Private Equity
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DOI:10.1093/acprof:oso/9780199959327.003.0018

Abstract and Keywords
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Keywords: venture capital, buy-out, IRR, TVPI, PME, GP, LP, private equity performance, carry, 2/20

Chapter Summary
Private equity (PE) is not an asset class. Performance measurement of PE is hampered because commonly used metrics are not returns and are often manipulated. On the whole, PE does not outperform publicly traded stocks on a risk-adjusted basis, but there is large dispersion among PE funds. PE contracts are complicated and exacerbate, rather than ameliorate, agency problems.

1. South Carolina Retirement Systems
Curtis Loftis Jr., a Republican appointed state treasurer of South Carolina in January 2011, had a mess to clean up.¹

South Carolina’s public pension plan held $24.5 billion to meet its liabilities, but like many public pension funds faced a large funding shortfall (see chapter 1), in this case of $14.4 billion dollars. In an attempt to fill this hole, the pension fund started to move aggressively into PE and other alternative illiquid assets five years ago. The move was led by Robert Borden, who was appointed the pension fund’s first CIO in the spring of 2006.

Before 2007, South Carolina law did not permit its pension fund to put money into investments that weren’t publicly traded. Borden shook things up. His flamboyant, yellow Lamborghini brought a taste of Wall Street’s excesses to Columbia, South Carolina, but the car was the least of it. He introduced exotic PE and other alternatives to the state’s public employees’ pension fund, which previously invested exclusively in regular bonds and public equity. PE and other alternative investments now count for $13 billion, or more than half the fund’s assets.

Loftis was skeptical on whether these fancy, illiquid investments added value. The fees were high: in 2011 alone, South Carolina paid $344 million in investment management fees. Yet in the fiscal year ended June 30, 2012, the pension fund’s return was 18.6%, which was below the average return of 21.4% among large public pension funds according to Wilshire Trust Universe Comparison Service. South Carolina’s five-year performance of 4.0% also lagged other large funds, which averaged 5.1%, despite South Carolina’s large exposure to sexy PE investments.

Loftis and Borden butted heads. In the summer of 2011, Loftis made a simple request to see Borden’s appointment calendar; by showing how busy Borden was, Loftis hoped to bolster his case in the legislature for hiring more investment staff. But Borden, a man in charge of a $25 billion fund, had a calendar that was largely empty! (Borden claimed he did not need his calendar and planned all his meetings in his head.) Borden threatened to leave to manage Virginia’s retirement funds, and the South Carolina Investment Commission voted to give him a $242,000 bonus. Loftis challenged the payment, which was later cut by $65,000. Borden resigned in December 2011 to
join New England Pension Consultants, a Cambridge, Massachusetts-based investment firm that did extensive business with the South Carolina pension fund.2

Borden is gone, but his legacy remains.

A report by Deloitte & Touche identified several shortcomings in the fund’s operations with respect to alternative assets. The fund did not have a standard process for analyzing or monitoring managers, or reviewing fees.

Loftis was fed up with years of high fees and complex terms, which are incomprehensible to the average taxpayer. “I question whether Wall Street’s interests are being protected or our interests are being protected,” he says. In an examination of the fees charged by one outside fund manager, he found fees were too high by $18.1 million—an amount the fund manager called “a reporting error.”

Loftis did not want South Carolina to completely disinvest from complicated PE deals. But he “thinks the pension fund needs to be more mindful of its dependence on complicated deals being sold by Wall Street.” Loftis has plenty of tales of what Wall Street financiers do to lure South Carolina’s funds, with stories of fund manager meetings at trendy nightclubs and fund managers arranging for him to sit next to centerfold models at dinners. “This is a world where people have private jets, massive apartments overlooking Central Park, people who live exotic lives,” said Loftis.

2. Industry Characteristics
2.1. What Is Private Equity?

PE is very old. The *commenda* was a contract that arose in the tenth century to finance merchant shipping: *passive* owners put up some or all the capital, and there was an *active* owner who went on the voyage. Both parties shared in the profits, but the passive owners could lose only as much money as they put into the trip (their liability was *limited*). The active owner’s liability, on the other hand, was *unlimited*. The commenda transformed Venice from an obscure, fog-prone marsh into La Serenissima.

Today, PE investments are investments in privately held companies, which trade directly between investors instead of via organized exchanges. The investments are typically made through a PE fund organized as a limited partnership. Asset owners, such as pension funds or endowments, invest in the fund and are *limited partners* (LPs). The fund is managed by a PE firm, like KKR or Kleiner Perkins, which is the *general partner* (GP). The fund itself invests in illiquid businesses (called *portfolio companies*).

The PE firm raises *commitments* of capital from LPs, who must pony up on demand at any point between the fund’s start (or *vintage*) year and a predetermined date or whenever the fund is dissolved. LPs have a maximum commitment (the *committed capital*). For example, asset owners might commit to providing $100 million over the life of a PE fund. In the first year, GPs call $20 million, leaving $80 million that can be called in future years. Once committed, investors are expected to stay for the fund’s duration—secondary markets for LP commitments are extremely thin and discounts are huge.
2.2. Private versus Public Equity

Table 18.1 summarizes the differences between private and public equity. The first and obvious difference is that public equities are easily tradeable in centralized markets (that is, they are liquid), whereas private equities are traded over the counter and only with difficulty (making them illiquid). Over the counter markets have search frictions, including finding a counterparty and overcoming the informational disadvantages an investor might have in evaluating the underlying value of portfolio companies. Even launching a PE fund entails search friction, since asset owners and potential GPs must find and evaluate one another. Transactions costs in secondary markets for PE are enormous: Harvard University, for example, faced discounts of 50% trying to exit from PE funds during the financial crisis (see chapter 11).

<table>
<thead>
<tr>
<th></th>
<th>Public Equity (S&amp;P 500)</th>
<th>Private Equity</th>
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<tbody>
<tr>
<td>Market</td>
<td>Centralized and liquid</td>
<td>Over-the-counter and illiquid</td>
</tr>
<tr>
<td>Transactions Costs</td>
<td>Tiny or small</td>
<td>Enormous</td>
</tr>
<tr>
<td>Valuation</td>
<td>Easy and objective in real time</td>
<td>Difficult and subjective and available infrequently</td>
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<tr>
<td>Horizon</td>
<td>Immediate</td>
<td>Long term (around 10 years)</td>
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<td>Contracts</td>
<td>Standard</td>
<td>Complex</td>
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The valuation of public equity is objective, happens immediately, and is easily verifiable through market pricing. PE, on the other hand, is hard to value. The valuation process is infrequent, subjective, and (unnecessarily and mysteriously) complex. Most PE funds have a stated horizon of around ten years, but many extend beyond, sometimes past fifteen. Thus, a true return on a PE fund cannot be computed for a decade or more, when liquidation finally occurs. The long horizon of PE means that investors cannot easily rebalance PE positions,
which renders standard (usually mean-variance) portfolio choice models inappropriate, as discussed in chapter 13.

Finally, contracts for liquid assets are largely standardized and transparent. PE contracts are anything but, requiring far more effort and diligence from investors.

