Patient Capital, Private Opportunity

The Benefits and Challenges of Illiquid Alternatives

Blackstone

Blackstone

Patient Capital, Private Opportunity

The Benefits and Challenges of Illiquid Alternatives

The Illiquid Opportunity

In the ongoing search for diversification and higher returns, investors have shown increasing interest in deploying "patient capital" into less liquid or private market alternative investments (including Private Equity, Real Estate, Distressed Debt and other private funds). Inefficiencies common among such illiquid investments have enabled a median return premium (relative to their equivalent liquid asset benchmarks) of more than 3% annually.[1] But in spite of this opportunity to enhance portfolio returns, individual investors remain underallocated to illiquid alternatives. In this paper, we try to assess the return opportunity in private market alternatives for high-net-worth investors, and explore ways to mitigate the perceived challenges of investing in these assets.

[1]"Private Equity Performance: What Do We Know?" Robert S. Harris, Tim Jenkinson and Steven N. Kaplan, SSRN, April 2013.

The Illiquid Opportunity

Introduction

All less liquid financial assets include some "premium" because investors value cash, the most liquid of financial instruments. Recent attempts to quantify an illiquidity premium suggest it may amount to 3% per year or more, and managers with particular skill in private market investing tend to deliver that premium with some consistency over time.[2]

But there's a reason investments in less liquid, private funds are called "patient capital": they often require restrictions on withdrawals for 10 years or longer before fully returning capital and profits to investors. This has tended to limit allocations by individual investors to private market strategies (including Private Equity, Real Estate, Distressed Debt, and other alternative strategies).

The lack of a public market for these assets and their resulting illiquidity is the primary source of both the benefits and challenges they present. We believe a better understanding of the issues surrounding private market investments may result in greater comfort with and more appropriate allocations to these strategies.

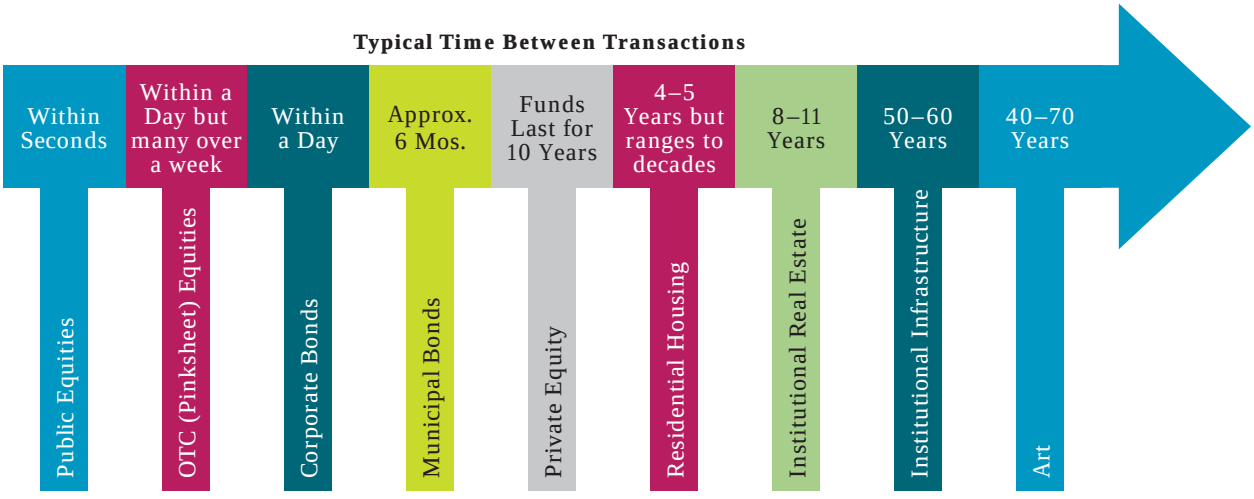
Illiquidity Sized and Defined

While they may take a less prominent role in the typical investment porfolio, there is surely no shortage of illiquid assets. In fact, they easily rival the public markets in size. Public companies comprise just 0.1% of the more than 5.7 million total U.S. firms (for another measure, among firms with 500+ employees, less than 14% are public).[3]

When we turn to the public market for these assets, we find that none of them is perfectly liquid. In fact some sub-asset classes within equities and fixed income can be highly *illiquid*, in the sense that they trade infrequently and turnover is low. Equities in pink sheet OTC markets may go for a week without trading, some categories of fixed income trade just a few times each year, and holding periods for institutional infrastructure can be 50 years or longer (Display 1). As we will see, the "tradability" of an asset can directly influence its value.

Display 1

Everything Is (Relatively) Illiquid



For Illustrative Purposes Only. Source: Anti Illmanen, Expected Returns, 2011.

[2] The academic literature on the topic of illiquidity is vast, but several articles stand out. A recent text with a focus on the topic is *Expected Returns*, by Antti Illmanen, 2011. Other more discrete studies include: Amihud, Yakov, Haim Mendelson, and Lasse Heje Pedersen. 2005 "Liquidity and Asset Prices," Foundations and Trends in Finance, vol. 1, no. 4 (April):269–364; "Liquidity as an Investment Style," Ibbotson, Roger, Chen, Zhiwu, Kim, Daniel and Wendy Hu, FAJ, Volume 69, Number 3, 2013; Andrew Ang, "Portfolio Choice with illiquid Assets," SSRN, August, 2013; A classic study of private equity is Kaplan, S. N. and A. Schoar (2005). "Private equity performance: Returns, Persistence, and Capital Flows," Journal of Finance 60 (4); A generalist approach to illiquid alternative investing is David Swensen's 2000 book, *Pioneering Portfolio Management: An Unconventional Approach to Institutional Investment.* Free Press.

[3] "Comparing the Cash Policies of Public and Private Firms" Joan Farre-Mensa, SSRN, April 2014. NYSE and NASDAQ market capitalizations were approximately $12 trilion and $5 trillion as of July 2012.

