate Private Energy	

WHERE PRIVATE EQUITY FITS IN A PORTFOLIO

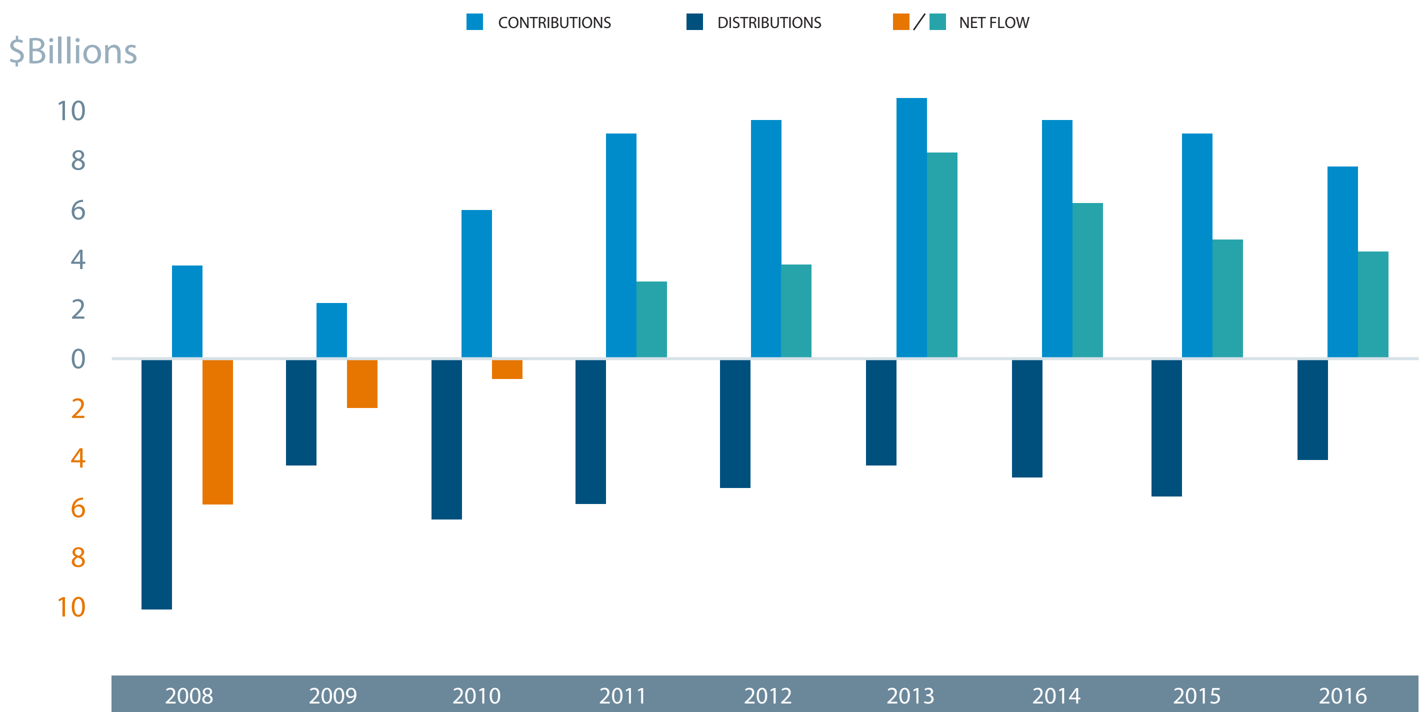
Private equity can play an important role in portfolio construction as it helps create new exposures within traditional portfolios while also increasing overall return potential. Investors able to take a long-term view, and who are seeking higher returns that are uncorrelated to the public markets, can think about a private equity allocation in two ways. The first perspective is to view PE as an extension of the equity and fixed income portfolio and then apply a level of illiquidity risk to determine an appropriate allocation. Though private equity is sometimes viewed as an exotic asset class, the investment profile of PE strategies is not dissimilar from traditional stocks and bonds to which investors already allocate in the sense that equity oriented strategies of PE—including buyout, venture capital, and growth equity—invest in the equity tranches of a company's capital structure, similar to what a public equity investor would do. Similarly, debt oriented strategies of PE, such as mezzanine or direct lending, invest in debt instruments issued by a private company. Figure 9 shows the "liquidity spectrum" across different asset types and reflects the basic, intuitive concept that investors should receive a higher premium as the degree of illiquidity increases. The most liquid market in the world (US Treasuries) offers essentially zero illiquidity premium as all investors have the same information and can transact instantly with little risk, while the most illiquid market (venture capital) depends on information shared person to person and negotiated valuations. Investors should evaluate where their investment ranks in the capital structure and whether the return potential is worth the illiquidity.