2.3. Types of Private Equity

There are several types of PE.\(^6\)

**Leveraged buyout** (or simply buyout) funds buy mature companies, often already listed, using high levels of debt. (The average leverage ratio of buyout funds is three.)\(^7\) This subclass represents most of the money allocated to PE, and sometimes the term “PE” is used to refer to buyout funds. In this chapter, I take a broader view of PE.

**Venture capital** (VC) funds take stakes in companies at early stages of development using little or no leverage. *Angel investors* are special types of VC investors and typically use only their own money, rather than relying on a pool of investors as do VC funds. Angels specialize in the earliest stage of development—the proverbial startup in someone’s garage. Apple, Google (both of which actually did start in garages), Amazon, and YouTube were all financed this way. That these are high-tech companies is no accident—VCs gravitate to high-growth startups, although some VC firms specialize in other areas.

**PE real estate** funds invest in property as well a real estate development. Real estate funds tend to be highly levered.

\(\text{(p.596)}\) **Mezzanine** funds hold portfolios of loans in private companies. The debt held by these funds tends to be low on the totem pole; the term “mezzanine” implies that it is ranked below senior debt. Some mezzanine funds work hand in hand with buyout or real estate funds. This is a place to park some of the debt issued by private companies.

**Infrastructure** funds concentrate in capital infrastructure investments including airports, railways highways, and utilities. Typically these are leveraged.

A **distressed** fund concentrates on sick companies that are in or near bankruptcy. GPs of these funds specialize in
turnaround management, which tries to turn sick companies into healthy ones.

Funds-of-funds are like their counterparts in hedge-fund land: they hold investments in different PE funds. Some funds-of-funds are listed.\(^8\)

PE secondary funds acquire preexisting investments in PE funds from LPs. They allow existing LPs an opportunity to exit. (I discuss the secondary PE market in chapter 13.) There was a burst of secondary fund raisings during the financial crisis, as some savvy investors took advantage of distressed LPs.

LPs often invest directly in individual companies, alongside the PE funds, through co-investments.

2.4. Private Equity Commitments are Pro-Cyclical

Institutional asset owners tend to invest in PE pro-cyclically, injecting money into PE funds right at the peak of the business.\(^9\) (These institutions have the same pro-cyclical tendencies as individuals investing in mutual funds; see chapter 16). Money piles in when current valuations are high and past distributions are large—but future expected returns are low. Paul Gompers and Joshua Lerner (2000), two prominent professors specializing in PE, call this “money chasing deals”: asset owners tend to put money in PE right when it is most expensive.

Figure 18.2 shows PE fundraising over the 2000s decade as compiled by Pitchbook, a PE database. Panel A shows capital raised at around $320 billion per year peaking in 2007 and 2008, right before the financial crisis and the ensuing economic slowdown. Then in 2009 and 2010, right at the time when prices were low and expected returns were high, PE equity fundraising fell off a cliff. Panel B shows a similar picture in terms of the number of funds closed. (The correlation between the numbers in Panels A and B is approximately 90%).
Pro-cyclicality causes the lowest returns to be earned on PE investments right when capital allocations to PE are the highest. Why do PE investors behave this way? Partly it is because PE returns are not directly observed. PE firms generally do not report returns.

3. Private Equity Risk and Return

The lack of market values and the infrequent trading of portfolio companies have led to the use of three main performance measures: (i) internal rates of returns (IRRs), (ii) total value to paid-in capital multiples, which are called TVPIs or multiples for short, and (iii) public market equivalents, or PMEs. These are computed with periodic valuations producing net asset valuations (NAVs), which are estimated values of portfolio companies. All three of these measures are not returns and can be highly misleading measures of performance. Worse still, all of them are too often manipulated.

3.1. IRRs

Ludovic Phalippou (2011), a professor at Oxford University specializing in PE, states it bluntly: “The most frequently used performance measure IRR is uninformative and can be highly misleading; it typically exaggerates true performance.”

The IRR is defined (implicitly) such that the present value (PV) of the investments is equal to zero:
where $\text{Dist}(t)$ are distributions paid from the fund and $\text{Call}(t)$ are capital calls paid into the fund.

In Figure 18.3, I plot IRRs calculated by Harris, Jenkinson, and Kaplan (2012). Figure 18.3 graphs IRRs of funds raised in vintage years 1984 to 2008. The Harris, Jenkinson, and Kaplan study lists the longest time series of IRRs, multiples, and PMEs available, all computed on the same data set so they can be compared.

Figure 18.3 shows that the average IRR for the full sample is 15% for buyout funds and 19% for VC funds. But these averages mask a lot of variation over time: (p.599) IRRs in buyout funds averaged 17% in the 1980s, peaked at 50% in 1990, and tended to decline over the 1990s. In 1996, the buyout IRR was close to zero. In the early 2000s, buyout IRRs reached 22% but since 2006 have been approximately zero. The IRRs for VC funds were stratospheric, above 70%, during the mid-1990s. Since the 2000s high-tech crash, VC IRRs have been hovering at, or just above, zero.

Any student taking an introductory MBA finance course is advised by professors not to use IRRs. One well-known problem is that the IRR assumes cash flows can be reinvested at the IRR. IRRs are also distorted by the timing of cash flows. In PE, these problems really bite. IRRs are not returns.

As Joshua Lerner says: ¹²

When you look at how people report performance, there’s often a lot of gaming taking place in terms of how they manipulate the IRR.

(18.1)

$$PV = \sum \frac{\text{Dist}(t) - \text{Call}(t)}{(1 + IRR)} = 0,$$

Figure 18.3
Consider an investment where at time 0 an investor puts in $100 in a fund and at time 1 receives back $150: \textsuperscript{13}
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<tr>
<th>Date</th>
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<td>-100</td>
<td>150</td>
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If the investor exits at time 1, the IRR is 50%. Now suppose there is an investment opportunity that earns 25% per year for four more years. This is a great return, and the investor would prefer to keep all her money in the fund until year 5, where it compounds to $366.
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<td>366</td>
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If the GPs did this, the IRR would be 30%. Although it is better for the asset owner to remain invested until time 5, the GP prefers to exit early at time 1. Early exit happens in real life, as Gompers (1996) and Lee and Wahal (2004) show. Buyout funds have incentives to pay early dividends, which push cash flows earlier in the IRR computation. This may destroy value, but it inflates IRRs.\textsuperscript{14}

GPs misuse IRRs in other ways. IRRs can be computed at the vintage level, which pools all funds within a given vintage, rather than computing the IRR of each fund separately. Grouping funds together hides poorly performing funds. If a PE firm has some great successes in some funds early on, aggregating funds produces a high IRR and masks other bad investments. Phalippou (2008) finds that about half of buyout firms pool funds and then compute IRRs rather than first computing IRRs for each fund and then computing (weighted) averages across funds. Even some LPs use this pooling tactic to make their PE investments look better.\textsuperscript{15}

Even a positive IRR does not mean that the asset owner is coming out ahead because of the risks entailed—the risk of the underlying portfolio companies and the risks of illiquidity, high fees, and the large agency issues between the LP and the GP (see below). Sorensen, Wang, and Yang (2012) develop a model that takes into account all these risks from the perspective of the LP. An appropriate break-even IRR is 13% to 17% for asset owners comfortable with low to moderate risk if the underlying portfolio companies have a beta of 0.5. If the portfolio companies have a beta of 1.0, the same as the market portfolio, then break-even IRRs are 17% to 19%. The average buyout fund IRR in Figure 18.3 is 16%, so moderately risk-averse investors are just breaking even. And since 2004, buyout funds have not generated value for investors.

