

Alternative Investments and the Semi-Affluent Investor

Chapter 3: Private Equity

Research Report
July 2001

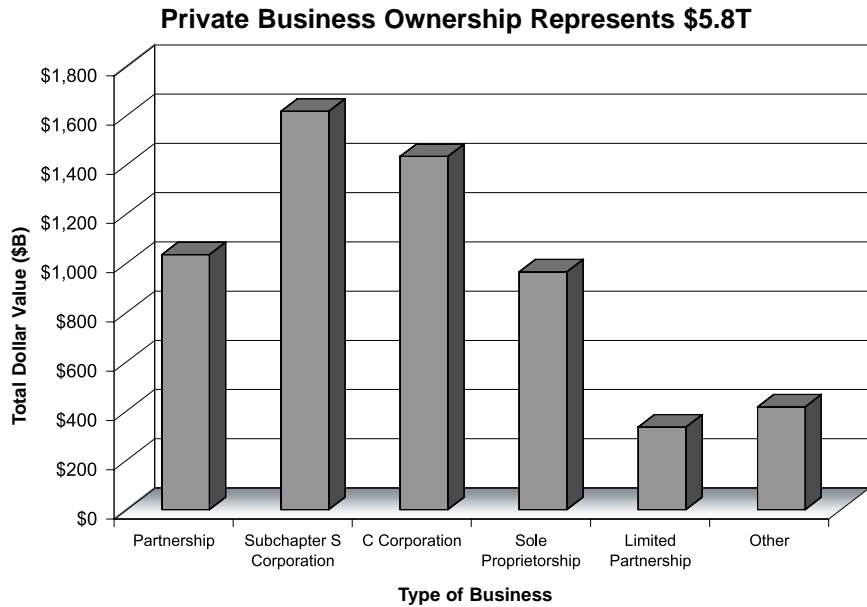
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III. Private Equity



Economic participants in every free market economy include privately owned organizations that do not offer publicly traded securities. In the U.S. alone, private companies accounted for more than \$5.8 trillion of economic value as of 1998. Private equity products provide investors a means of participating in this part of the economy.

Figure 3.1

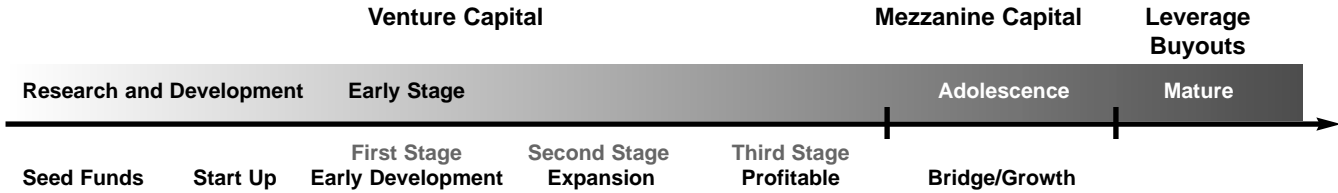


Source: Bernstein Research

Few organizations are good at investing in each aspect of an organization's cycle

The investment activities of private equity firms encompass every aspect of the lifecycle of an organization, ranging from start-ups to mature businesses. There are three types of private equity: venture capital, mezzanine and leveraged buyouts (LBOs). Within this broad spectrum of investments, there is a great deal of specialization between firms. Few organizations are exceptional at investing in more than a few stages of a company's development.

Private Equity Investing in the Life of a Company



Private Equity Serves as a Return Enhancer – Not a Portfolio Diversifier

The goal of private equity investing is to generate substantially greater returns than the long-term historical equity markets, enhancing overall portfolio returns. Achieving such performance comes at a price: greater levels of risk, very little liquidity and limited diversification benefits.⁴⁸ Most private equity pools require long investment horizons (at least five to seven years) and do not cash flow in the early years of the investment.