Many investors who have allocated to PE follow a programmatic investing approach to sustain their allocation and exposure over time. Just as dollar cost averaging can smooth out the highs and lows of investing in different public market environments, consistently allocating to private equity over time can allow investors to invest in companies throughout a variety of economic conditions. This is sometimes described as vintage year diversification, with the "vintage" of a private equity fund indicating the year in which the fund held its final close or made its first investment.

Over time, programmatic investing can eventually lead to a self-funding private equity allocation as shown in Figure 10. As exits occur and companies are sold, distributions can be committed to new funds, as new PE commitments do not have to be completely funded upfront (see "Private Equity Mechanics" above). In some ways, the approach is similar to reinvesting dividends (on a bigger scale).

FIGURE 10

PE PROGRAM ANNUAL CASH FLOWS



Past performance is not indicative of future results. This example is provided for illustrative purposes only. There can be no guarantee that any fund will generate returns available for re-investment.

Source: CalPERS Private Equity Performance Report - 2H2016

INVESTMENT STRATEGIES

Many private equity firms specialize in a certain company life stage, strategy or industry. Common private equity strategies include (but are not limited to):

Venture Capital

Venture capital firms provide funding to entrepreneurs and early stage companies that they believe have the potential to scale and disrupt their markets. In addition to providing capital, venture capital managers often provide expertise to help these start-ups refine their business plans and bring their products to market. Venture capital firms commonly build investment and/or operating teams and advisors with deep experience in a particular industry, who are highly networked within their sectors and can generate proprietary dealflow and credibility for their firms.

Buyout

Most investors think of buyouts when they think of private equity strategies. Private equity firms that focus on buyouts take control of a company's assets and/or operations by purchasing a majority of the voting stock of the target company. A "leveraged buyout" (LBO) describes transactions that use substantial debt to purchase the control of the target company. While the use of leverage in this context is very common and can increase equity returns, it also adds risk in that the company must be able to service the additional debt. Within the buyout category there is stratification by size, with certain managers targeting very large and complex enterprises, others focusing on the middle market, and a final group targeting small scale firms.

Growth Equity

Growth equity strategies focus on companies that are past the start-up stage and have some proof of concept, but that are still growing into their run rate size. This strategy can be thought of an intermediate step between venture and buyout, and is sometimes paired with one of these other strategies within a single fund.

Mezzanine

Mezzanine debt sits below senior debt and above equity in a company's capital structure. As such, it will have higher yields and risk relative to senior debt, and generally less upside but also less risk relative to equity. Mezzanine investments offer a pre-specified coupon and are either unsecured or secured by a second lien on the company's collateral (with the first claim on assets held by the company's senior lenders). Mezzanine debt also often comes with equity conversion features such as warrants or other rights, which can potentially further enhance returns.

Direct Lending

Direct lending has become a popular subset of the private credit space in recent years. While mezzanine loans to companies may be unsecured or secured by a second lien on the company's assets, "direct lending" is often used to describe senior secured (i.e. first lien) loans which companies have traditionally sought from banks. Due to increased regulation many banks have pulled back their lending activity, allowing private funds to step in and provide this type of financing, particularly in the middle market.