The Illiquid Advantage

So what is the merit of illiquidity and why should investors bother with less traded assets? In a seminal paper, Michael Jensen argued that the tradable nature of any public corporation generates an inherent discount: it creates a fundamental conflict between those who bear the risk (shareholders) and those who manage the risk (executives) over the payout of free cash flow.[4]

Jensen noted that public corporations tend to hold twice the amount of cash as private companies, which by contrast exhibit higher equity ownership by managers and more leveraged corporate structures that help limit the waste of free cash flow. This model better aligns the interests of owners and managers, enabling privately held companies to achieve "remarkable gains in operating efficiency, employee productivity, and shareholder value."[5]

But beyond the tradability of an asset, other factors can render an asset less liquid and therefore potentially "inefficient." The time and labor to gain special expertise in and enter certain markets ("participation costs") can slow an investor's engagement with private assets. So can the effort and cost involved in sourcing and evaluating a complicated investment opportunity ("search frictions").

But arguably the most important factor in private market investing is the role of asymmetric information, where some investors have superior knowledge relative to others. For example, unlike passive investors in a marketable security, where information is public and governed by regulatory provisions restricting selective disclosures, private purchasers may sign agreements that "open the books" to them alone, giving them transparency through the due diligence process and afterward. These advantages often allow private market investors to achieve returns that may differ substantially from public market indices. (Display 2)

All of these characteristics render illiquid assets inefficient to buy and sell – and thus particularly attractive to investors who can tolerate the long investment periods associated with private market allocations.

Display 2

A Natural Complement: Private and Public Market Investments

Public Markets	Private Markets
▶ Frequent transactions	▶ Infrequent transactions
▶ Information widely and quickly shared	▶ Asymmetric information
▶ Performance generally in line with markets	▶ Performance premium to liquid markets

Note: For illustrative purposes only. There can be no assurance that an allocation to alternatives would provide higher real returns. Please consult your own third-party advisor before making any investment decisions based on this information.

[4] Michael C. Jensen, "Eclipse of the Public Corporation," Harvard Business Review (September-October 1989).

[5] "More than any other factor, these organizations' resolution of the owner-manager conflict explains how they can motivate the same people, managing the same resources, to perform so much more effectively under private ownership than in the publicly held corporate form."Jensen Ibid.

Long Horizons and Institutional Appeal

These attractions have led many institutions with long investment horizons and known funding requirements, like pensions (with their extensive liabilities for retirees) and endowments (with their ongoing operating budgets), to increase their allocations to illiquid alternatives. Their appeal over the last two decades can be measured in the growing share of illiquid assets across institutional portfolios.

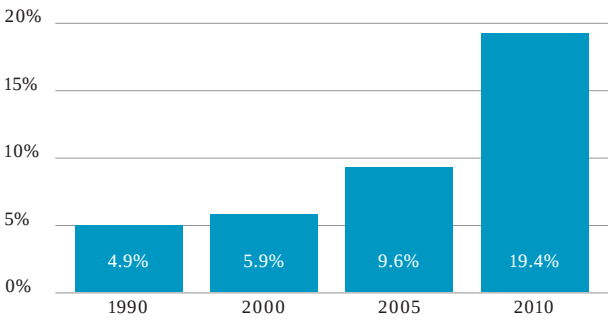
In 2010, the average endowment held a portfolio weight of 26% in alternative assets, versus roughly 5% in the early 1990s. A similar trend is evident among pension funds. In 1995 they held less than 5% of their portfolios in less liquid alternatives, but today the figure is close to 20%. (Display 3)

Such institutional allocations to private market alternatives would dwarf most individual investor allocations, which rarely exceed 5% of their portfolio.[6] Having a long horizon may give more patient investors a natural edge in harvesting this premium: They are rewarded for sacrificing liquidity that they simply do not need.

Display 3

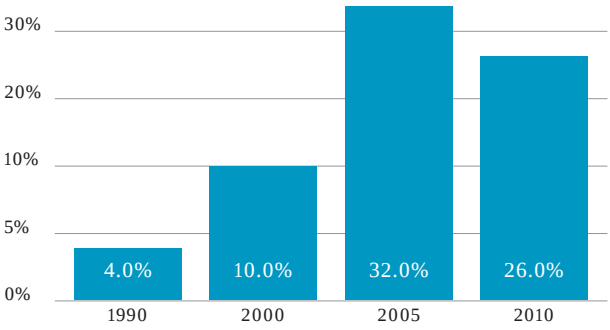
Long-Horizon Investors Turn to Private Market Alternatives

Allocation to Alternatives
Pensions: U.S. Public Pension Funds, 1990–2010



Source: Global Pension Asset Study, Towers Watson, 2011.

Allocations to Alternatives
Endowments: Average Endowment, 1990–2010



Source: The National Association of College and University Business Officers (NACUBO) 2014 Asset Allocation study. Equal-weight (1995, 2000), Dollar-weight (2005, 2010)

What's Illiquidity Worth? Unpacking the Premium

Gauging the value of liquidity (the premium) with any precision is difficult, as it's hard to untangle it from other market forces. But, recent academic research in equities has tried to uncouple a specific liquidity "factor" from other, more well-known return drivers within the capital asset pricing model.

One study showed that, over the last 40 years, less liquid stocks outperformed those with higher liquidity by almost 3% per annum in large capitalization stocks, and by a greater margin in smaller cap stocks. The study also identified illiquidity as a market factor akin to more historically verifiable ones such as size (small-cap outperformance) and investment style (the value premium).[7]

Estimates of the illiquidity premium for non-traditional assets can range well beyond 3%, and the premium tends to increase with the amount of illiquidity in the asset.