Investors have been attracted to private equity because it has delivered exceptionally high levels of absolute return, particularly during the last decade. The Venture Economics Private Equity Performance Index generated an average annual return of 22.1% during the 10 years ended December 2000. Another benchmark, the Cambridge Venture Capital Index returned 43.43% during the same period – nearly twice as great as the NASDAQ, its closest competitor among traditional benchmarks.

Table 3.1

Private Equity Historical Returns as of 12/31/2000					
	1 yr.	3yr.	5yr.	10yr.	20yr.
Venture Capital	37.6%	64.8%	48.0%	29.9%	19.9%
Leveraged Buyouts	9.7%	14.3%	17.4%	16.6%	19.2%
Mezzanine	14.9%	10.8%	11.1%	12.4%	11.7%
All Private Equity	20.0%	30.3%	28.3%	22.1%	19.3%
S & P 500 Index	-8.98%	12.34%	18.38%	17.48%	15.66%
Lehman Aggregate Bond	11.63%	6.36%	6.46%	7.96%	10.50%
Russell 2000	-3.02%	4.65%	10.31%	15.53%	11.95%
NASDAQ	-38.83%	16.74%	19.04%	21.58%	15.11%

Source: Venture Economics. Venture Economics' Private Equity Performance Index is calculated quarterly from Venture Economics' Private Equity Performance Database (PEPD). The PEPD tracks the performance of over 1,200 US venture capital and buyout funds formed since 1969 and over 425 European private equity funds formed since 1980. Returns are net to investors after fees and carried interest. 3-month returns are un-annualized.

Unlike many absolute return strategies and real estate investments, however, private equity has not been an effective diversifier of portfolios. The correlation of returns between private equity and the S&P 500 has been fairly high. Studies have also shown that during periods of crisis, private equity strategies experience even higher levels of correlation with the S&P 500 and Lehman Aggregate Bond indices.⁵²

Table 3.2

Correlation of Private Equity Versus Traditional Benchmarks Year Ending December 31, 2000			
	3 Years	5 Years	10 Years
Lehman Aggregate Bond	-0.71	-0.28	-0.15
S&P 500	0.70	0.69	0.57
NASDAQ	0.83	0.74	0.62

Source: Standard & Poor's Micropal, NCREIF and NAREIT

History

Private equity investments are not good portfolio diversifiers

Venture capitalists had a prominent role in the development of our modern day economy. They first achieved national notoriety and emerged as a major industry as a result of their willingness to fund firms that led the way in technological advancements in microprocessors, software and biotechnology. Venture capitalists recognized the economic value that these advancements could provide successful companies.

Table 3.3

Statistical Summary of Private Equity Strategies 5-Year Period Ending December 31, 2000			
	Return	Standard Deviation	Correlation to S&P 500
Cambridge Private Equity	19.84%	11.05%	0.69
S&P 500	18.33%	16.08%	1.00
Lehman Aggregate Bond	6.46%	3.42%	0.21

Source: Standard & Poor's Micropal

Venture capital firms developed expertise in investing in such enterprises at very early stages of their development. Through a combination of financial and operating knowledge, they provided entrepreneurs with the guidance and resources to build successful companies that could be sold or taken public to realize exceptional rates of returns.

The success of these firms has not gone unnoticed and thousands of new venture investment firms, backed by a flood of institutional and high net worth money, now litter the landscape. They invest in a broad spectrum of businesses and have helped finance the creation of thousands of new enterprises in the United States.

LBO Firms – Another Class of Private Equity Managers

Another class of private equity managers rose to prominence two decades ago due to the poor economic and securities market environments of the 1970s and early 1980s. A prolonged period of economic stagflation and the emergence of global competitors, along with ineffective management of many organizations, had depressed the public values of numerous corporations. As a result, the aggregate value of the individual business units within some organizations was significantly greater than the public value of the entire enterprise.

This new class of private equity managers – known as Leveraged Buyout or LBO firms – capitalized on these inefficient public valuations and built great fortunes by acquiring and privatizing undervalued companies.