Distressed Debt and Special Situations

Traditional distressed debt investing is a trading oriented strategy where the manager takes advantage of price movements in a company's high yield bonds or other debt to make a profit (fundamentally, buying low and selling higher). This type of distressed debt investing is a non-control, public market focused strategy where the key risk is avoiding companies headed for insolvency. A variant on this strategy is "distressed for control", where the manager expects that some subset of companies will enter into a restructuring process and accumulates a debt position with a view to gaining influence in that process and ultimately, control of the company post-reorganization. Once in control of the reorganized entity, the manager will act as a typical buyout manager would to maximize the equity value of the company, and ultimately exit. Special

situation or "turnaround" investing involves an equity investment in a stressed company that the PE manager believes they can turn around and set on the path to profitability by bringing cost-cutting, strategic repositioning and other operational improvements to bear. Certain managers either specialize in a single distressed investment sub-strategy or raise funds dedicated to individual sub-strategies, while others execute both debt and equity focused approaches under the same umbrella.

Real Assets

Real asset strategies can indicate energy, infrastructure or real estate focused funds. While each of these are backed by tangible assets, they have very different investment profiles. Energy managers variously make equity and debt investments and may specialize in a particular segment of the energy industry such as upstream E&P (extracting oil and natural gas from the ground), midstream (resource transportation), services (refining or other services necessary to obtain resources or make them saleable) or renewables (wind, solar, hydro, biomass). Energy strategies incorporate significant commodity risk and accordingly many managers hedge commodity exposure to de-risk their portfolio companies' revenue streams. Infrastructure funds tend to generate lower returns than other private equity strategies, but are lower risk in that the targeted assets (toll roads, airports, ports, etc.) are necessary to basic economic activity. Power generation assets are often found in both energy and infrastructure funds. Real estate managers, like energy and infrastructure focused managers, tend to focus on either debt or equity investments and have a range of asset types in which they can invest (office, multifamily/apartments, hotels, industrial/storage facilities, etc.).Depending on their area of expertise, real estate firms may focus on either core/core plus assets (stabilized, fully leased, income generating properties) or take more of a value-add/ opportunistic approach by targeting properties with repositioning, lease up or financial restructuring upside. Certain managers may engage in ground up development, which is referred to as greenfield investment in the energy or infrastructure context.

Secondaries

Another common private equity strategy is secondaries. In a secondary sale, an existing investor in a private equity fund sells their interest in the fund before it has fully matured. Depending on when in the fund's life the interest is sold, the investor may still have contributions to make or the underlying fund's investment period may already be over (meaning the buyer is purchasing a stake in a fund that is already in its distribution phase). Secondary funds can be attractive because they provide diversification across managers and vintage years, have a shallower J-curve profile than traditional private equity funds, and can have more predictable outcomes than traditional private equity fund investments in that the buyer has the ability to evaluate assets already purchased, rather than committing to a "blind pool" that has not yet made any investments. However, secondary fund managers charge fees in addition to the fees due on the underlying fund stakes that they purchase. In addition, whether a secondary fund interest is purchased at a discount or premium to its net asset value ("NAV") can have a determining effect on the ultimate performance of that investment.