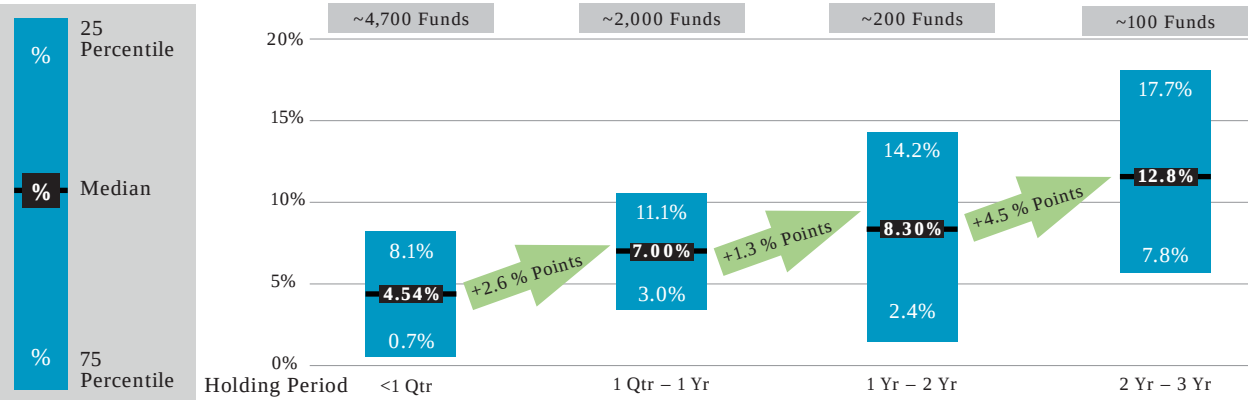
[6] "Retail Liquid Alternatives: The Next Frontier," Goldman Sachs Equity Research. December, 2013.

[7] Ibbotson, Chen and Hu, "Liquidity as an Investment Style," April 2011.

For example, one study focusing on hedge funds shows that funds with longer "lockups" (which enable managers to invest in less liquid holdings) tend to earn higher returns than those without. The data indicate that fund returns actually rise as their lock-up period increases, from a median of 4.5% for funds with lock-ups less than a quarter up to a median return of almost 13% for funds with a two to three year lock-up.[8] (Display 4)

Display 4

Less Liquid Hedge Funds Offer a Return Advantage

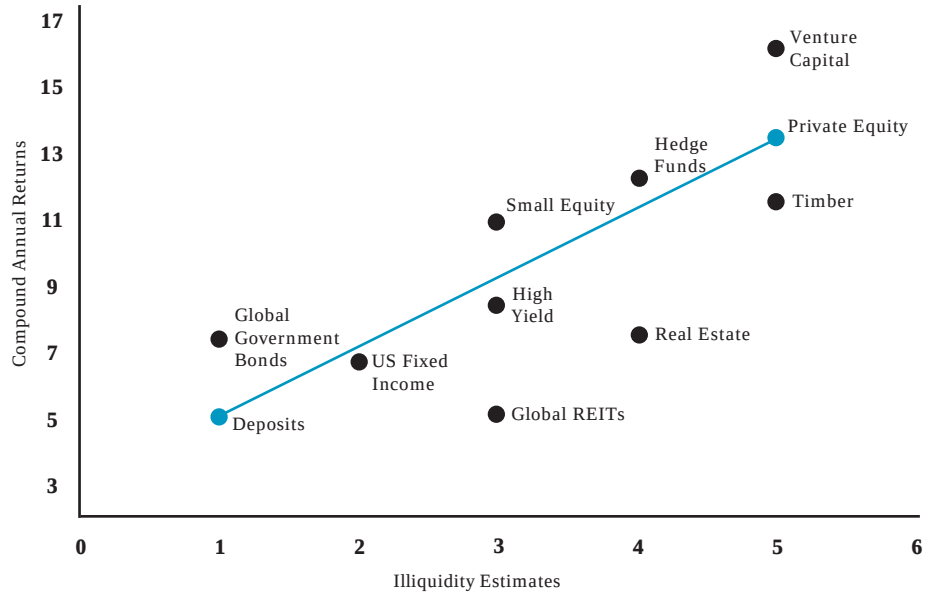


Source: Barclays Strategic Consulting analysis based on data from HFR, BarclayHedge and HedgeFund.net. Methodology: Analysis of ~7,000 hedge funds representing ~$1 trillion in AUM or ~50% of total HF AUM. Lock-up period measurement is an aggregate of hard lock, redemption notice, and redemption frequency. Private equity returns taken from the Cambridge Associates LLC U.S. Private Equity Index of ~1,000 funds.

Extending this to even less frequently-traded "private market" assets, we find that at least part of the long-run return premium of Private Equity and Venture Capital funds may be compensation for their illiquid characteristics. That is, as the illiquidity of certain private market alternatives increases (along with the various "frictions" inherent to investing in them), so do their expected returns. (Display 5)

Display 5

Investment Returns Generally Increase with Degree of Illiquidity



From: "Expected Returns," by Antti Illmanen, 2011. Scatterplotting average asset returns 1990-2009 on (subjective) illiquidity estimates. Sources: Bloomberg, MSCI Barra, Ken French's website, Citigroup, Barclays Capital, JP Morgan, Bank of America Merrill Lynch, S&P GSCI, MIT-CRE, FTSE, Global Property Research, UBS, NCREIF, Hedge Fund Research, Cambridge Associates.

[8] "Waiting to Exhale" 2014 Global Hedge Fund Investor Trends and Allocation Outlook. January 2014, Page 15.

Beyond the Premium: What's Luck Got to Do With It?

While greater illiquidity may increase the inefficiency of a particular market, it does not by itself guarantee higher returns. What it does is shift the primary source of the return from the "beta" or movements of the market itself to the individual manager's superior knowledge or skill at navigating the investment to a more successful outcome. Superior manager skill influences the returns of illiquid alternative funds primarily through operational improvements they bring to their portfolio companies.