LBO firms arbitrage a company's pricing disparities between the public and private markets

Relying heavily on leverage to finance their transactions, these entrepreneurs, in certain instances, broke up their acquisitions and sold off individual business units to unlock the intrinsic value of the enterprise. With other acquisitions, LBO firms relied on a combination of more capable management and financial engineering to significantly improve the profitability of these companies.

The 1980s LBO market ended with a thud – culminating with the collapse of the attempted buyout of United Airlines in 1989. The reasons for the collapse were numerous. As the decade progressed, corporate raiders became the primary instigators of transactions, some of whom used questionable tactics, large amounts of leverage, engaged in illegal activities and offered little operational value-added or experience.

A resulting public backlash against some of these excesses led to new legislation that made hostile takeovers much more difficult and expensive. Simultaneously, valuations in the public equity markets soared significantly over the next decade, eliminating much of the disparity between public and private values of companies.

However, while the corporate raider became mostly a relic of history, a major industry of professional buyout investors remained. The exceptional earlier success of the financial entrepreneurs that pioneered LBOs attracted thousands of new participants and investors to this aspect of the private equity business. These firms arbitrage inefficiencies between the pricing of companies in the public and private markets.

Regulatory Change Facilitated Participation By Institutional Investors

Another key factor that fueled the growth of the private equity investment industry was a regulatory change that clarified the investment authority of pension fiduciaries. Prior to 1980, few institutions invested in private

equity partnerships due to a concern about the interpretation of a federal statute governing many pension plans. Under the 1974 ERISA Act, pension fiduciaries were required to diversify plan investments in such a way as to minimize the risk of large losses. Because of the potential risk with private equity investing, many pension fiduciaries believed they were barred from participating in these products.

At the urging of many pension plan sponsors, the Department of Labor issued in 1979 a ruling that effectively provided a safe harbor for private

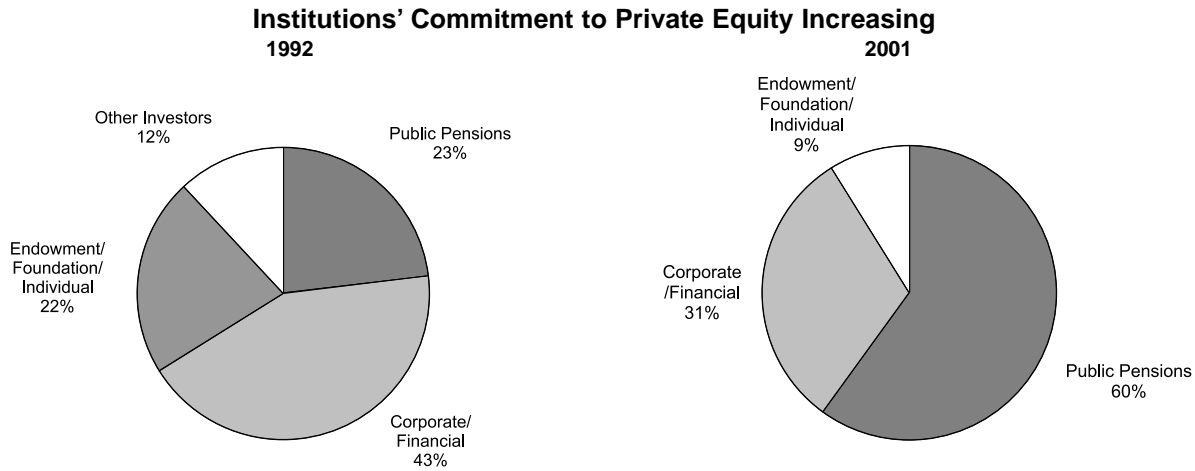
More than 50 % of private equity capital is from institutions

equity investments. Under this ruling, the relative risk of an individual investment did not preclude its use by fiduciaries in the overall context of a diversified investment portfolio. With this regulatory barrier removed, pensions began increasing their allocations to private equity investments.