3.2. Multiples
The total value to paid-in capital multiple is calculated as the total amount of capital return to LPs (net of fees) divided by the total capital committed, or the amount invested (including fees):

\begin{equation}
\text{Multiple} = \frac{\sum \text{Dist}(t)}{\sum \text{Call}(t)}
\end{equation}
Multiples are less open to manipulation than IRRs. But they are just as meaningless.

Figure 18.4 graphs multiples for buy-out funds and VC funds compiled by Harris, Jenkinson, and Kaplan (2012). Like the IRR measures, multiples exhibit considerable variation over time that resembles the IRR. (The correlation of multiples with IRRs is 77% for buyout funds and 85% for VC funds.) Multiples for both buyouts and VC are generally over 2.0 in the 1980s, touch 6.5 in the mid-1990s for VC, and since the early 2000s have been fairly subdued. VC buyout multiples have hovered just above 1.0 since 1999 and buyout multiples since 2006 have been around 1.0.

If the multiple is greater than one, then an asset owner has received more money than invested. For several reasons, this doesn’t mean you broke even on your PE investments:

1. Time value of money
   There is no adjustment for this crucial factor. In fact, the implicit assumption is that the return on reinvested capital is zero!
2. Duration
   Multiples without duration information are pretty useless. A multiple of 2 means you’ve received twice as much as you put in—but is that generated over one year, which is a stunning return, or ten years, which is ho-hum? Even if you know the vintage year, you don’t know if distributions have been returned early in the fund’s history or toward the end. Although duration information is needed by asset owners to interpret multiples, Phalippou (2009) finds that fewer than 2% of PE prospectuses report holding period returns weighted by cash flow.16
3. Risk
   Multiples cannot be properly interpreted without knowing underlying leverage. Clearly a multiple of three is less impressive if the fund is levered five times than if the fund has no leverage. We also need to know the underlying risks of the portfolio companies and take into account the agency and illiquidity risks.
After taking into account leverage and risk, Sorensen, Wang, and Yang (2012) estimate that break-even multiples range from 3 to 6. As Figure 18.4 reports, buyouts exceeded this in the 1980s and early 1990s but since then have underperformed. VC funds reached these levels in the early and mid-1990s, but since the 2000s VC underperformance has been severe.

(p.602) Since there is no compulsory or standardized reporting of PE funds (unlike 40-Act funds, see chapter 16), GPs can pick and choose between IRRs, multiples, and other performance measures. PE buyouts always report multiples, but they don’t always report IRRs. When performance is poor, the IRR is often missing. This is not surprising. Take the extreme case: if the multiple is exactly zero, the IRR should be −100%. Phalippou (2009) documents that when multiples are less than 0.1, the IRR is missing in more than 80% of cases.
3.3. pmes

Both the IRR and multiples are absolute measures that do not calculate performance relative to a benchmark. Steven Kaplan and Antoinette Schoar (2005), who study PE at the University of Chicago and MIT, respectively, introduced the PME to rectify this shortcoming. The PME computes PE performance relative to the market. Practitioners have been slow to warm to the PME, but it is widespread in academic circles.

The PME discounts LPs’ inflows divided by the value of outflows using realized market returns:

\[
PME = \frac{\sum \frac{\text{Dist}(t)}{\text{Call}(t) \prod (1 + r_m(t))}}{\sum \frac{\text{Call}(t)}{\prod (1 + r_m(t))}},
\]

where \(r_m(t)\) is the market return. The term \(\prod (1 + r_m(t))\) discounts the cash flows back to the start of the fund, so it takes into account the opportunity cost of being invested in the public equity market.

Figure 18.5 plots PMEs for buyouts and VC funds computed by Harris, Jenkinson, and Kaplan (2012). Taking into account market risk makes a difference. The average multiple for buyouts is 2.0 in Figure 18.4, which comes down to 1.3 in Figure 18.5 for PMEs. In particular, multiples of buyouts during the 1980s were around 3.0, but PMEs were just above 1.0. Like the multiple measures, buyout PMEs were around 1.5 in the early 2000s but since 2006 have been at or below 1.0. The story is similar for VC funds. The average VC multiple in Figure 18.4 is 2.5, and this comes down to 1.5 using PMEs. Figure 18.5 shows that although VC PMEs rose to over 4.0 in the mid-1990s, they have averaged below 1.0 since 1999.
PMEs assume capital calls and distributions have the same risk as the market. In reality, the denominator includes management fees, which are largely risk-free (p.603) liabilities. Portfolio companies, which generate distributions in the numerator, are likely to have greater risk than the market portfolio. Using a higher discount rate for the numerator reduces the PME. Thus, in a careful risk treatment, the PME should exceed one before the LPs earn excess returns. Sorensen, Wang, and Yang (2012) show that an LP needs a break-even PME between 1.2 to 1.7 if the individual companies have a beta of 0.5, and break-even PMEs between 1.8 to 2.1 if the underlying individual companies have betas of 1.0. Using the latter benchmark, buyouts have only generated value for LPs briefly in the early 1990s.

3.4. Risk-Adjusted Returns
Measuring PE risk and returns is greatly hampered because returns are not directly reported, and IRRs, multiples, and PMEs are not return measures. Studies demonstrate that in the 1980s and early 1990s, PE investments beat public markets in terms of raw performance. The Harris, Jenkinson, and Kaplan (2011) study concludes, for example, that “it seems likely that buyout funds have outperformed public markets in the 1980s, 1990s, and 2000s.” But once risk is taken into account, it is not clear that PE funds are generating value—especially today. In fact, PE funds have most likely underperformed public equities on a risk-adjusted basis, a fact first documented by Kaplan and Schoar (2005) approximately 30 years after institutions started making such investments.

Aggregate PE returns are strongly pro-cyclical. There are negative relations between capital invested in a given year and the return of that vintage year. Phalippou (2011) finds large and negative correlations between the number of funds raised in each vintage year and IRR and multiple performance measures. This should not be a surprise: exits in buyout funds depend on hot public markets. IPOs are issued in waves, which peak at the top of markets. Merger and acquisition activity is likewise strongly pro-cyclical.
Biases in Private Equity Returns
Academic studies take into account two serious biases in PE data: (i) the infrequent observations of fund or company values and (ii) selection bias.20 The latter refers to the tendency of more successful firms and funds to be overrepresented in data, causing PE investment returns to appear better than they really are. Transactions are observed only if portfolio company values are high—only if the company is doing well will it receive the next round of financing, only if the valuation is high will the company IPO, and so on—and companies not doing well (zombies) are often left to linger as shells without mark-to-market valuations.