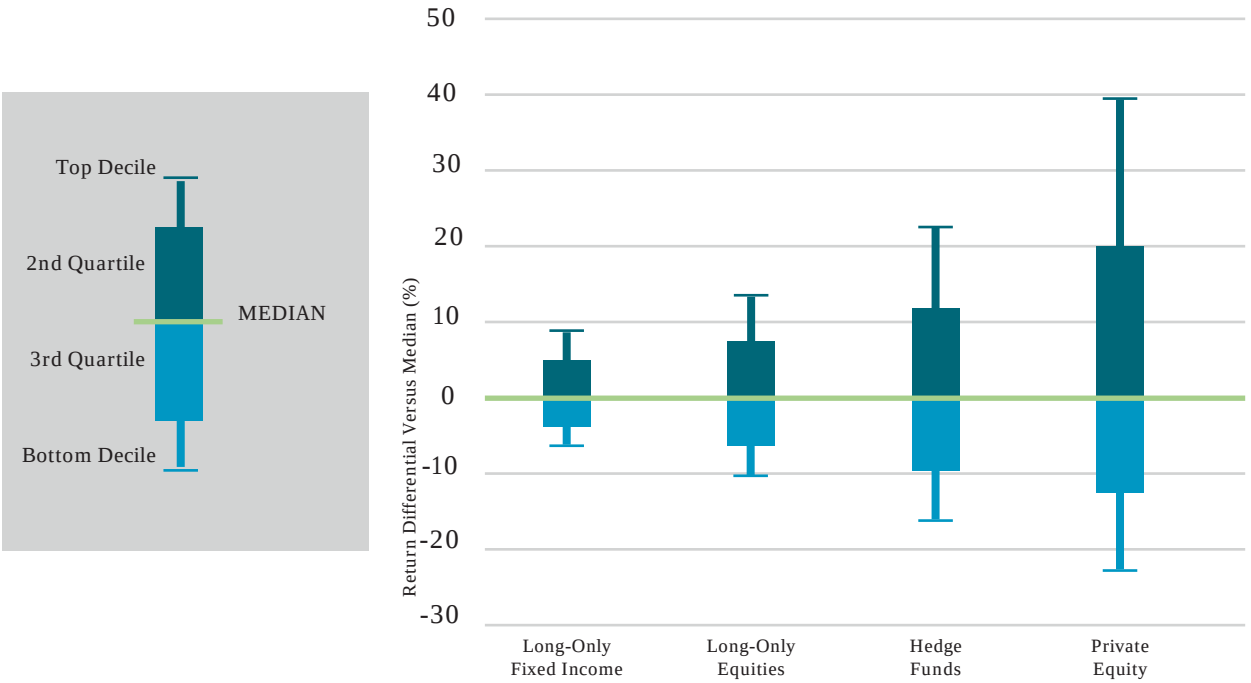
A particularly skilled private equity team, for example, may be better able to identify which companies can be turned around, have experience reducing operating expenses, optimizing asset utilization or exploiting leverage. Some managers may also have superior deal flow or a better network of senior management to install in leadership positions at their portfolio companies. For these reasons, the potential for upside in illiquid alternatives is not driven simply by exposure to some illiquid category, but by investing with the right managers.

This is evident in the display below, which shows the range of returns across the top and bottom quartile managers of various assets. The best and worst managers of publicly traded stocks and bonds tend to trail or outperform the median by modest amounts: at most several percentage points separate top and bottom quartile managers.

But the difference between top and bottom quartile managers in Hedge Funds can be over 20 percentage points, and over 30 percentage points in private equity. In short, the more illiquid the asset, the greater the dispersion we find across the best and worse performing managers. (Display 6)

Display 6

Manager Dispersion Increases as Illiquidity Grows



Source: Morningstar, Lipper Tass, Preqin
Note: Past performance is not indicative of future results. Should the study have been conducted over a different time period, the results may have been different. There can be no assurance that an allocation to illiquid investments would yield higher real returns.

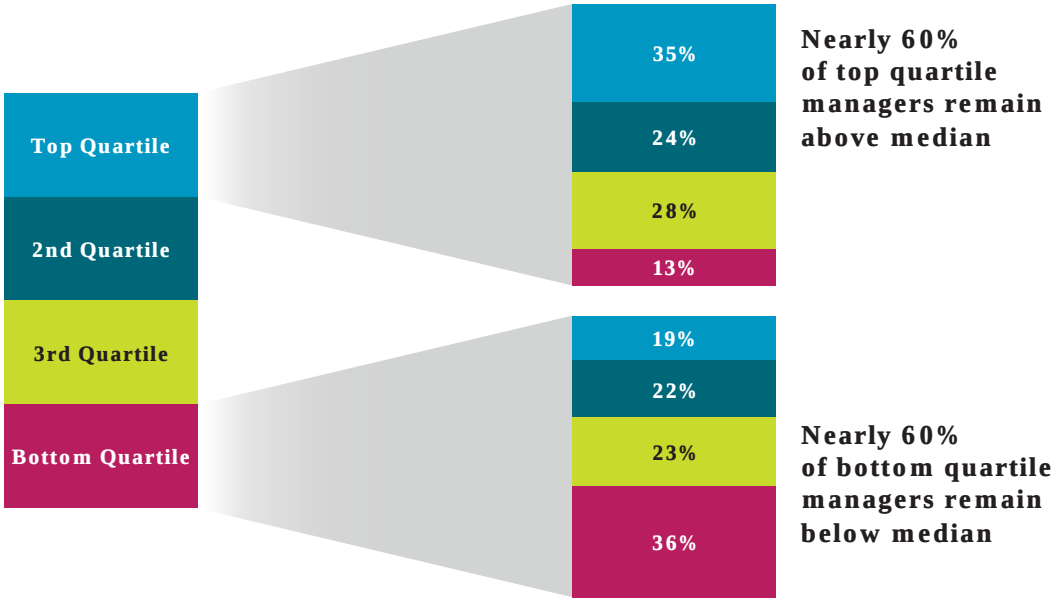
This sort of dispersion can be perilous for investors seeking to choose the "right" manager. But if they choose well, there is some consolation: manager performance tends to be more persistent for illiquid alternatives than for more liquid hedge funds and traditional long-only portfolios.

A recently updated study of performance persistence among alternative investments divided Private Equity funds into quartiles, based on how a manager's most recent fund performed, and examined the results for the next fund launched by each manager.