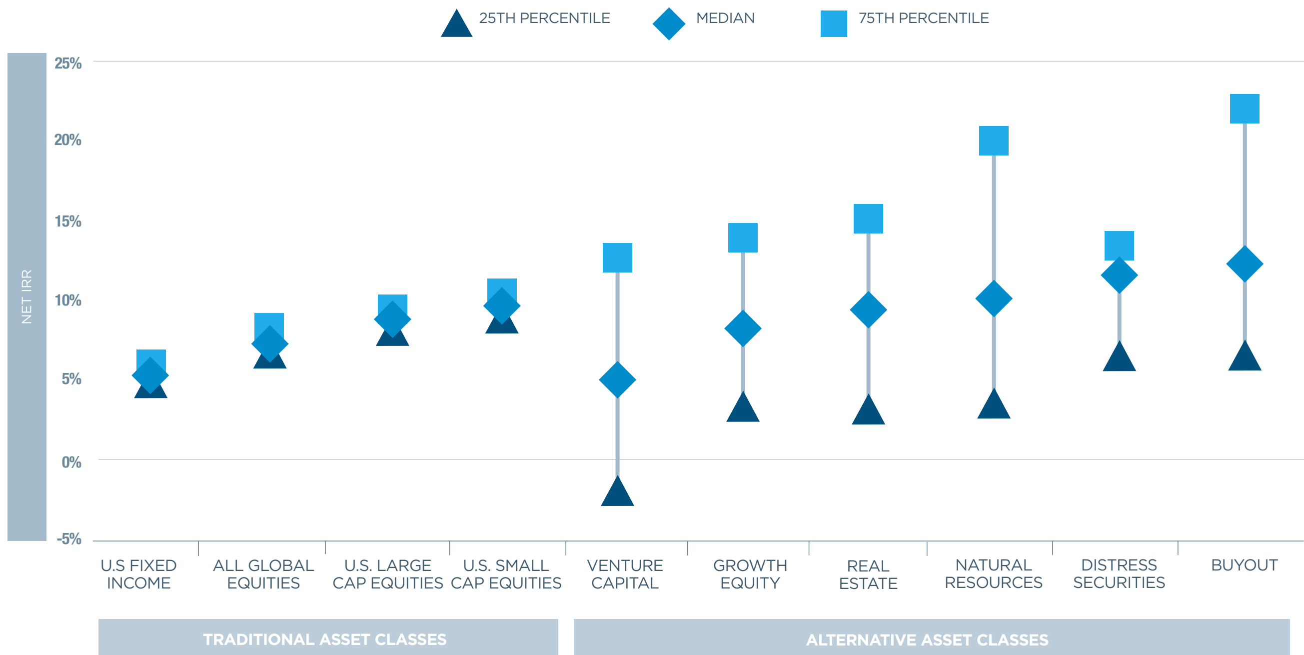
HOW TO EVALUATE A PRIVATE EQUITY OPPORTUNITY

Because the primary driver of returns in PE is not market beta but rather the manager's ability to successfully find, improve and exit their investments, it is critical to have a thorough diligence process in place to evaluate managers. The fundamental purpose of due diligence is to determine the key factors that drove prior success and whether those factors are still present and relevant going forward. While the overall market environment and other external factors can impact a private equity fund's returns, the factor that most influences returns is manager skill. Certain groups may be better able to identify and exploit key industry trends, determine which companies can be turned around, or have more experience reducing operating expenses, optimizing asset utilization, or selectively consolidating fragmented industries through an acquisition campaign. Other managers may have better access to deals or a better network of experienced senior managers to install at their portfolio companies.

Value Creation	Track Record	Unrealized Portfolio	Benchmarking
Derived primarily from four factors: **FINANCIAL ENGINEERING, MULTIPLE EXPANSION, GROWTH STRATEGIES,** and **OPERATIONAL IMPROVEMENT.**	Have they generated **ATTRACTIVE RETURNS** through different **ECONOMIC CYCLES?**	Are they on track to **GENERATE RETURNS** that compare favorably to the **REALIZED PORTFOLIO?**	A private equity fund **MUST BE COMPARED** to those of funds in the **SAME VINTAGE YEAR** that pursued a similar investment strategy.
Investment Strategy	**Market Opportunity**	**The Team**	**Deal Sourcing & Investment Process**
Is the strategy **COMPELLING** and has the manager shown **CONSISTENCY** in executing it?	Is the market **ENVIRONMENT AND OUTLOOK CONDUCIVE** to the investment strategy?	Is the firm sufficiently **STAFFED AND RESOURCED?** Is the team experienced and have investment professionals shown the ability to **WORK COHESIVELY?** Are there any succession issues?	A manager's **ABILITY TO SOURCE** a large enough volume of **HIGH-QUALITY INVESTMENT OPPORTUNITIES** is key in today's increasingly competitive PE landscape.

Because of private equity managers' different strategies and skill levels, manager performance varies dramatically. The gap between the top and bottom quartile in private equity is extremely wide relatively to other asset classes, particularly public securities and mutual funds, hence fund manager selection is critical. In funds with publicly traded securities, where manager performance tends to cluster due to an overlap in holdings, the inter-quartile spread is fairly narrow. (In the public markets, holdings overlap is inevitable as about 8,000 US mutual funds select from 3,100 companies listed on the NASDAQ and 2,800 on the New York Stock Exchange.) Top and bottom quartile performance on a net IRR basis diverges by about 10 percentage points for buyout and venture capital managers, as shown in Figure 11.