Institutions Are A Primary Source of Private Equity Capital

Today, institutional investors, including corporate and public pension plans, contribute more than 50% of the capital in private equity funds. The balance comes from endowments, insurance companies, foundations, banks and high net worth individuals.⁵³ A combination of risk, length of investment, minimum investment requirements and a lack of liquidity involved in venture investments has largely excluded retail investors from private equity funds.⁵⁴

Figure 3.2



Source: Venture Economics, Credit Suisse First Boston/Tremont

Public plans are the largest investors in private equity products. They are constrained, however, by rules that prevent them from owning more than 10% of any single partnership. Consequently, they tend to invest in large partnerships that have higher minimum investment requirements.

Corporate pension plans are also significant investors in private equity. To date, they have provided 31% of the total capital commitments to the industry.

Categories of Private Equity Investing

Venture capitalists typically provide capital at the earlier stages of a company's life. They usually take direct equity ownership in portfolio companies, although they may also receive warrants.

Mezzanine firms typically invest in the mid-stages of a company's life. Investments are often structured as subordinated debt – senior to the equity investors but junior to banks or normal bondholders. The compensation for the risk that they assume is usually through a high level of interest paid on their debt.

LBO firms usually invest in the latter stages of a company's life. Using a combination of equity and debt financing provided by commercial and investment banks, LBO firms acquire undervalued public companies. Their investment usually takes the form of equity in the acquired companies.

It is important to recognize the distinct difference between venture capital and LBO investing. Each targets very different companies and requires very different skills to analyze and add value post-transaction.

Venture capitalists are the epitome of growth investors. They are experts at turning concepts into successful companies. They sometimes invest in companies before they begin operations, and always invest before companies are established successes. They have to understand new technologies and how to turn them into products that the market will demand. Successful venture capitalists are also able to bring together capable management teams and guide them through the development stage of a business.

Venture capitalists are the ultimate growth investors, while LBO specialists are the ultimate value investors

LBO investors, by comparison, are the ultimate value investors. They invest in companies that have already passed through the start-up and development stages and are mature businesses. Their goal is to identify undervalued and poor performing businesses that they can help turn around by helping the business create efficiencies and scale. Success in this arena requires extensive background in business operations, mergers and acquisitions, and defining core businesses.

A. Venture Capital

For the most part, banks and traditional providers of capital have been unwilling to invest in entrepreneurs with unique ideas or small companies with limited operating histories. Venture capital firms have filled this vacuum and are now a key source of funding for new companies.

Venture capital has helped create some of the most successful companies in history, including Apple Computer, Federal Express and Intel. And the return on successful venture investments has been spectacular. For example, venture capitalists invested \$3.5 million in Apple Computer during 1978 and 1979. When Apple went public in December 1980, the value of these investments soared to \$271 million.⁵⁵

Structure of Venture Capital Funding

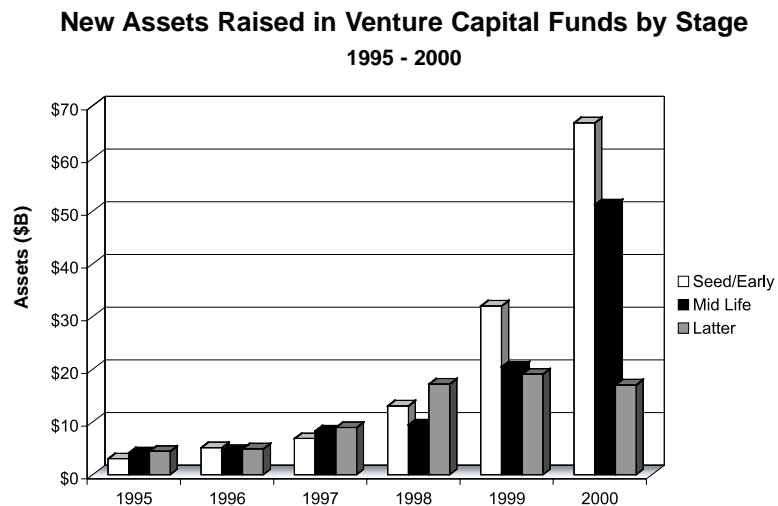
Venture capital firms rely on a staged approach to funding companies instead of providing all of a new organization's capital needs at once.⁵⁶ The goal is to force new companies to quickly build value in their organizations, and limit the risk of their investors' venture.

