How Implementation Style and Costs Affect Private Equity Performance

Alex Beath, Chris Flynn, and Jody MacIntosh

Alex Beath, PhD, is Analyst, Chris Flynn, CFA, is Manager – Product Solutions, and Jody MacIntosh, CFA, is Vice President – Client Service at CEM Benchmarking Inc., based in Toronto (Canada).

This article describes a study that analyzed the private equity performance and costs of large pension funds. Using data from the CEM Benchmarking Inc. (CEM) database, we establish that implementation style affects net performance: internal management outperforms external management, and external management outperforms funds of funds (FOF). Since the difference in net performance is due largely to cost, we examine the cost differential of various implementation styles as well as some of the challenges in understanding the true costs of investing in the private equity asset class.

Keywords: Benchmarking, Implementation Style, Investment Performance and Costs, Pension Fund, Private Equity

Private Equity Implementation Styles

The raw material for this study came from the databases of CEM Benchmarking Inc.[1] These databases contain performance and cost information on more than 1,000 pension and sovereign wealth funds from around the globe. Assets under management as of December 31, 2012, ranged from US$0.4 billion to US$644.8 billion, with an average size of US$18.3 billion and aggregate assets of US$6.8 trillion. The actual allocation per fund to private equity in 2012 ranged from 0.0% to 25.5%, with an average of 4.1% and a median of 2.9%.

As Table 1 shows, the most common implementation style for private equity, on average, is the external limited partnership or LP (57%), followed by the external fund-of-funds (FOF) LP (41%) and direct investment and co-investment (3%). Canadian funds have the highest allocation to direct and co-investment (10%) and the lowest allocation to external FOF LPs (31%).

Table 2 indicates that the use of FOF investing is seen to decrease with the size of private equity portfolios. When very large funds (i.e., those over US$10 billion in private equity) use a FOF approach, there is often a special relationship with

Table 1: Private Equity Implementation Styles by Region

Implementation Style	Average %				
	All	**United States**	**Canada**	**United Kingdom and Europe**	**Asia–Pacific**
Direct and co-investment	3	1	10	3	6
External LP	57	62	59	37	58
External FOF LP	41	37	31	60	36
Total %	100	100	100	100	100
Count	242	151	35	49	7

Table 2: Fund-of-Funds Usage by Private Equity Holdings

	Average $ in Private Equity			
	<$200M	$200M–$1B	$1B–$10B	>$10B
FOF LP as a proportion of private equity, %	63	46	15	15
FOF fees, bps	96	84	79	39
Count	89	65	53	9

Table 3: Private Equity Performance versus Benchmark Funds with 3+ Years of Private Equity Performance Data, 1996–2012

	Net Value Added, %		Volatility Drag $C = B - A$
Style	Based on Annual Averages (A)	Average Using Monte Carlo Simulation (B)	
Internal	4.9	3.5	−1.3
LP	1.2	0.3	−0.9
FOF	−0.9	−1.6	−0.7
All styles	0.9	0.1	−0.8

the manager that reduces fees. In some cases the fund owns part of the investment manager; in others, the fund is the only LP and the FOF is essentially a custom fund for them.

Private Equity Performance Data

The private equity performance data used in the study, also from CEM, span the period from 1996 through 2012. Returns were available for three implementation styles: internally managed (including co-investments), LP, and FOF LP.[2] The data set contains 153 observations for internal, 1,492 for LP, and 820 for FOF LP, along with 1,969 annual observations of total private equity performance.

The benchmarks reported by funds participating in the CEM database are not comparable to one another.[3] To correct for this, CEM created a customized public market-based benchmark[4] for each private equity return in the data set. These benchmarks provided a consistent basis for comparing private equity performance to an investable proxy for investors from different geographic regions and over different periods.