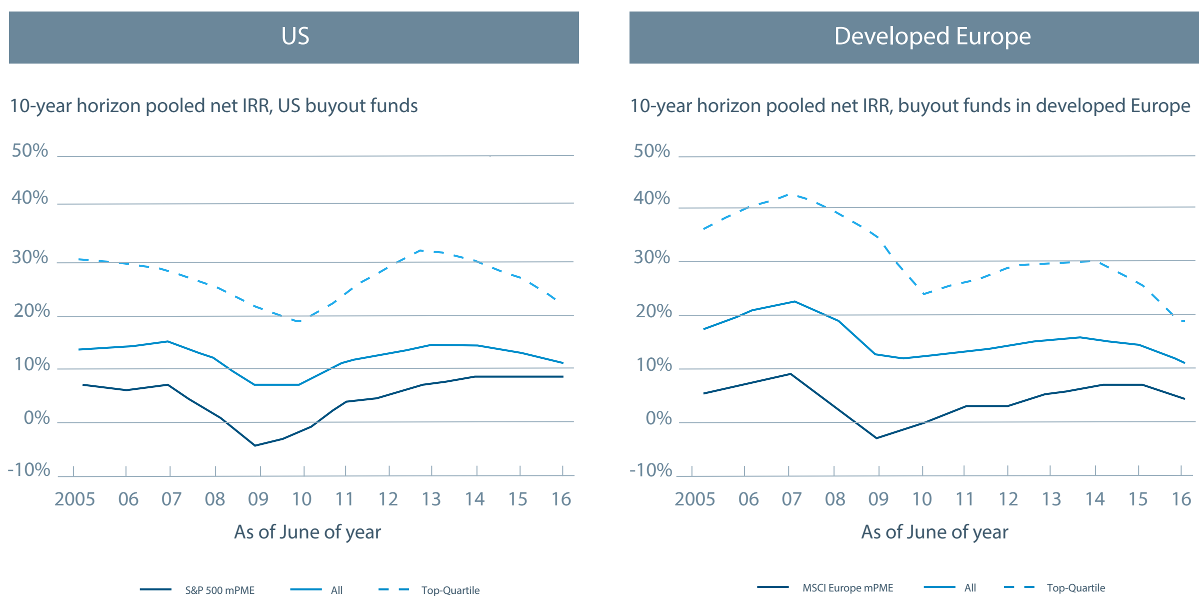
FIGURE 11
INTERQUARTILE SPREADS BY ASSET TYPE



Data as at 3Q 2016. Data for alternative investments based on the average Since-Inception-IRR for vintage years 2000-2010 from Cambridge Associates. Data for traditional asset classes based on average CAGR for time periods 2000-3Q16, 2001-3Q16, etc. through 2010-3Q16 from eVestment Alliance database to match the alternative asset class time frame. Source: Cambridge Associates, eVestment. Past performance is not indicative of future results. Ranges are for illustrative purposes only.

Notably for investors, performance differences also tend to persist over time. Top quartile funds outperform their peers by a wide margin through market-cycles, as shown in Figure 12.

FIGURE 12
TOP QUARTILE PERFORMERS VS. ALL FUNDS



Source: Bain Global Private Equity Report 2017

Investors must develop an informed view of whether a particular manager's returns are attractive on an absolute and relative basis, how the manager produced those returns, and whether they will be able to replicate those results in the next fund.

The following are **elements of a private fund investment opportunity** that should be carefully researched and considered before investing.