The study found that 35% of the top-quartile managers delivered top-quartile performance on their next fund, and only 13% delivered bottom-quartile results. By contrast, only 19% of the managers of bottom quartile funds delivered top-quartile performance in their next funds, and 36% repeated their bottom quartile performance again. Extending the analysis, about 60% of the top quartile funds remain above median in their next fund, while a similar percentage of bottom quartile funds remain below median. (Display 7)

Display 7

Private Market Persistence? Performance Often Continues Across Vintages



Source: Steven N. Kaplan, Robert S. Harris, Tim Jenkinson, Rudiger Stucker, "Has Persistence Persisted in Private Equity? Evidence from Buyout and Venture Capital Funds (February 2014). Darden Business School Paper: 2304808. Vintages are only through 2008 since more recent vintages may still be investing and have few realizations.

The higher persistence of manager performance among illiquid alternatives suggests there are real differences in skill levels among managers. It also explains the loyalty some investors tend to feel for certain managers, where many "re-up" for subsequent funds. Either way you look at it, manager selection is crucial for investors considering illiquid strategies.

But before even considering manager selection, investors need to understand the very different mechanics at the heart of private market investing.

Sidebar: Assessing Performance in Private Market Funds

Analyzing private market fund performance is quite different from assessing public equity and debt. Like Hedge Funds, private investment firms "self-report" their results. This renders their long-term return numbers subject to various biases.[1]

More to the point, private fund returns are not calculated in the same manner as traditional investments. They are most often quoted as "dollar-weighted," measured by an internal rate of return (IRR) rather than the more conventional time-weighted return (TWR), the standard applied to stocks and bonds.

Cash flow is the key distinction. When considering stock and bond funds an investor is free to enter and exit at will. By contrast, investors in private funds face constraints in the form of multiyear "lock-up" provisions. That is, the investment managers control investor cash flows, determining the optimal moment for entering and exiting investments.

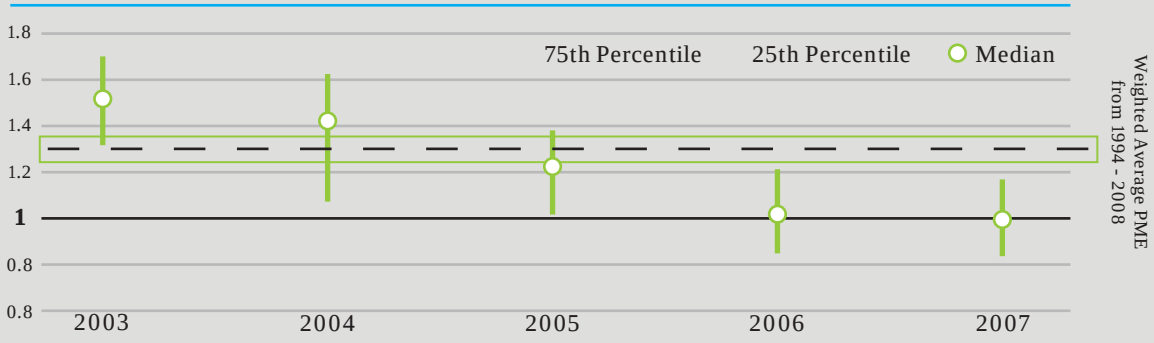
Given the differences between these performance measures, comparing a private equity IRR with a public return index is apples to oranges. To make a like-for-like comparison some use a PME (Public Market Equivalent) measurement to translate dollar-weighted to time-weighted returns. This process involves the creation of a hypothetical investment vehicle that mimics private equity cash flows.

A PME performance measurement represents the level of returns an investor could have achieved if they had sold or bought the equivalent amount of public index whenever a private equity fund made a capital call (investment) or a distribution (divestment). A PME of 1.0 means the fund's performance is in line with the public market; a PME of 1.20, for example, implies that at the end of the fund's life, investors ended up with 20% more than they would have if they had invested in the public markets.

According to recent studies done on a cleaner and more representative set of performance data, the amount by which buyout funds outperformed the S&P 500 in each of the last three decades works out to a PME ratio of about 1.3, meaning median outperformance of more than 3% per year versus its public market benchmark over the life of a fund (see display below).

The Private Market Performance Premium over S&P 500

PE has performed well, even in recent vintages



Source: Burgiss PrivateiQ data for buyouts, based on cash flow from investors at end 2010 | Sourced from "Private Equity Performance: What Do We Know?" Robert S. Harris, Tim Jenkinson and Steven N. Kaplan, SSRN, April 2013.

[1] These include backfill and survivorship bias, the most common types of sample selection bias. It occurs when studies are conducted on databases that have eliminated all companies that have ceased to exist (often due to inferior performance). The findings form such studies most likely will be upwardly biased, since the surviving funds will look better than those that no longer exist. See "Deciphering the Biases in Hedge Fund Indices," CFA Institute, March 2013.

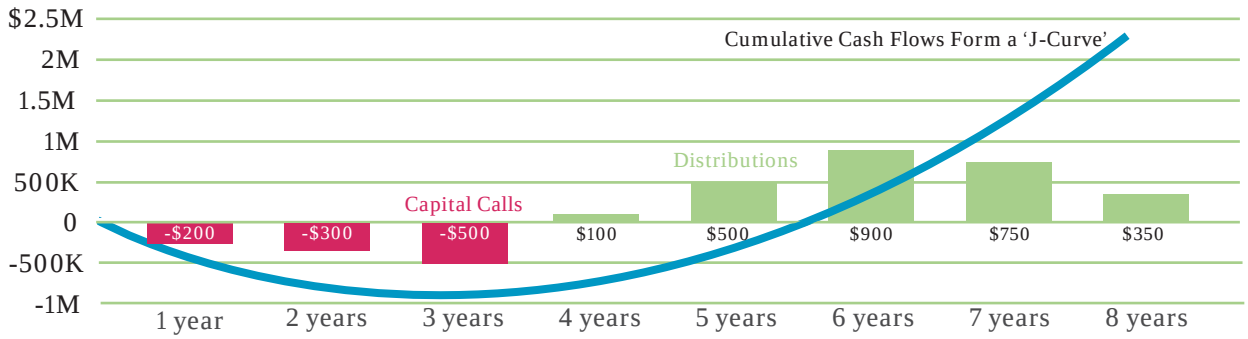
Patient Capital: Reviewing the Mechanics