Zombie valuation is often written into PE contracts (see below), by statements like “Investments will be valued at cost unless a material change justifies a different valuation.”21 As one valuation expert says, “The manager … has a clear incentive to hold onto investments that have poor prospects for improvement, simply to get more out of the fund in the form of management fees.”22 Zombies account for more than 5% of PE investments, according to TorreyCove Capital Partners, a consulting firm. Another survey conducted by Coller Capital, a PE investments firm, in 2011 finds that 57% of North American LPs have zombie funds in their portfolios.23

Academics tackling biases due to infrequent sampling and selection have used two main approaches, but both have drawbacks. First, we can examine individual portfolio company-level information. This provides more data, so there are actually returns (at irregular intervals for different companies), but selection bias is a major issue. This analysis also reflects total returns earned by a PE fund before fees and not the returns earned by an LP net of fees. Second, we can analyze PE fund-level data. The selection bias is smaller because companies that ultimately turn into zombies are eventually reflected in the fund’s final closing payout. The main disadvantage of using fund-level cash flows is that these are not direct measures of returns.

Company-Level Estimates
Cochrane (2005) was the first to estimate a dynamic risk-return model of PE investments taking into account selection bias. He estimates a log-return CAPM, given by

\[(18.4)\]
\[
\ln(1 + r_i) - \ln(1 + r_m) = \alpha + \beta(\ln(1 + r_f) - \ln(1 + r_m)) + \epsilon,
\]

where \(r_i\) is the return on company \(i\), \(r_m\) is the market return, and \(r_f\) is the risk-free rate. The coefficients \(\alpha\) and \(\beta\) are the log excess return (alpha) and market exposure (beta) of VC investments, respectively. Equation (18.4) is a log version of the standard CAPM regression, which is usually stated in arithmetic returns (see chapters 6 and 10).^{24}

Cochrane finds the effect of selection bias is huge. Leaving aside selection bias, the (log) company alpha is 92%. Taking into account selection bias, the (log) alpha shrinks to \(-7\%\). The beta estimate is approximately 2. Portfolio company volatilities are extremely large—over 100% per year. Cochrane finds that performance of VC companies to be very similar to small- and micro-cap NASDAQ stocks. (In fact, the volatilities of comparable listed stocks are even larger than VC portfolio companies.) This reflects the lottery-like nature of starting companies and their high volatility: in PE funds, 85% of returns come from less than 10% of investments and only 13% of investments result in an IPO.^{25}

Morten Sorensen, my colleague at Columbia Business School, finds in Korteweg and Sorensen (2010) that selection bias knocks off 2\% to 3\% (arithmetic returns) per month from the raw return estimates of VC funds. Korteweg and Sorensen estimate a higher VC beta, around 3, than does Cochrane. They find VC alphas from 1987 to 1993 were positive but modest, alphas during 1994 to 2000 were very high, but the alphas in the 2000s were negative. In particular, post-2001 arithmetic alphas for VC investments have been consistently negative at \(-3\%\) per month.

**Fund-Level Estimates**

An advantage of fund-level estimates is that since PE funds have similar lifetimes (around 10 years) and selection issues are smaller, analysis can be carried out in more conventional arithmetic, rather than log returns. Using fund-level cash flows, Phalippou and Gottschalg (2009) find that PE funds have underperformed the S&P 500 by 3\%. After taking into account additional risk factors to capture the size premium and the value-growth premium (see chapter 7), the risk-adjusted underperformance is 6\%.
Driessen, Lin, and Phalippou (2012) estimate betas of 1.3 for buyout funds and approximately 3 for VC funds, consistent with Korteweg and Sorensen (2010). Driessen, Lin, and Phalippou find that between 1980 and 2003—the period where the nonreturn IRR, multiple, and PME measures are highest (see Figures 18.3–18.5)—buyout funds underperform the market by 0.4% per month. The underperformance of VC funds after adjusting for market risk is 1.1% per month. This is large underperformance. After incorporating additional size and value-growth factors, the alphas for buyout and VC funds are -0.7% and -1.0% per month, respectively. These are very large underperformance numbers.

The size and value-growth exposures are important sources of risk premiums for buyout funds. Phalippou (2013) shows that any performance advantage for buyout funds, if it exists, is attributable to buying small or even tiny companies with a value bias. Both these tilts give buyout fund portfolios higher returns than the market, but you could do the same with cheap index funds. Oh, and buyout funds use lots of leverage.

Another perspective on the value added by PE is provided by Jegadeesh, Kräussl, and Pollet (2009). They examine listed PE funds and funds-of-funds. They report excess returns of -7% to -5% per year after controlling for risk factors in public equity markets. They also find significant exposures of listed PE to size and value factors.

Other Risk Factors
Illiquidity is an important risk factor in PE returns. Franzoni, Nowak, and Phalippou (2012) show that PE investments are exposed to the same illiquidity risk factor as public equity. That is, if an asset owner wants to collect an illiquidity risk premium, she might be better off collecting it in public markets rather than private markets (see also chapter 13). Franzoni, Nowak, and Phalippou find that the illiquidity risk premium accounts for approximately 3% of PE returns, which in their sample are 18%. That is, the remaining 15 percentage points of PE returns are due to other risk factors. Alphas are already modest (or even negative) before controlling for illiquidity risk and become even smaller after illiquidity risk is taken into account. Franzoni, Nowak, and Phalippou’s estimate of PE alpha is zero to three decimal places after capturing illiquidity, size, and value effects.
Robinson and Sensoy (2011b) document that VC funds become “liquidity sinks” when valuations are low. Both LP capital contributions and LP distributions are pro-cyclical when liquidity is high. PE funds provide liquidity during booms, when market valuations are high, but there is no liquidity when valuations are low. This was made clear in 2007–2008 during the financial crisis as PE commitments became an albatross for many investors forced to meet capital calls at a time they most needed to conserve cash.

3.5. Persistence

Despite the mediocre performance of the average manager, some add value; there is large cross-sectional dispersion in PE fund returns. And those value-adding managers tend to be the same ones outperforming year after year. PE investing, therefore, is really about the cross-section rather than the average.

Since Kaplan and Schoar (2005), the academic literature has documented large persistence in PE returns. PE funds are raised in succession. If Fund ABC II raised in 2005 does well, then Fund ABC III raised in 2007 also does well. Estimates suggest that a performance increase of 1% for a fund is associated with greater performance of 0.5% for the next fund. Moreover, persistence is so strong that even in skipping a fund, there is still significant predictability. That is, Fund ABC II raised in 2005 forecasts that Fund ABC IV raised in 2010 would do well.

Kaplan and Schoar (2005) find that funds in the “top quartile” outperform. If this performance is persistent, then this seems to be a way for smart LPs to pick winners who continue to win. Kaplan and Schoar’s findings have led PE managers all wanting to be top quartile.