Value Creation

One of the most crucial factors in evaluating a private fund opportunity is understanding how a manager has created value in their past investments. Value creation is derived primarily from three factors, which are not mutually exclusive: financial engineering, which involves increasing a company's leverage ratio or otherwise adjusting the capital structure to boost equity returns; multiple expansion, which means the manager sold its portfolio companies at higher multiples than the multiples at which they were acquired; and operational improvement, usually reflected in increased revenue and/or EBITDA during the hold period. Financial engineering and multiple expansion are often market-related factors and can expose an undisciplined manager when market conditions deteriorate as they did in 2008/2009. Consistent multiple expansion, particularly throughout different economic cycles, is often a good indication that the fund manager is disciplined in not over-paying for companies. Financial engineering as a skillset has been somewhat commoditized over the past two decades and is less of a differentiating factor. In contrast, when a fund manager invests in portfolio companies that consistently show improved financial performance during the manager's ownership, that is strong evidence that the manager is skilled at making the right bets and can deliver intrinsic value. These managers are often able to anticipate market trends, identify great assets, and implement fundamental business improvements, such as rationalizing costs and making accretive add-on acquisitions, to generate superior returns over time.

Track Record

Once it has been determined that a fund manager's returns are the result of sound investment selection and true operational improvement across the portfolio, it becomes important to understand whether the key elements that drove those returns are still present and likely to be replicated in the next fund. At the quantitative level, prior fund cash flows can be disaggregated to analyze historical performance by attributes such as sector, equity check size, source of investment, geography, and lead investment professional. This track record analysis reveals qualitative insights such as whether a fund manager's overall returns were driven by a particular industry or secular trend, which may no longer be attractive, whether an individual partner or investment team was responsible for sourcing a disproportionate number of past successful investments, and whether the highest performing deals were sourced on a proprietary or non-proprietary basis. These analyses enable investors to ask the right questions, such as whether a particular sector will be more or less of a focus going forward and whether key investment professionals are still with the firm and motivated to keep working hard. A particularly important track record analysis involves digging into the fund manager's loss ratio and dispersion of returns. Firms that have consistently doubled their money across most of their deals tend to deliver more attractive results in the long term than managers who have comparable overall returns, but produced those results with a few homeruns alongside numerous mediocre outcomes and write-downs (with the exception of venture capital, where that would be the expected return profile).

Unrealized Portfolio

A meaningful proportion of a manager's past investments are typically still unrealized when the firm begins raising its next fund, which can sometimes mask a potential deterioration in the overall track record. Prospective investors should gain an understanding of a manager's unrealized investments and whether these unrealized portfolio companies are on track to generate returns that compare favorably to the realized portfolio. One important measure of this is to compare the revenue and cash flow that a portfolio company is currently generating to what it was generating at the time of acquisition. It is also important to compare the multiple that the fund manager paid for each company with the multiple that is currently used to value it and the multiples at which comparable companies are trading.

Benchmarking

While a manager's track record may be attractive on an absolute basis, it is crucial to compare the firm's historical performance to that of its peers. Certain vintage years have outperformed others due to favorable market conditions, such as lower entry valuations for target assets during weaker economic periods. As a result, a private equity fund's returns must be compared to those of funds in the same vintage year that pursued a similar investment strategy. Increasingly, investors are also performing public market equivalent analyses, or "PMEs." This process involves the creation of a hypothetical public investment vehicle that mimics the relevant private fund's cash flows, with the resulting performance measurement representing the returns that investors would have achieved if they had sold or bought the equivalent amount of a public index or portfolio of stocks whenever the PE fund made a capital call or a distribution.

Investment Strategy

In addition to quantitative factors, investors must assess a manager's strategy and how it fits with the expected market environment over the investment period of the fund. It is also important to confirm that the go forward strategy is consistent with the manager's past practices; a common concern of institutional investors is "strategy drift", or deviation from the strategy that was responsible for the manager's past success. Not infrequently, a manager coming off a highly successful fund will raise a successor fund that is far larger, putting pressure on the manager to write larger equity checks and "drift" upmarket. In other cases, a secular trend from which a fund manager benefited may have run its course, forcing the manager to find opportunities in different sectors in which the manager has less experience.