There's a reason investments in less liquid, private market assets are sometimes referred to as "patient capital"—it can be a long wait to get invested, and even longer to realize returns. In a private market fund, investors, called limited partners (LPs), make an upfront commitment to invest a specific dollar amount into a limited partnership. That commitment is then "called down" incrementally by the General Partner (GP) or fund manager over a term of three to six years (the "investment period"), to fund investments in portfolio companies and to pay fees and expenses.

Harvesting investments takes an additional three to six years, resulting in a total commitment of 10 years or more. Invested capital is returned to LPs in the form of distributions generated from company sales or IPOs. As a result, investors' cumulative net cash flows form a "J-Curve," first sloping down into negative (outflow) territory, then rising back to neutral and, if successful, becoming strongly positive. (Display 8)

Display 8

The J-Curve in Action: The Structure of Private Market Investing



Note: For illustrative purposes only. Each investor's cash flows and returns will differ. These statistics are not meant to be predictive of the performance of any particular fund. This scenario and resulting performance are hypothetical and no such Blackstone portfolio or fund exists. Hypothetical performance results have many inherent limitations and no representation is made that any Blackstone investor will, or is likely to achieve, results similar to those shown. There is no assurance that an allocation to alternatives would yield higher real returns.

The fundamental reality of private market investments is that it takes time to achieve the kind of outperformance investors expect: time to identify and source the right deals; time to improve the underlying investment (through management changes, operational enhancements, and other forms of "intervention"); and time to successfully "liquidate" the investment — either through an IPO back to the public markets or a sale to a strategic buyer.

These constraints on the speed of private transactions (or rather, the lack of control or predictability of cash flows into or out of any underlying investment) are key to the value-creation inherent in these deals. But the structural realities of illiquid investments also create a number of challenges that may constrain the appetite of individual investors for private market assets. The challenges include:

Gaining Exposure: Unlike the public markets, where investors can quickly and efficiently increase their allocation by purchasing shares in the open market, private market investors cannot gain instantaneous exposure, as managers need time to identify and negotiate attractive deals.

Achieving a Diversified Allocation: Fund offerings are calendar-dependent, may not be accessible for smaller investors, and often require steep investment minimums. That means individual investors seeking broad diversification in the space – across assets, strategies, managers, and "vintage years" — may have difficulty achieving that kind of exposure.

Maintaining the Allocation: Making a $1 million commitment to Private Equity for ten years is not the same as achieving a constant $1 million allocation for that period. Over the years, the average exposure would probably reach about 50% of the total $1 million commitment — so only half of the capital is "at work" most of the time.

That said, some of these structural issues can be addressed and largely resolved, potentially leading to more suitable allocations by individual investors.

Implementing a Private Market Allocation: Matching Commitments with Cash Flows

Let's take one central problem: the difficulty in achieving and maintaining an allocation — with the aim of keeping more of the illiquid investment in the ground and at work.

The challenge here is managing the pace of cash flows: marrying the timing of commitments with the uncertainty of distributions. To solve this dilemma, investors can employ two strategies: 1) Front-loading or "overcommitting" to the allocation and 2) smoothing cash flows (calls and distributions) across successive funds.

Let's say an investor has $5 million dollars in liquid net worth. Based on his capacity for illiquidity and overall risk and return goals, he decides on a long-term strategic allocation of 10% or $500,000 to private market strategies. So how can he efficiently reach and sustain that allocation, keeping it at work and diversifying it across an appropriate array of private investments?

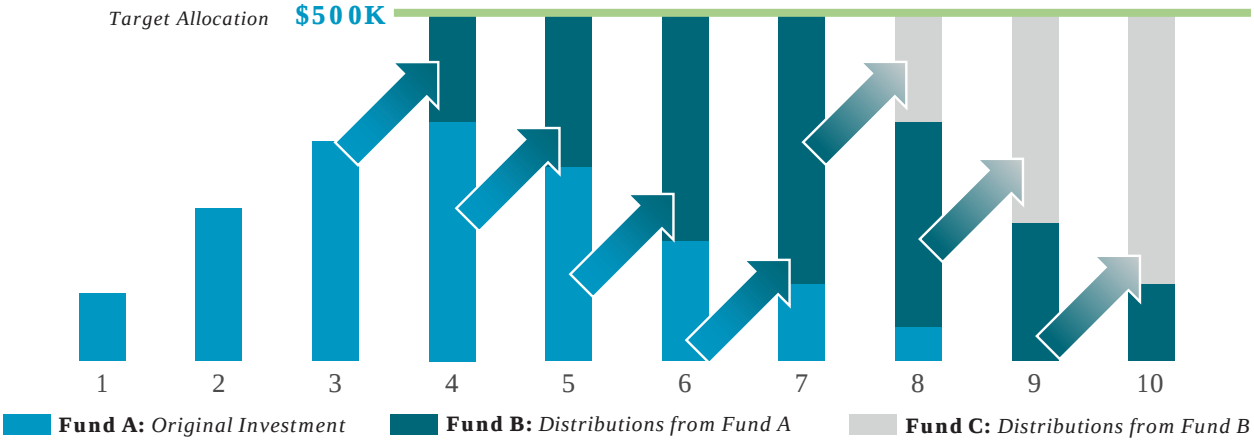
If the investor simply commits $500,000 to one single fund, he will fall well short of the goal of a continuous 10% allocation to private investments. At no single point in the life of the fund is it likely that the full $500,000 would be allocated to actual investments. If he instead commits to invest a total of $750,000 to Fund A, a portion of that commitment would be called gradually over the next several years. By the end of year one, it may be that only $75,000 of the total commitment is called. By year 3, perhaps something closer to half, or $375,000, would likely have been called. By that point, some of that called capital would begin generating positive investment returns in the form of distributions.