Venture capital helped create companies like Microsoft, Apple and Intel

Venture capital partnerships have as few as two investors or an unlimited number, depending on the asset size of the fund and the stage of investments it is targeting – seed, early stage growth or later stage growth. In exchange for their investments, venture capital firms receive large equity stakes in new companies as well as a significant ability to influence management through membership in the companies' boards of directors.⁵⁷

Venture capital firms usually invest through syndicates, and may use industry contacts to help their portfolio companies recruit key employees and suppliers, as well as advise on manufacturing and customer relations.⁵⁸ Some venture capital firms also maintain consulting staffs that actively participate in the management of their portfolio companies.⁵⁹

Figure 3.3



Source: Venture Economics, CSFB

Sub-Categories of Venture Capital

There are several sub-categories of venture capital, each tied to the point at which an investment is made in the early stages of a company's life.

Seed Funds

Entrepreneurs use seed capital to finance the time period they use to determine whether a concept – a new technology, design, or approach to marketing and distribution – has the potential to become a successful new company. As part of this stage, an entrepreneur may even create a prototype of the new product.⁶⁰

This point in a company's life is sometimes referred to as the research and development phase. It is often funded by the entrepreneur's personal money and loans from friends or family. If the entrepreneur is unable to raise sufficient funding for this stage, seed capital funds can serve as alternative sources of financing.

These funds are usually run by former company executives who specialize in taking raw ideas and packaging them into viable business proposals. The resulting business plans are used in raising subsequent rounds of capital financing.

Seed funds supply the capital for a company that cannot be covered by the entrepreneur

Seed capital firms comprise only a small percentage of venture funds and often commit only a few hundred thousand dollars to each individual investment in exchange for a substantial equity stake in the company.⁶¹ It is the riskiest form of venture capital investing.

Start-Up

Once the research and development is completed, the start-up phase begins. This phase is normally in the first 12 months of a company's life, during which a management team is recruited and the business plan is further refined. Prototypes are evaluated and tested and the company will often conduct a detailed analysis of the potential market for the product.⁶²

Although start-up investments occur later than seed capital, they too involve significant risk. Consequently, start-up venture capitalists often demand substantial equity stakes in exchange for funding. They also value companies by discounting potential cash flows with rates as high as 70% per annum because of the inherent risk in these investments.⁶³

First Stage – Early Development

Two criteria must be met before companies can receive first stage financing. First, their product prototypes must be fully developed. Second, they must demonstrate enough potential demand to support the creation of a manufacturing process.⁶⁴

Because they involve an immense amount of risk, start up venture capitalists often demand substantial equity stakes

Second Stage – Expansion

Second stage financing occurs after a company has begun producing and shipping product and has actual sales data to measure potential demand. This type of financing is used to fund investments in equipment and inventory. Most companies receiving second stage financing are still unprofitable.

Third Stage – Profitable

Companies that have achieved profitability but still lack adequate resources to fund their expansion plans through their own cash flow use third stage venture capital financing. Investing in such companies has less risk than early stage investments, and thus, future cash flows from such investments are typically discounted at rates of only 25% to 40%. In addition, this is the stage where banks may be willing to provide a portion of the financing.^{65,66}

B. Mezzanine Capital

Mezzanine capital is the smallest of the three private equity categories. It is a hybrid between debt and equity and is usually provided far into a company's operating history, after it has well-developed products and is profitable.

A key challenge for mezzanine investors is to ensure they are not taking equity levels of risk for debt levels of returns

This form of private equity is generally used for one of two purposes. For profitable new companies, it can serve as a form of bridge capital during periods in the markets that are not conducive for an initial public offering (IPO) or a sale or merger of the company. Companies will use mezzanine capital as a means of financing their continued rapid growth until more favorable conditions exist in the capital markets.