Unfortunately, in the Lake Wobegon world of PE, everyone is top quartile. According to the consulting firm PERACS, 77% of firms claim to be in the top 25%. How do they do it? There is no consistent benchmarking in PE, so managers pick the
measures they want. Some funds claim top quartile status on the basis of IRRs, others on multiples. Funds can also select the benchmark they want—even after the returns have been generated. Harris, Jenkinson, and Kaplan (2012) report anecdotal evidence that VE was an easier benchmark to beat, so more GPs chose to use it. Even the vintage year is open to manipulation. Is the vintage year the year a fund begins raising funds, ends fundraising, or the year its first deal is closed?

The finding that top quartile managers outperform is also an ex-post result. That is, we know there are repeat outperformers after all the data are examined. In reality, it is difficult to select funds using the information at hand. Suppose Fund ABC IV was raised in 2010. In 2013 when ABC V is raised, we have at most three years of data on ABC IV. We will not know if ABC IV was indeed a top performer until it is liquidated, around 2020 or even later. Thus in 2013, there is little real-time information about ABC IV on which to base a decision on whether or not (p.608) to invest in ABC V. Using information only available at the time a fund is raised considerably weakens persistence estimates.30

Just knowing about the firm ABC turns out not to be enough. Relationships and talent matter considerably in PE. Many top quartile funds are not available for general entry; the funds that are open are far below top quartile. Moreover, it is not so much the firm that matters—it is the partners who comprise the firm.31

Finally, the PE industry exhibits the same decreasing returns to scale that characterize the rest of the asset management industry. Kaplan and Schoar (2005) and others document that size is strongly negatively correlated with PE performance. That is, the bigger they are, the harder they fall.

3.6. Academics versus Industry

While academics hold less than sanguine, or outright negative, views on PE investing, industry professionals sing its praises. For example, the Private Equity Growth Capital Council, an industry group of PE funds, reports that at the end of 2011 PE outperformed (net of fees) the S&P for one-, five-, and ten-year horizons by 7.1%, 5.7%, and 7.6%, respectively.32

Why this discrepancy?
Phalippou and Gottschalg (2009) state three reasons why industry studies are misleading and overstate the benefits of PE investments:

1. Their data are too good. Successful funds are overrepresented. Their data comes from firms that report, and why would you report if your returns are poor? (This is selection bias, as discussed in Section 3.4.)

2. They use multiples, IRRs, and other nonreturn performance metrics. I state one last time: **IRRs are not returns.** All these measures can be, and are, manipulated. None of these measures take into account risk. Even if a raw return is greater than the S&P 500, as the Private Equity Growth Capital Council claims, the number cannot be interpreted without knowing the risk taken to produce the return.

3. NAVs are subjective and judgmental. NAVs tend to be biased upward. Some of this happens because of the zombie effect, where old and inactive companies have high accounting values, whereas their values should be near zero. Phalippou and Gottschalg write: *(p.609)* A large part of performance [reported by industry] is driven by inflated accounting valuation of ongoing investments and we find a bias toward better performing funds in the data.*

In the worst case, GPs just lie. Oppenheimer & Co. paid $2.8 million to settle charges that it inflated the value of investments in its PE fund, causing the fund’s IRR to jump from 3.8% to 38.3%. The pie-in-the-sky numbers succeeded in bringing in $61 million of capital. The lack of PE market values and nontransparency make subjective valuations open to abuse, and an SEC official says the ”number of cases involving PE will increase.”

Asset owners are warned: trusting research published by PE firms stating that PE outperforms is like believing in research conducted by cigarette companies concluding that smoking doesn’t cause cancer.

### 3.7. Portfolio Company Investments
While adding little value, on average, to LPs, PE funds do add significant value to the companies in their portfolio.\textsuperscript{35} Kaplan and Stromberg (2009) show that profitability rises after a PE transaction. Investment in new projects also increases after a PE transaction.

PE firms create value in several ways. Of course they provide capital to up and coming firms that need it. But Chemmanur, Krishnan, and Nandy (2011) find that VC firms provide more than just financing. VCs can select higher-quality entrepreneurial firms, and they provide them with expert advice and professionalize management, as well as provide support for firms marketing their products (often using the GPs’ networks). From the standpoint of principal-agent theory (see chapter 15), a buyout fund that purchases 100\% of a company can reduce agency problems as there is no separation between ownership and control. Since the owners are the managers, they have more skin in the game.

The benefit of this value creation, unfortunately for asset owners, appears to be going to the PE fund managers (GPs), rather than the investors in the PE funds (LPs). This is entirely consistent with the Berk and Green (2004) model of asset management we covered in chapter 16.

3.8. Summary
The lack of regular market prices and selection bias are fundamental problems in assessing the risk and returns in PE. In my reading of the literature, there is little compelling evidence to suggest that the average PE fund significantly outperforms (p.610) public equity on a risk-adjusted basis. In fact, the evidence is precisely the opposite.\textsuperscript{36} In the words of Antoinette Schoar, “This industry has had very poor performance over the last 25 years.”\textsuperscript{37}

4. Agency Issues
Most asset owners, lacking the expertise to invest in PE directly, hire outside managers to help them. PE investment is then primarily a bet on manager skill, so agency issues are extremely important.

Would you sign a contract where the investor . . .\textsuperscript{38}

1. Has no right to examine the underlying assets?
2. Does not receive return numbers, but only complicated nonlinear functions of subjective "values" (called IRRs and multiples)?
3. Receives opaque, sometimes meaningless, status reports?
4. Can’t withdraw money on demand?
5. Gives incentives to the PE manager to reduce distributions, empire-build, and make poor investments in fields outside the manager’s primary expertise?
6. Is charged fees for investments the PE manager has not yet made, and in the extreme case never will make, rather than on current investments?
7. Allows managers to hold onto worthless investments so that they can milk fees from investors for as long as possible?

This is the current state of PE contracts.

4.1. Private Equity Contracts

There are three main ways of compensating GPs:\(^{39}\)

1. Regular annual fees, which are management fees;
2. Incentive fees, called carried interest; and
3. Other fees, which include fees for transactions (buying or selling companies), advisory and monitoring, specialist consulting work on the portfolio companies, director fees, and so on. These are called portfolio company fees (or transactions fees) because they are levied on the underlying private companies and are often not directly visible by LPs.

(p.611) **Management Fees**

A typical management fee is 2% of committed capital, not invested capital. That is, even though a fund manager has found $20 million of investments in the first year, the GPs are not paid on the $20 million of assets under management. They are paid on the full $100 million of committed capital. As you can imagine, this arrangement leads to very high overall PE fees (see below). The arrangement also leads some GPs to raise the largest possible funds so they can maximize fees. Some PE funds, however, restrict access, and so deliberately refrain from raising the largest fund they can (see Kaplan and Schoar 2005).
The incentive for funds to milk management fees for as long as possible leads to zombie companies. Investors would prefer for zombies to be sold at a loss, or just wound down. Sadly, this is not a decision that the LPs can make. “Private equity is an industry with extraordinary barriers to exit,” quips one PE advisory specialist. 40

There is a rationale for levying management fees on committed, rather than invested, capital. If management fees were paid on invested capital, GPs might rush to make investments early and in inferior companies. The magnitude and breakdowns of total compensation I report below, however, makes this consideration small. As always, asset owners should pay when value is actually created, not just for managers holding their funds—which could be accomplished otherwise much more cheaply (see chapters 14 and 15).