Initial Performance Results and Idiosyncratic Risk

A naïve approach to assessing multi-year performance, given the segmented data available, is to calculate the average return and benchmark return for each year, compound and annualize those annual averages, and compare the difference. The outcome of this approach is shown in column A of Table 3. A significant drawback of this approach is addressed below.
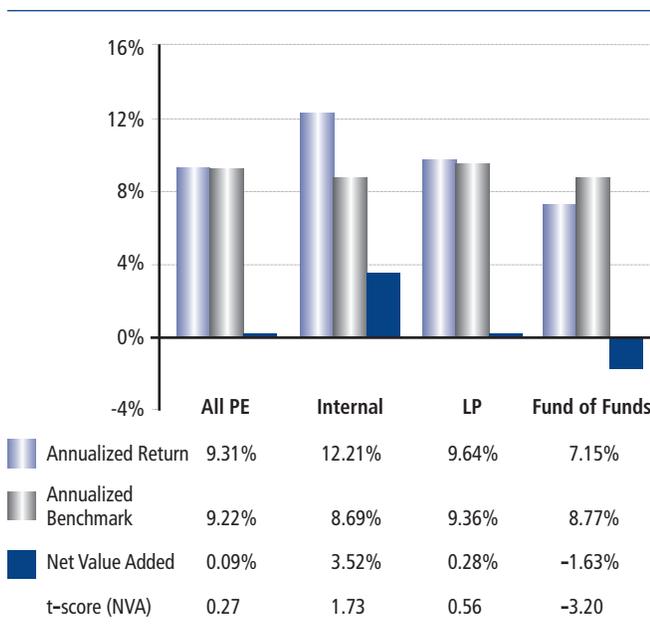
The first conclusion suggested by this initial calculation is that over the 17-year period covered by our data set, private equity held by funds in the CEM universe outperformed reasonable public market proxies by an average 0.9% per year on a net (after costs) basis. Breaking down the performance by implementation style shows significant differences, which we will revisit below.

In aggregate, private equity displays similar volatility to public market benchmarks, but this is not true of the experience of the average fund. Individual funds' return series are more volatile, because they contain significant idiosyncratic (selection) risk that has not been diversified away. This idiosyncratic risk can be substantial for private assets relative to public assets. Where

the differences in net return between funds for, say, small-cap American stock are small (<1% variance), for private equity they are large (typically 20%). This undiversified idiosyncratic risk in portfolios results in higher year-to-year variance in returns for average funds than the average return in each year would suggest – and correspondingly lower compound returns.

For this analysis we calculated annualized compound net returns using a Monte Carlo simulation to create a large number of constructed 17-year return paths. Each return (and benchmark) path was based on a return/benchmark pair for each year, randomly selected from all actual return/benchmark pairs in the CEM database. Column B of Table 3 summarizes the average net value added (NVA) over all simulations. This approach captures the increased volatility caused by idiosyncratic risk. The annualized private equity returns by implementation style, benchmark return, and NVA are shown in Figure 1; differences in benchmark return between styles reflect different regional and lag biases and, by design, match the biases in the annualized net returns.

Figure 1: Average Annualized Compound Private Equity Net Returns from Monte Carlo Simulation (CEM Universe, 1996–2012), with t-scores[5]

	All PE	Internal	LP	Fund of Funds
Annualized Return	9.31%	12.21%	9.64%	7.15%
Annualized Benchmark	9.22%	8.69%	9.36%	8.77%
Net Value Added	0.09%	3.52%	0.28%	-1.63%
t-score (NVA)	0.27	1.73	0.56	-3.20

Private Equity Performance Is Affected by Implementation Style

The Monte Carlo analysis, which captures the higher volatility experienced by individual funds as a result of idiosyncratic risk, shows private equity still outperforming its benchmarks, but by a more modest 0.09% per year. The difference between the simpler

analysis, which ignored this impact, and the Monte Carlo analysis is shown as "volatility drag" in column C of Table 3. Perhaps the most interesting observation is that higher-cost implementation styles resulted in dramatically reduced net performance. Over the 17-year period ending 2012, the average annualized compound NVA from internal direct investment and co-investment was 3.5%, whereas NVA was 0.3% for LPs and −1.6% for FOF LPs.