Investment Team

The capabilities of the team that will be sourcing, negotiating, monitoring and exiting the firm's investments are a critical determinant of ultimate returns. Prospective investors should investigate the backgrounds and experience of the firm's investment professionals, as well as the team's continuity and experience working effectively together. The team's relationships and networks are also crucial in terms of the volume and quality of the manager's deal flow, as well as the firm's ability to identify strong management teams. Reference calls, which are a standard component of institutional diligence, are particularly useful in terms of confirming the attribution claims of individual team members and making sure that the professionals responsible for past successes are still with the firm. Those individuals must also be properly incentivized to remain at the firm. Many PE firms have failed to implement effective succession plans and transition leadership to capable professionals. After analyzing investment attribution by individual professional, the best way to assess whether the key professionals are being properly incentivized is to look at how the firm's carried interest is distributed; it is important to ensure that the entire investment team, at least at the senior level, is motivated to maximize the fund's returns, aligning their interests with those of investors. Finally, investors should assess the size and quality of the current team in the context of the new fund's size relative to the last fund and to the unrealized portfolio, to ensure that the firm's resources are sufficient to both manage out the existing portfolio and successfully deploy

the new fund's capital within the investment period. Again, there are many instances of successful PE firms that raised much larger funds and then stumbled because they were under pressure to put too much money to work and, as a result, abandoned prior disciplines.

Deal Sourcing

A manager's ability to source a large enough volume of high quality investment opportunities is key in today's increasingly competitive PE landscape. Managers who rely on auctions to find investments are at risk of paying inflated prices for assets. Certain firms maintain cold calling programs to canvas the market for deals, while others rely primarily on the strength of their networks to generate proprietary opportunities. In addition to generating sufficient deal flow, it is critical that a manager has a structured process in place to triage these opportunities and identify which companies are best positioned for future growth or are the best candidates for a turnaround strategy.

Determining whether private equity is an appropriate investment strategy requires an in-depth evaluation of an individual's financial situation and portfolio objectives. Potential investors should discuss their goals and potential risks with an advisory professional before investing.

GETTING STARTED

Before making a private equity investment, investors should consider **five key questions:**

1 **What's my time horizon?**	Private equity investments take years to mature. It takes time to source and identify the right deals, increase the value of portfolio companies, and successfully exit each investment. Investors looking to grow their wealth over the long term or fund liabilities years down the road (e.g. retirement, charitable giving or passing wealth on to younger generations) may find private equity opportunities attractive; those looking for short-term, tactical allocations should not consider illiquid funds.
2 **Can I afford illiquidity?**	By their nature, private equity investments are illiquid – they are difficult to buy and sell. This enhances their return potential but is also a key consideration for investors with liquidity needs. While certain strategies and funds (generally debt funds) may offer relatively shorter lock-up periods and/or a current distribution component that can mitigate illiquidity, most private equity funds have ten year terms and a classic J-curve profile. If investors do not have sufficient cash to lock some portion up for a longer period of time, or anticipate a short-term event that will require liquidity, they are better suited for public market investing.
3 **Where does an investment fit in my overall portfolio?**	An allocation to private equity can provide a variety of benefits to a portfolio: higher return potential, low correlation to the public markets, diversification, and smoothing volatility over time. Most investors use private equity to seek outsized returns as part of their overall portfolio strategy; others may also find it an attractive counterbalance to more highly correlated assets in their portfolio. Regardless of the size of the allocation or its role in the portfolio, investors should ask themselves what they are looking to achieve with an allocation (and continue to monitor if that position is performing as anticipated).
4 **Am I comfortable with less transparency into performance?**	Investors who seek consistent reassurance on performance via daily price quotes or frequent reporting should generally look elsewhere. While PE managers report returns and significant portfolio developments to their investors on a quarterly basis, private equity holdings are inherently difficult to value and it can be hard to quantify the impact a manager has had on underlying investments until those investments are sold. It is worth noting, however, that market movements reflected daily in a portfolio can cause investors to buy or sell based on fear or other momentum-related sentiments, which is often not a prudent way to manage money (i.e., panic selling). Conversely, with a private equity investment investors are placing their faith in the manager to create value over a long period of time and decide when to exit the investments, with results that are difficult to appraise until the latter half of the fund's life. This is why thorough due diligence is key prior to investing.
5 **Am I comfortable with a private equity pricing structure?**	The concept of a performance fee and the capital commitment, draw down and distribution structure of private equity funds may be unfamiliar for some. Investors considering private equity investments should make sure they understand all fees and expenses before investing.

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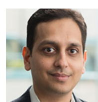

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