**Carry**

The carry is typically 20%. A common arrangement is that distributions are first paid to investors by the fund up until an IRR of 8% is obtained. (This is called the hurdle rate.) There are complicated rules that permit only some cash flows (capital commitments, write-downs, fees, etc.) to be counted in the IRR computation. After the 8% hurdle rate is hit, 20% of money paid out from the fund goes to the GPs, leaving investors the other 80%. (The 20% is charged from 0% not 8% at this point.) Sometimes there is a catch-up provision, which gives all distributions to the GPs until a certain target is received—typically when the LPs have received 80% of the money paid out. After the catch-up provision, the GPs collect their 20%. PE contracts often have a clawback provision. Under a clawback, the GP cannot keep distributions representing more than 20% (usually) of the fund’s cumulative profits. Thus, the clawback requires that any “excess distributions” go to the LPs.

While a management fee of 2% and a carry of 20% (“2/20” in industry parlance) is a common split, there is variation. Management fees range from 1% to 2.5% and carry interest from 20% to 35%. The overall schedule of how distributions are shared between the LPs and GPs is called the waterfall structure. Waterfalls can be complex. Management fees, for example, could be declining over the life of a (*p.612*) fund, a
(time-varying but deterministic) combination of committed and managed capital, or even just a fixed dollar amount.

Other Fees

Portfolio company fees are fees associated with the private companies managed by the GPs. They are opaque and, because they are not directly reported, asset owners usually do not know how much GPs generate through these fees. These fees can be substantial. Whereas management fees are capped by the total commitment and carry is capped by the clawback, there is no limit on portfolio fees. A common transaction fee is 2%, sometimes charged both at entry and exit of a company, and monitoring fees are around 0.4%.

There are many incentive problems emanating from the way industry sets management fees. Management fees are typically set on the asset value of companies, not equity value. This gives an incentive for PE funds to use more debt as it increases firm assets and thus maximizes fees. GPs also prefer to spin off companies in small parts, since they earn more fees on several small pieces rather than as a whole. The fact that these fees are transactions based, and not based on value-added, drives GPs to make more changes to companies than is optimal; every change GPs make to a company’s capital structure increases their fees.

The total amount of fees is poorly disclosed in PE prospectuses. Phalippou (2009) finds that only 25% of funds report past performance net of fees, and those funds are typically the ones with the highest performance.

Side Letters

Some investors receive side letters, which are terms in addition to the standard contract (all investors receive the standard contract). The side letters can give some investors better terms, fee offsets, and other conditions. Lucky investors receive most preferred nation status, which states that no other investor can have better terms. It should be no surprise that an enduring relationship with a PE firm, or a lot of committed capital, brings better terms in side letters.

4.2. Fees, Fees, and Fees

PE fees are very high.
Table 18.6 reports management and incentive fees (it ignores transactions fees) collected by GPs. These numbers are computed by Metrick and Yasuda (2010), who develop an economic model of PE. Out of every $100 invested with a buyout fund, an average of $18 in carry and management fees is paid to (p.613) the GPs. For VC funds, the mean of the carry and management fees comes to $23 per $100 invested. These are enormous fees! Table 18.6 shows that even the lower 25% distribution of fees is still large, at $16 and $20 for buyout and VC funds, respectively. The numbers in Table 18.6 are present values. Phalippou and Gottschalg (2009) compute total fees in terms of flow, which amounts to GPs collecting fees of around 6% per year. As I tell my MBA students looking at asset management careers: as a GP, PE is a wonderful business to be in.
Table 18.6

<table>
<thead>
<tr>
<th></th>
<th>Venture Capital</th>
<th></th>
<th></th>
<th>Buyout</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25%</td>
<td>Mean</td>
<td>75%</td>
<td>25%</td>
<td>Mean</td>
<td>75%</td>
</tr>
<tr>
<td>Carry per $100</td>
<td>$8.09</td>
<td>$8.36</td>
<td>$8.37</td>
<td>$4.93</td>
<td>$5.28</td>
<td>$5.66</td>
</tr>
<tr>
<td>Management Fees per $100</td>
<td>$12.04</td>
<td>$14.80</td>
<td>$17.61</td>
<td>$8.77</td>
<td>$10.35</td>
<td>$11.65</td>
</tr>
<tr>
<td>Total Revenue per $100</td>
<td>$20.24</td>
<td>$23.16</td>
<td>$26.11</td>
<td>$15.75</td>
<td>$17.80</td>
<td>$19.60</td>
</tr>
<tr>
<td>Proportion Incentive Fees</td>
<td></td>
<td>40%</td>
<td>36% 32%</td>
<td>31%</td>
<td>30%</td>
<td>29%</td>
</tr>
</tbody>
</table>
As an LP asset owner, not so. You should be flabbergasted not by the large fees per se but by the fact that incentive fees represent only around 30 to 40% of total fees paid. Asset owners should not balk at high fees but should pay them only when value is created. Two-thirds of total revenues are paid just by virtue of being in a fund. I would prefer to see 1% or 2% of total fees paid in fixed-revenue components and the rest arising from incentive payments. GPs should work to earn their money, but this is not what the current PE contracts deliver.

Chung et al. (2012) argue that the Metrick and Yasuda (2010) analysis understates the effect of incentive fees because it ignores the GPs’ ability to raise funds in the future. GPs have incentives to generate high returns for LPs, and reduce fees, in the current fund because poor performance takes away the ability to raise future funds. They find “indirect pay for performance from future fund-raising is at least as large as direct pay for performance from carried interest for first-time buyout funds.” From the perspective of LPs, however, PE capital is raised pro-cyclically by GPs. More money is put into PE by LPs when PE valuations are high and future returns tend to be low. This future performance sensitivity of GP compensation is tied to the opportunity of LPs to invest right at the wrong time.

David Swensen (2009), master investor in PE and CIO of Yale’s endowment, concisely summarizes the PE fee situation: “The large majority of buyout funds fail to add sufficient value to overcome a grossly unreasonable fee structure.”

The high fees charged by GPs mean that large asset owners can achieve big savings by taking a do-it-yourself approach to PE investing, which would enable them to keep most of the fees. Many large asset owners, including pension funds such as Canada Pension Plan and Ontario Teacher’s Pension Plan and sovereign wealth funds such as Abu Dhabi Investment Authority and Kuwait Investment Authority, (p.614) bypass funds to invest directly in PE. Phalippou and Gottschalg (2009) estimate gross-of-fee alphas to be approximately 4%. If asset owners can keep most of these fees, PE becomes much more attractive. However, it requires good governance and the ability to hire skilled teams to do in-house PE investing (see chapter 15). You also need to be big to do PE investing in-house. Once you have built the required resources there are
Increasing economies of scale; Dyck and Pomorski (2011) and Andonov et al. (2011) show that the biggest asset owners significantly outperform the small ones in PE investments.