Note that the magnitude of volatility drag is lowest for private equity funds of funds, indicating that this vehicle confers a positive diversification impact relative to internal or direct LP. The diversification benefit, however, is not sufficient to narrow the gap in performance between FOF investing and private equity as a whole. We believe the performance differences between implementation styles are primarily attributable to differences in cost.

Costs Matter

Our findings confirm those of other CEM research indicating that the highest-cost implementation styles have the worst net returns. We believe that since costs have such a significant impact on performance, fund managers should understand the true costs of investing in private equity. However, CEM experience indicates that costs are underreported in the financial statements of many funds. This is unfortunate, because what gets measured gets managed, and what gets poorly measured gets poorly managed.

This underreporting is not intentional. In fact, the accounting teams of many funds believe they are reporting all costs. The four most common reasons that private equity costs are underreported are the following:
- Accounting teams often rely on capital call statements to collect management fees. Yet these statements often show management fees on a net basis, whereby the management fee owing is offset by the LP's share of transaction and other revenues (commonly called rebates) generated and kept by the general partner (GP). Therefore, accounting teams have no record of their share of the gross management fee paid to the GP.
- The repayment of management fees before the carry has been paid is treated as a reduction in cost. This is an accounting shift; no money is coming back. For every dollar of repayment, there is a dollar of carry.
- Carry (e.g., performance fees) is excluded.
- For FOF LPs, the costs of the underlying funds are excluded.

The underreporting in financial statements is material. For example, the cost of private equity LPs is frequently reported to be less than 0.70% by funds' financial statements, whereas Dutch funds that are beginning to collect and report all private asset costs are reporting a median of 3.03% (0.12% internal monitoring costs + 1.66% management fees + 1.10% carry or performance

fees + 0.15% transaction fees; see Table 4). For a fund with US $5.0 billion in private equity assets, the difference between 0.70% reported and 3.03% actual represents US$116 million in costs.

Full Cost Capture Is Possible

Obtaining full costs is less difficult than is commonly argued. For example, most Dutch funds are beginning to report according to the full cost disclosure guidelines of the Dutch Pension Federation, and several have told CEM that they have succeeded in doing this without materially adding to their staff. Table 4 shows the full cost of private equity for 29 Dutch funds in the CEM universe. Some interesting observations include the following:

- The additional cost of private equity FOF LPs versus direct LPs was 2.53%. As shown in column A of Table 3, private equity FOF LPs underperformed direct LPs by 2.06% (before accounting for volatility drag) for the period 1996–2012, which suggests that this underperformance may be largely explained by cost differences.

Table 4: Illiquid Asset Investment Costs Reported by Dutch Funds* Using the Full-Cost Disclosure Guidelines of the Dutch Pension Federation – 2012

Cost Category	Median Cost as a % of Net Asset Value[†]
Internal monitoring costs	0.12
Management fees	1.66
Carry/performance fees	1.10
Transaction costs[‡]	0.15
Total direct LP (or external) costs[§]	**3.03**
FOF management fees	1.14
FOF carry	1.40
Implied total FOF costs[§]	**5.56**

* Data were provided by 29 Dutch funds: 12 funds provided data for private equity LPs, 18 for private equity funds of funds, 8 for real estate LPs, 8 for real estate funds of funds, 6 for infrastructure LPs, 5 for infrastructure funds of funds, and 13 for transaction costs. These costs may still be understated; while all Dutch funds are collecting and reporting more costs as they start to adapt to the new disclosure guidelines, not all funds are fully compliant yet, and sometimes an estimate is used.

† Illiquid asset costs as a percentage of net asset value (NAV) are higher than costs as a percentage of the amount fees are based on; for example, median management fees for private equity are 1.66% based on NAV vs. 1.43% based on the amount fees are based on. This difference occurs because fees are usually based on the committed amount during the investment phase, which is higher than the actual amount invested. The difference is even more pronounced with funds of funds data because the lag is longer before funds are fully invested.