At about this time (3 years into Fund A) the investor targets another private fund (B). He may commit an additional $750,000 to Fund B, with the expectation that ongoing distributions from Fund A would be available for cash calls required by the new fund. Likewise, as Fund B matures and more capital is called, some of the distributions would then be returned – to the investor. Continuing the example, in year 8, he would commit another $750,000 to fund C, all in order to maintain a consistent $500,000 allocation of invested capital in private alternatives, with the distributions from prior funds hypothetically available to meet calls for the new one. (Display 9)

Perfectly aligning distributions with capital calls is impossible, but making steady commitments in this way could help create a self-funding portfolio, targeting a consistent allocation diversified across vintage years.

Display 9

Achieving and Sustaining an Allocation



Note: Represents capital invested over time assuming $750,000 is committed to Fund A in year one, $750,000 is committed to Fund B in year four and $750,000 is committed to Fund C in year eight. Each fund gradually calls on the capital and gradually returns it as it harvests its investments. For illustrative purposes only. Each investor's cash flows and returns will differ.

Getting Comfortable with Illiquidity

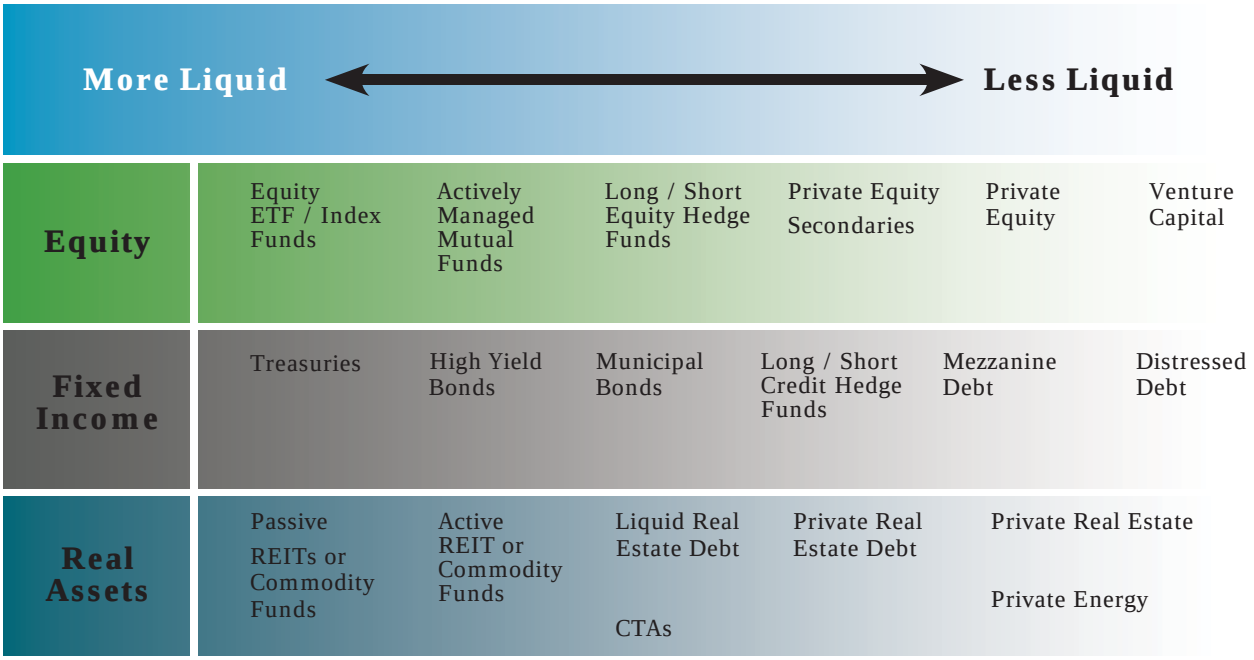
At the end of the day, if investors want to benefit from the performance upside that illiquidity can offer, they need to get comfortable with the idea and the process of allocating to these strategies.

One way to do so is to understand these investments — Private Equity, Real Estate, Distressed Debt —not as new asset classes but as less liquid versions of strategies they're already comfortable investing in. That is, investors should consider their allocation to private market funds alongside their traditional allocation, in a "liquidity continuum." (Display 10)

For example, think of an investor's equity exposure: within the "liquidity continuum" we are suggesting, an advisor might position private equity alongside other more liquid equity-like exposures, such as long/short equity, active long-only, and passive equity structures. At bottom they are all equity-oriented assets, the longer-term nature of private market vehicles being just one distinguising characteristic (one that also impacts tax efficiency, as gains tend to be primarily long term, with correspondingly beneficial tax treatment).

Display 10

Simplifying Private Market Investing: Allocating across the Liquidity Spectrum



For Illustrative Purposes Only

We can say the same for allocations to fixed income, which would extend from the most liquid Treasury or Bond ETF portfolio, into less liquid high yield or senior loans, and then long/short credit, mezzanine and distressed debt at the more illiquid extreme. And likewise with real assets: moving from passive REIT or Commodity Funds to more active real estate strategies, commodity trading advisors, private real estate and private energy funds.

In this way, the private market allocation may be understood as a natural extension of the public or liquid portfolio — with related risk and return characteristics all derived from the overarching asset class that each belongs to.

Conclusion

Generally speaking, most 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 gets spread around quickly. But there is another, more private market, where only a select few have good data, information is difficult to analyze and even harder to procure, and news takes a long time to get around.

Skilled managers and long-term investors generally prefer the latter, where informational and other inefficiencies that characterize illiquid investments allow them to outperform their equivalent liquid asset benchmarks, often by substantial amounts.

The approaches we've outlined here may help render investing in private markets more intuitive, making it easier for individual investors to deploy their own patient capital and to participate in the upside that illiquidity offers.