We are seeing fees on PE gradually being nudged down. This comes about from the action of diligent leaders like Loftis, who is putting the PE fees paid by South Carolina’s pension fund under a microscope. Groups of large asset owners, like the Institutional Limited Partners Association, have also issued guidelines putting pressure on fees and improving PE fund governance.45

There is a limit on how much fixed fees can come down given the current structure of PE contracts; the high annual management charge on committed capital should be removed entirely. A better structure would be to raise the committed capital upfront (like a hedge fund), where it is invested in (potentially levered) public equities. This public portfolio serves as the benchmark, so the equities might be tilted toward illiquid stocks, small stocks, and stocks with a value orientation. The cost for this passive portfolio should be similar to index funds—that is, low, with a little bit extra to cover firm operating expenses. As GPs find private companies to invest in, they shift money from the public equity portfolio to private investments. Incentive fees ensure that they get paid only if these companies are successful and deliver returns in excess of the public equities benchmark. (See also chapter 14 on factor investing.)

4.3. Knock-On Effects

The cost of PE contracts is more than just the high fees paid. The opaqueness and complexity of contracts

1. Increases the risk of blowups;
2. Makes asset-liability planning more difficult;
3. Hinders liquidity management;
4. Distorts economic value;
5. Tends to maximize, rather than minimize, information asymmetry and consequently increases agency costs;
6. Makes leverage costlier, since it is usually cheaper to do leverage in house with better risk management than in a third-party, nontransparent vehicle; and
7. Increases operational, headline, and reputation risk
All of these contract issues induce negative knock-on effects for an asset owner’s larger portfolio.

4.4. Some Investors Do Better Than Others

There are lucky asset owners who have done extraordinarily well in PE. Conversely, many investors have done terribly.

Lerner, Schoar, and Wongsunwai (2007) call this the limited partner performance puzzle. They document that endowments have earned much higher returns than other investors in PE. Figure 18.7 reports IRRs in PE for different investors. (Remember, these IRRs overstate the true returns, but the return patterns will be qualitatively the same.) Endowments do the best, at 39%, and banks do the worst, at 3%. The spread between endowment and bank IRRs is a gaping 37%. Public and private pension funds have IRRs around 12%, which are toward the low end.

One reason for the vastly different investor experiences in PE is access. Some of the best PE funds are closed to new investors, and some endowments have superior access—through their networks of prominent alumni, their early entry in PE firms that have become quite successful, and their long investment horizons, which enable them to commit across several investment cycles and gain them preferential treatment. Sensoy, Wang, and Weisbach (2013) document that endowments’ ability to access skilled managers has declined over time. Since 1999, they claim, endowments “no longer outperform, and neither have greater access to funds which are likely to restrict access nor make better investment selections than other types of institutional investors.” This is consistent with the early-moving endowments finding success in the 1980s and 1990s when PE was a niche market. Since then, the PE industry has grown
and become institutionalized; PE excess returns (or “alpha,” see chapter 10) are now harder to find—for everyone.

Some endowments, such as those of Yale and Harvard, continue to do well in PE investments. These endowments have better ability to select good funds: they can pay (more) competitive wages and attract more qualified employees, have greater freedom, and have boards that understand and give resources to their managers to pursue PE investments. Pension plans also have more rigid investment management structures than endowments. In pension plans, salary and rank of employees often depend more on how much money they are responsible for managing, rather than on how much return they generate (see chapter 1). Some pension plan managers are enamored with PE and are essentially “captured” by their external managers—as Loftis wonders, how does the sexy model sitting next to you at dinner and the trendy nightclub atmosphere help in evaluating a PE fund? Some pension managers, like Borden, quit and go work for PE firms. Asset owners sometimes have investment aims other than maximizing return for given levels of risk. Many public pension plans and sovereign wealth funds, for example, have mandates constraining them to overweight “local” investments and lose money as a result.46

Banks can afford to earn low returns in PE because they earn plenty of other fees from PE firms. The division in a bank that invests in PE builds relationships and generates business for the bank’s other divisions. So although banks might not make money from PE investments, they earn money from equity issuance, debt underwriting, company restructuring, merger and acquisitions, advisory work, and so on.47

4.5. Why Investors Are Duped

Swensen advises:48

In the absence of truly superior fund-selection skills (or extraordinary luck), investors should stay far, far away from private equity investments.

Obviously, Swensen’s wisdom has not been heeded, and the average investor has underperformed in PE.

Why are investors misinformed?
1. Hopes and dreams
Maybe if we can get that one lucky investment—the next Microsoft, Apple, or Google—we can solve our funding problems today. VC investing, in particular, has an allure of changing the world and making money at the same time. It is true that portfolio company returns are highly skewed, with one or two winners subsidizing ten or more losers. But the high-flying returns of the rare success do not offset the overall damage to the average investor’s portfolio. Thaler and Sunstein (2009) say that “if consumers have a less than fully rational belief, firms have more incentive to cater to that belief than to eradicate it.” What is true for consumers is just as true for institutional investors.

2. Information is poor
Contracts are opaque and contain hard-to-understand fees. Loftis is absolutely correct that PE contracts are “incomprehensible to the average taxpayer.” Phalippou (2009) says that all PE information—including true returns and total fee payments—is “shrouded.”

3. Selective reporting
“Every private equity firm you talk to is first quartile,” says a large pension investment manager. But they’re not lying. By selective reporting of IRRs, multiples, and even the vintage year, all PE firms can indeed be first quartile. Investors are fooled by dubious quality performance measures.

4. Duped by industry propaganda
Maybe asset owners are led astray by industry claims of good PE performance. They don’t know about survivorship bias, infrequent trading bias, selection bias, and all the other issues involved in measuring PE returns. Or their consultants haven’t read (or understood) academic studies tackling these issues.

5. Investor myopia
Even if investors have the ability to dig up all this information, they just ignore it.
6. Inability to learn
Or perhaps not wanting to learn? Either way, most asset owners don’t have Swensen’s “superior fund-selection skills.” Some investors even delude themselves in thinking that current contracts are optimal. Of the prevailing 2/20 contract, CalPERS says, “When this compensation structure is used, the financial interests of the General Partner are aligned with those of the Limited Partners, including CalPERS.”

7. Nonpecuniary incentives
There are reasons to invest in PE on a basis other than optimizing returns. For example, banks make lots of money by selling other services to PE firms (p.618) and by this means recoup their losses on PE investments. The ordinary asset owner doesn’t have this luxury.

8. Mispricing
Finally, perhaps investors pay too much for PE. There are too many LPs investing too much capital in too few PE firms. In the long run, investors may wise up and then PE prices will come down.
Some PE firms are making adjustments to a forecasted decline in business. Large buyout funds such as Blackstone, Carlyle, and KKR have diversified into hedge funds and advisory work that looks like investment banking. Magnanimously, some have even launched mutual funds, thereby enticing a new class of investors—moms and dads—to earn subpar risk-adjusted returns.