For public companies with highly leveraged capital structures, mezzanine financing provides a middle tier of financing. It fills the void created by the part of a capital structure that is too risky for traditional lenders but does not provide enough upside for equity investors. It is usually junior to the company's other debt securities and bank financing but is senior to its equity holders and may often include warrants.

The key challenge for mezzanine investors, however, is to ensure that they are not taking equity levels of risk for debt levels of return. Investors are often attracted to mezzanine investments because they pay above-market yields. Unlike equity holders, however, mezzanine investors are capped in their potential upside but are still subordinate to other debt holders.⁶⁷

The historical returns of mezzanine investments have not been as attractive as other forms of private equity. The median fund delivered returns comparable to traditional fixed income investments, a much lower risk investment. With the exception of its top performing managers, its overall performance has been less than compelling.⁶⁸ The most successful mezzanine investors have approached this asset class in an opportunistic fashion.

Snapple Beverage Company

The Boston-based private equity firm Thomas H. Lee has built a reputation – and fortune – by buying and reselling troubled companies with solid fundamentals. It has invested in many companies, but is perhaps best known for its acquisition of drink maker Snapple Beverage Company in 1992.

Lee purchased Snapple for \$135mm with the belief that funding, the right strategic oversight and new management could turn the company into a profit-maker. The belief was justified. Snapple improved dramatically over the next two years, and Quaker bought it from Lee in 1994 for more than \$1.7 billion.⁶⁹

The LBO business has changed dramatically over the last two decades

C. Leveraged Buyouts (LBOs)

LBOs make up the third major category of private equity investing. They target established, ongoing and often mature businesses, trying to arbitrage differences between pricing in the public and private markets. Typical acquisition targets are companies that, despite having strong core businesses, have seen their stock price perform poorly for an extended period of time. LBO firms often also acquire subsidiaries of top-heavy conglomerates that receive little strategic benefit from their parent companies.

This form of private equity is a type of leveraged equity investing. A majority of the capital structure in each transaction is made up of debt. In acquisitions that perform well, this leverage can amplify and substantially enhance returns. But in unsuccessful transactions, this reliance on high levels of debt often results in significant losses for investors. Consequently, investors should demand significantly higher investment returns from allocations to LBOs than from traditional equities.

LBO Firms Must Add Value Beyond Capital

To deliver high returns, LBO firms must operate differently today than they did 20 years ago. In the early 1980s, most LBOs were largely financial transactions. Potential acquirers identified companies with stock prices that were significantly less than the combined value of the enterprises' business units. Using small amounts of equity and large amounts of debt (sometimes as much as 90% of the total value of a transaction), they would acquire all of the stock of the company, converting it to a private entity. The LBO manager would then sell off its individual parts and recoup a substantial profit on its investment.

Over the last two decades, the LBO business has changed dramatically. It is almost impossible to generate sufficient investment returns from LBO transactions that are simply exercises in financial engineering, such as breaking up a company and selling the parts. Public and private companies better manage their capital structures and pricing between the public and private markets has become much more efficient. Lenders also require that equity capital be a larger part of transactions, limiting debt to 50% to 75% of total financing and lowering potential returns.