Glossary

Alpha: Alpha is a measure of the return due to active management, rather than market exposure, or beta. It is often used to refer to the value added by a manager's skill.

Alternative Investments: Investment categories other than traditional securities or long-only stock and bond portfolios; they include hedge funds, venture capital, private equity and real estate. Alternative investments often employ strategies typically unavailable to long-only managers, such as the use of derivatives, the ability to short and the ability to hold illiquid assets.

Beta: Beta is a measure of the sensitivity of a security or portfolio to broad market movements. The beta of the market index is 1.0. A security with a beta of greater than 1.0 tends to rise or fall more than the market; a security with a beta of less than 1.0 tends to rise or fall less than the market. The term "beta" can also indicate the portion of portfolio returns that result from market exposure, rather than from manager strategies or skill (alpha).

Capital Call / Drawdown: Occurs when a private equity fund manager (typically acting through the General Partner (GP) of the partnership) asks an investor (typically, a Limited Partner (LP) of the partnership) to fund a portion of his or her capital commitment in order to make a current investment, or to fund management fees or expenses. Usually, an LP will agree in advance to a capital commitment, and over time the GP will make a series of capital calls to the LP as opportunities arise or the capital is otherwise needed.

Distribution: When an investment by a private equity fund is fully or partially realized (resulting from the sale, liquidation, disposition, recapitalization, IPO, or other means of realization of one or more portfolio companies in which a GP has chosen to invest) the proceeds of the realization(s) are distributed to the investors. These proceeds may consist of cash or, to a lesser extent, securities.

Hedge Fund: A private investment portfolio that uses nontraditional techniques (such as short sales and leverage) to preserve and/or gain capital. Hedge funds are generally considered part of the alternative investments asset class. In many jurisdictions, they are more loosely regulated than long-only portfolios and are restricted to larger or more sophisticated investors.

Illiquid: The term used to describe an asset that cannot be quickly sold in the market without incurring a substantial loss.

Illiquid Alternatives: Alternative investments that invest in illiquid assets and offer limited liquidity to investors. Many illiquid alternatives require investors to make capital commitments over several years that cannot be redeemed in the short term. Illiquid alternatives can include venture capital, private equity and direct real estate.

Illiquidity Premium: The extra expected return an investor demands as compensation for investing in an illiquid asset.

Internal Rate of Return (IRR): The rate that discounts the future value of an investment back to its current value. The IRR can also be seen as the hurdle rate that an investment seeks to outperform.

Limited Partnership: A legal entity composed of a General Partner and various Limited Partners. The GP manages the investments and is liable for the actions of the partnership while the LPs are generally protected from legal actions and any losses beyond their original investment. The GP receives a percentage of profits, while the LPs receive income, capital gains and tax benefits.

Lockup: A period of time during which investors cannot redeem invested capital. For example, illiquid alternative investments such as venture capital, private equity and real estate funds typically have lockup periods before the full return of capital and profits to investors.

Mezzanine Financing: Financing provided by a bank or specialized investment fund to invest in a debt instrument of lower credit quality relative to the senior debt in a company but ranking senior to any equity claims. The instrument may include equity features, such as warrants.

Private Equity: A type of investment that seeks return by acquiring companies and restructuring them, with the goal of improving or restoring profitability. The companies are sold at the conclusion of their restructuring. Private equity investments are illiquid and, by definition, are not publicly traded.

Secondary Market: A market for the sale of existing private equity investments prior to their stated maturity. Traditionally, the secondary market has been focused on partnership interests in private equity funds. Certain investment companies specialize in providing liquidity to these investors, acquiring partnership interests or portfolios of directs as "secondaries."

Venture Capital: A type of investment that seeks return by providing seed or early-stage financing to privately held, fledgling businesses thought to have strong growth prospects due to a new technology, product or business model.

Vintage: The year in which a private equity fund has its final closing.

Notes and Disclaimers

The information contained herein reflects, as of the date hereof, the views of Blackstone Private Wealth Management, a division of Blackstone Advisory Partners L.P. (together with its affiliates, "Blackstone") and sources believed by Blackstone to be reliable. No representation or warranty is made concerning the accuracy of any data compiled herein. In addition, there can be no guarantee that any projection, forecast, or opinion in these materials will be realized. Past performance is neither indicative of, nor a guarantee of, future results. The views expressed herein may change at any time subsequent to the date of issue hereof. These materials are provided for informational purposes only, and under no circumstances may any information contained herein by construed as investment advice or an offer to sell or a solicitation of an offer to purchase (or any marketing in connection thereof) any interest in any investment vehicles managed by Blackstone or its affiliates. The information contained herein does not take into account your particular investment objectives, financial situations, or needs, and you should, in considering this material, discuss your individual circumstances with professionals in those areas before making any decisions. Alternative investments can be highly illiquid, are speculative and may not be suitable for all investors. Investing in alternative investments is only intended for experienced and sophisticated investors who are willing to bear the high economic risks associated with such an investment. Investors should carefully review and consider potential risks before investing. Certain of these risks may include:

• Loss of all or a substantial portion of the investment due to leverage, short-selling, or other speculative practices; • Lack of liquidity in that there may be no secondary market for a fund; • Volatility of returns; • Restrictions on transferring interests in a fund; •Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; • Absence of information regarding valuations and pricing; • Complex tax structures and delays in tax reporting; • Less regulation and higher fees than mutual funds; and • Risks associated with the operations, personnel and processes of the manager.

Blackstone may make investment recommendations and decisions that are contrary to the views expressed herein, and may sponsor and hold interests in investment vehicles that have holdings that are inconsistent with the views expressed herein.

Interests in alternative investment vehicles are sold only pursuant to such vehicle's offering memorandum. Prospective investors of any alternative investment should refer to the specific fund's offering memorandum and operative documents, which will fully describe the specific risks and considerations associated with a specific alternative investment.

Blackstone

Blackstone | Private Wealth Management | 345 Park Avenue New York, New York 10154