‡ Transaction costs were not broken out by asset class. The 0.15% transaction cost shown is the median illiquid asset transaction cost as a percentage of total illiquid assets.

§ The totals shown are the sum of the median cost for each cost type.

- FOF carry (e.g., performance fees) was higher than direct LP carry. This is likely partly because of the small, single-year sample sizes, but it is also because the costs are shown as a percentage of net asset value (NAV) instead of the amount that fees are based on. This increases costs more for funds of funds because there is a longer lag before they are fully invested.
- Management fees accounted for the largest part of costs.

Benefits of Collecting Full Costs

There are many benefits to collecting full costs, including
- ***Better implementation style decisions:*** At the margin, there would be less use of FOF LPs and more direct investing in private equity if full costs were considered.
- Better ability to manage and reduce costs:
  - Awareness produces change; for example, revenue sharing has shifted from 0% LP / 100% GP to an average of 85% LP /15% GP as more funds have become aware of the materiality of revenue sharing and negotiated the split.
  - Funds must be aware of total costs in order to manage them. For example, management fee repayments are not really repayments; they are basically an accounting shift of management fees (which tend to be tracked by investors) to carry (which is rarely tracked by investors).

Summary

Our key findings are as follows:
- Private equity performance, in terms of net value added, is significantly affected by implementation style: internal management outperforms external management, and external management significantly outperforms FOF.
- The performance differential is due largely to differences in costs; the highest-cost styles are the worst performers.
- Although full costs are materially underreported in the financial statements of many funds, it is possible to collect full costs, as demonstrated by several Dutch funds.

The value of benchmarking is to gain new insights into best practices. CEM is pleased to share the insights resulting from this study with readers of the *Journal*.

Endnotes

1. CEM is an independent global benchmarking and research organization located in Toronto, Canada, that has provided investment and administration benchmarking and research services to large pools of capital (including defined benefit and defined contribution pension plans, endowments, and sovereign wealth funds) since 1991.

2. To meet the requirements of the constructed public market-based benchmarks, we limited the data used to (1) funds with a minimum of three years of private equity data (the minimum number required to synchronize data temporally, as private equity data are always lagged relative to public equity) and (2) the years 1996 forward, the earliest period possible given that the indices used to construct our benchmarks originate during this period.

3. The benchmarks reported by funds in the CEM database for private equity reflect substantial variance in their approach to benchmarking private equity performance. The most common reported benchmarks are public market equity (often with a premium, sometimes with a lag), private equity peer-based benchmarks, and fixed annual returns.

Begin complex note

4. A principal component of recent CEM research was the investigation of better private asset benchmarks with which to benchmark the net returns of private assets. In the case of private equity, the benchmarks developed and used here have two distinguishing features:

   - They consist of a blend of region-specific small-cap equity indices. The ratios are set equal to the average private equity region mix, which itself is region specific (i.e., American funds benchmark region mix is equal to the average American funds private equity region mix).

   - The annual returns of the benchmarks are lagged specifically to each fund. The average lag is about 100 trading days (between one and two quarters).

   The lag is the defining feature of the benchmarks and serves to account for the fact that private equity returns are always lagged in comparison to public equities. The fund specific lag is determined by maximizing the correlation between annual private equity net returns rPE_t and the benchmark returns $rBM(t;l)$, where t is the year and l the lag in trading days. The resulting benchmarks are highly correlated with the private equity returns ($\varrho \sim 0.85$) and exhibit, on average, equal volatility ($\beta \sim 1$) and slightly positive excess returns ($\alpha \sim 1\%$).

End complex note

5. The quoted t-scores reflect the calculated standard error on NVA arising from (1) dispersion of the finite sample of annual private equity net return, (2) dispersion of the finite sample of annual benchmarks, (3) correlation between net returns and benchmark returns, and (4) Monte Carlo resampling errors (where applicable). The t-score does not reflect potentially significant sources of error such as uncertainty in lag and uncertainty in region weighting.