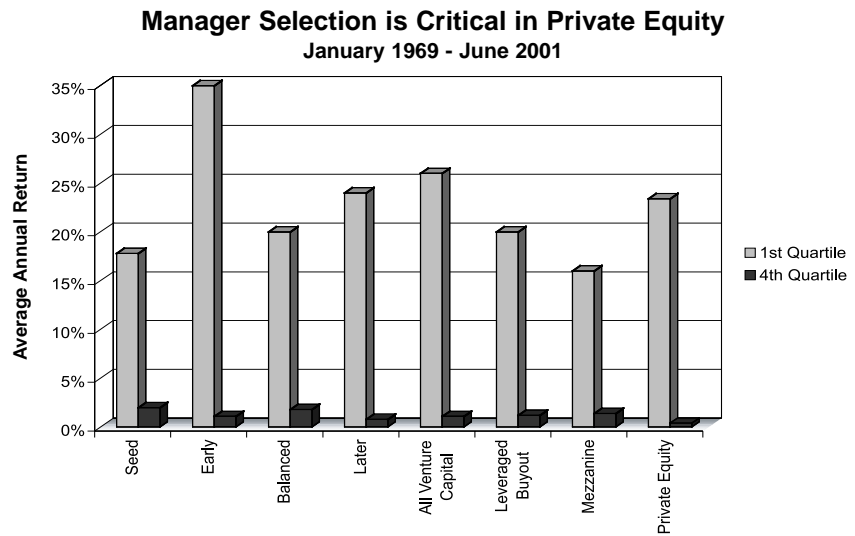
Consequently, LBO investors must now add value beyond capital to generate meaningful returns for their investors. Some examples of value added include:

- ◆ improving operating efficiency
- ◆ strengthening management
- ◆ refocusing on core businesses
- ◆ creating scale via mergers with similar companies or business units

D. Evaluating and Selecting Private Equity Managers

Unlike traditional asset classes, the difference between first and fourth quartile performance in private equity investing is vast. As shown below in Figure 3.4, manager selection has a significant impact on portfolio returns. During the more than 31 years from 1969 through June 2001, the smallest difference between first quartile and fourth quartile managers in any stage of private equity is 14.6% (mezzanine). The largest difference is 33.9% (early stage venture). And in a given year, the difference over the life of a fund can be as much as 1,200%.⁷⁰

Figure 3.4



Source: Venture Economics

Measuring Private Equity Performance Is Difficult

Due to their illiquidity, private equity investments are difficult to value on an ongoing basis

Measuring and evaluating the performance of private equity investments is more complicated than for traditional asset classes for a variety of reasons. First, most private equity investments are very illiquid, making it difficult to accurately value them on an ongoing basis. Not until all of a partnership's assets are liquidated at termination can its actual returns be precisely calculated.

It is also difficult to evaluate a private equity manager's performance because each fund has so few transactions. Unlike hedge funds that can generate a thousand trades per month, a typical private equity partnership will make only six to 10 investments over its life. Consequently, one exceptionally good or bad investment may skew the overall returns of the fund.

In addition, there is often little or no homogeneity between transactions within the same fund. Investments may vary by industry, size and leverage employed in the transaction.

Factors For Evaluating Private Equity Manager Performance

When evaluating a manager's past performance, investors should separately analyze each transaction in a manager's portfolio and try to compare them with similar private equity transactions that occurred at the same points in time.

Distinguishing between the impact of investment selection and the impact of leverage on returns is also critical. Most LBO partnerships employ leverage that is as much as five times the amount of equity invested in a transaction. Only by considering the effect of leverage can a manager's returns be compared on a risk-adjusted basis.

Private equity transactions with spectacular returns often involve luck

It is also essential to understand if and how a manager might have added value and the role that firm played in a particular transaction. This information can often be found by talking with other service providers – accountants, bankers, lawyers – and the portfolio companies' management teams.

Another important factor in evaluating private equity managers is tied to the incredible degree of luck often involved when a manager picks a big winner. The returns from such transactions can overwhelm the results of a portfolio's bad investments and obscure manager weaknesses. Consequently, many of the private equity managers that we interviewed argued that an evaluation of a fund's *unsuccessful* transactions is a far better measure by which to evaluate private equity managers than their successful deals. They strongly believe that successful private equity managers find ways to salvage value from failed investments. An analysis of the steps a manager took to save an investment from total loss is often a strong indicator of its ability to add value.