4.6. Kauffman Foundation Report
The Ewing Marion Kauffman Foundation is dedicated to promoting entrepreneurship and education. It had an endowment of $1.8 billion at the end of 2011, of which 45% was invested in PE. In 2012, the foundation issued a marvelous, introspective report, We Have Met the Enemy . . . And He Is Us: Lessons from Twenty Years of the Kauffman Foundation’s Investments in Venture Capital Funds and the Triumph of Hope over Experience. The report, which is astonishing in its honesty given that the foundation is focused on entrepreneurship, lays out the organization’s
failures in VC investing. It found that Kauffman’s average VC investment failed to return investor capital after fees.

The report stated that the primary reason the Kauffman endowment continued to pursue the VC dream was because “investors like us succumb time and again to narrative fallacies, a well-studied finance bias. . . . The historic narrative of VC investing is a compelling story filled with entrepreneurial heroes, spectacular returns, and life-changing companies.” Hopes and dreams, indeed.

The Kauffman report advocated moving away from the IRR and multiple measures to relative performance measures, using small cap stocks. This is exactly the concept of the PME, extended to size risk factors. It is also the factor investing concept practiced by Canada Pension Plan Investment Board (CPPIB), the fund manager of the Canada Pension Plan (see chapter 14). For CPPIB, PE is not an asset class, and it is benchmarked to what the pension fund can achieve at low cost in liquid stock and bond markets. There is no set allocation to PE for CPPIB, avoiding the need to top up PE investments when they are poor investments. CPPIB can switch seamlessly between public and PE.

Kauffman also recognized that current PE contracts are misaligned. The industry should change them to reduce management fees and put most of the compensation where it belongs—in the incentive fees.

4.7. Summary

PE contracts today tend to exacerbate, rather than ameliorate, agency problems. Fees are exorbitant, and management fees unfortunately dominate incentive fees. Some skilled investors do well in PE, but most underperform.

Asset owners are gradually realizing that these contracts put them at a horrendous disadvantage. The Kauffman report said:

A well-regarded GP of a perceived top-tier VC fund told us that “LPs have no leverage” to obtain firm economics. We suggested that LPs do have leverage—the same leverage that VCs have when they can’t reach agreement on terms with a potential portfolio company—we can walk away. “Yes,” he said, “but LPs never walk away.”

Walk away.
5. South Carolina Retirement Systems Redux
While reforming South Carolina’s pension fund PE investments, Loftis should keep several things in mind:

1. The standard reporting benchmarks used in the PE industry can be very misleading and invariably make PE investments look better than they truly are.
2. The average asset owner does not do well in PE investments. Academic evidence suggests that, on average, PE underperforms public equity on a risk-adjusted basis. Don’t think about PE as an asset class: it is public equity made expensive and shackled by serious agency issues.
3. PE contracts are terrible for asset owners. Simplify, reduce management fees (while boosting incentive fees), and benchmark properly. Agency issues are the number-one concern in PE investing.

If you are truly skilled, like Swensen, the world of PE brings great opportunities. But if you are not like Swensen, you will be duped.

Notes:


(3) See Acemoglu and Robinson (2012).

(4) Portions of Sections 2 through 4 are drawn from Ang (2011) and Ang and Sorensen (2012). Good summaries of the PE market are given by Cornelius (2011), Phalippou (2009, 2011), Robinson and Sensoy (2011a), and Harris, Jenkinson, and Kaplan (2012).


(6) Most academic research focuses on buyout and VC funds because of lack of data in other subclasses.

(7) See Axelson et al. (2012).
The organizational forms of listed versus unlisted private equity investment vehicles are different. Listed PE funds typically have indefinite lives and stricter reporting requirements. Jensen (2007) argues that reputational concerns give unlisted PE funds additional incentives to perform and therefore such funds should have higher returns than listed ones.


While the FAS 157 rule has pushed NAVs to more reflect “market values,” because there are often no market transactions, the valuations are subject to large discretion by GPs. Even when there are market transactions, there is selection bias (see chapter 13).


As reported in “We Have Met the Enemy . . . And He Is Us: Lessons from Twenty Years of the Kauffman Foundation’s Investments in Venture Capital Funds and the Triumph of Hope over Experience,” Ewing Marion Kauffman Foundation, May 2012.

This example is adapted from Phalippou (2008).

See Phalippou (2009).

Phalippou (2011) documents this for CalPERS, the largest U.S. public pension fund.

When multiples are below one, the IRR is negative. If IRRs are reported in those cases, prospectuses report “n.m.” for not meaningful. It is meaningful: they’ve lost money.

A related measure is the Profitability Index introduced by Ljungqvist and Richardson (2003), which takes a similar form to equation (18.3) except Ljungqvist and Richardson recommend discounting at a Treasury-bond rate for calls and the expected (not realized) return for distributions.


(20) There is also reporting and survivorship bias. Better-performing funds are more likely to report their performance. Phalippou and Zollo (2005) show that taking into account selection bias reduces IRRs by approximately 3%. Chapter 13 covers all these biases in more detail.

(21) Quoted from Phalippou (2009).


(24) The alpha in equation (18.4) is not a holding-period excess return. That is, there is a big difference between arithmetic and continuous-time (or log) returns, and that difference is due to volatility. The arithmetic alpha is approximately $\alpha + \frac{1}{2} \sigma^2$, where $\sigma$ is the volatility of returns (see the Appendix).


(26) Harvard University and CalPERS were two such investors. See “Liquidating Harvard,” Columbia CaseWorks ID #100312 and “California Dreamin’: The Mess at CalPERS,” Columbia CaseWorks, #120306.

(27) See Kaplan and Schoar (2005), Phalippou and Gottschalg (2009), and Hochberg, Ljungqvist, and Vissing Jørøensen (2010).

(28) The academic version of this paragraph is Harris, Jenkinson, and Stucke (2012).

(29) Quoted by Phalippou (2011).


(33) The other biases of infrequent observations and survivorship bias are discussed in chapters 13, 16, and 17.


(35) See Da Rin, Hellman, and Puri (2011) for a summary.

(36) Bond and Mitchell (2010) show a conspicuous lack of alpha, on average, for managers in the other major illiquid asset class, real estate. For a summary of active management in real estate see chapter 11 and Ang, Goetzmann, and Schaefer (2011).

(37) From a presentation made by Schoar at the World Investment Forum on May 22, 2011.

(38) Adapted from Ang (2011).

(39) LPs, not GPs, are usually responsible for organizational fees in forming the PE fund.


(41) Despite the opaqueness, of PE contracts, Litvak (2009) finds no relation between opaqueness and total compensation.

(42) See Metrick and Yasuda (2010).

(43) See Phalippou (2009).

(44) See Fang, Ivashina, and Lerner (2012).

Hochberg and Rauh (2013) find that public pension funds generate returns 2% to 4% lower on their own in-state investments than on similar out-of-state investments, or investments made in their state by out-of-state investors. Bernstein, Lerner, and Schoar (2013) show that sovereign wealth funds do the same thing—they invest domestically and earn lower returns than in international private equity. For both sets of institutions, the effect is more pronounced when there is more political interference.

See Fang, Ivashina, and Lerner (2013).


Preferences describing this behavior are called “myopic preferences.” See Gabaix and Laibson (2006).

http://www.calpers.ca.gov/index.jsp?bc=/investments/assets/equities/pe/programoverview.xml