Holding Periods Are Key Factors In Measuring Investment Performance

A sometimes overlooked factor in evaluating private equity managers is that the goal of a private equity allocation in a portfolio is not necessarily to generate the highest absolute returns – even adjusted for risk. Instead, successful private equity managers attempt to generate high risk-adjusted returns with long holding periods.

From an asset allocation standpoint, many institutional investors would much prefer a 25% return per year for five years than a 35% return for one year. Although the near-term returns may be higher, investments with short holding periods are problematic. The capital returned must be reallocated to another private equity fund that might not be able to reinvest it for some period of time. Selecting managers that are able to make investments that generate high returns over long periods of time is key to maintaining a successful allocation to private equity.

E. Private Equity Benchmarks

There are few available benchmarks to compare individual private equity manager performance

Private equity investing is still a relatively young industry and there are few available benchmarks to compare individual private equity manager performance. The three most widely used indices are the Venture Economics Private Equity Performance Index (PEPI), the Cambridge Associates U.S. Private Equity Index and Cambridge Associates Venture Capital Index.

E. Private Equity Benchmarks

Table 3.4

	Overview	Categories	Method of Calculating Returns	Gross of Net Data
Venture Economics Private Equity Performance Index (PEPI)	Index of historical results of more than 2,600 private equity partnerships with an aggregate market capitalization of nearly \$500 billion. The benchmark represents approximately 50% of the total funds in the universe and 80% of the market capitalization. The primary criteria for inclusion in the benchmark is that partnerships have some money from outside institutions. First published in 1987, but has historical dating back to 1969.	Funds are grouped by stage of investment and vintage year (year that fund was closed).	Time-weighted returns that assume stock distribution valuations on day of distribution and rely on British Venture Capital Association and European Venture Capital Association valuation guidelines for on-going investments.	Data is net of all management fees, partnership expenses and incentive compensation.
Cambridge Private Equity Index	Tracks the performance of partnerships that represent over 2/3rds of the dollars raised for non-venture private equity from 1986 to 2000. Data is updated quarterly as reported by general partners to Cambridge in audited reports.	Grouped by private equity leveraged buyout, subordinated debt and special situations managers.	Time-weighted rates of return calculated on aggregate of cash flows and valuations.	Data is net of all management fees, expenses and performance fees.
Cambridge Associates, LLC U.S. Venture Capital Index	Tracks the performance of partnerships that represent over 3/4 of the dollars raised for venture capital from 1981 to 2000. Data is updated quarterly as reported by general partners to Cambridge in audited reports.	Grouped by manager.	Time-weighted rates of return calculated on aggregate of cash flows and valuations.	Data is net of all management fees, expenses and performance fees.

Source: Venture Economic and Cambridge Associates LLC

Weaknesses In Benchmarks

Smaller managers have a great incentive to overestimate the value of portfolio holdings

Although these benchmarks are useful in comparing managers and provide the only broad data on the performance of industry participants, they have several weaknesses. First, a large part of their data is taken from valuation estimates done by private equity fund managers. Although there has been an attempt to develop uniform standards of valuing private companies, the actual practices between managers vary widely.

A large part of this variance is tied to manager incentives. For smaller managers, there is a great incentive to overestimate the value of portfolio holdings. They are often trying to raise additional funds, and exceptional performance on their existing investments is essential to their fund raising activities.

Larger firms, on the other hand, are often more conservative in their valuations, relying on historical book value until a transaction involving the individual company occurs. The potential liability for overestimating performance outweighs the benefits of boosting near-term results.⁷¹

A second problem is that the performance data in these benchmarks do not reflect managers' ability to effectively identify transactions. By relying on time-weighted data instead of an internal rate of return calculation, managers that are unable to invest their funds in a timely manner are not penalized. While investors may have made an allocation to private equity, until their managers actually invest the funds, the allocation has no economic benefit to the portfolio.

Finally, these databases solely measure a manager's absolute performance in the aggregate. The databases do not include any risk adjustments nor do they reflect the leverage used in a transaction. Consequently, their data is only a narrow snapshot that does not adequately reflect the real value-added provided by a private equity manager.