PRIVATE EQUITY INTERNATIONAL

PERFORMANCE MEASUREMENT AND BENCHMARKING IN PRIVATE EQUITY

Making sense of absolute and relative returns on investment

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About the editors

Montana Capital Partners

Montana Capital Partners provides innovative investment liquidity solutions and high quality asset management services in private equity and is based in Switzerland. Its team of partners has a track record in investing for and advising of institutional clients and is supported by recognised private equity professionals represented on the board of directors and the advisory board.

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1 The private equity performance puzzle – let there be light!

By Christian Diller and Marco Wulff

Does private equity outperform?

Over the past decade, the equity markets have been characterised by extreme volatility. Boom markets peaking in 2000 and 2007, as well as an interim high in the first half of 2011, were followed by deep troughs, which brought huge losses. The downturn triggered by the post-Lehman crisis of 2008 and 2009 was the most extreme, and the worst macro-economic recession since World War II. It prompted the largest financial rescue operations ever undertaken in the Western world. Governments spent billions of dollars trying to save banks and insurance companies from impending bankruptcy, while central banks tried to jumpstart flagging economies with quantitative easing programmes. As a consequence, interest rates approached zero, which resulted in a quick recovery of the equity markets.

But of course the bounce back wasn't to last: after reaching another high point in May 2011, markets plunged again. Over the course of just a few weeks, the main indices lost more than 20 percent of their value, as sovereign debt crises in the US and Europe destroyed confidence, and fears of a double dip recession mounted. At the time of this book going to press, the economic and financial outlook remained uncertain.

Looking ahead, with the volatility in the equity markets and ultra-low interest rates virtually guaranteed to last for some time, many institutional investors searching for returns above the 5 percent watermark are considering investments in private equity as an attractive alternative. Those who are already long-term investors in the asset class are reconsidering their current strategies, with a view to either increasing or decreasing their exposure to private equity depending on which conclusions they end up drawing. Others are debating whether to enter the class for the first time. A look at previous downturns shows that difficult economic environments often prove to be fertile grounds for good returns in private equity due to depressed valuations and significant restructuring potential within companies and markets – an argument that can be cited in favour of making fresh inroads into private equity today.

When weighing decisions for or against private equity as part of the overall asset allocation of an investment portfolio, questions about historical returns and future performance in private equity immediately arise. Unfortunately, these questions are difficult to answer. While some studies have demonstrated a clear outperformance of the asset class, others have asserted that private equity actually underperforms its public benchmarks.

What are the reasons for this ambiguity? Why has the research into the topic thus far produced such a wide range of outcomes? Why have the many authors writing about

performance measures and private equity failed to come to a consensus? And, most importantly: what does this failure mean for investors?

It means, first of all, that investors need to be clear about how private equity differs from other asset classes, and how it differs from public equity in particular. Stock exchanges publish new market prices for publicly traded securities every second of every day. Private equity managers on the other hand offer quarterly valuations of their investments, and true market prices only a few times at most over the lifetime of the investment. Inevitably, therefore, the performance measurement approaches that are used in private equity also differ from those used in public markets. They also differ from one another; depending on whether multiples, internal rates of returns (IRRs) or time-weighted returns are being calculated, the outcomes will necessarily vary. And then there are different ways of comparing private equity performance with other asset classes, with several public market benchmarks to choose from.

To make matters worse, analysts rarely get to use the same data set when attempting to study private equity returns. Instead, they use different samples with different underlying funds raised in different vintage years, which makes like-for-like comparisons difficult. Because private equity is neither transparent nor efficient (which is of course one of the main arguments as to why it should in fact outperform public markets), it is not easy to define the market universe. Although various data providers have done well in recent years to collect data from many private equity funds, it is still difficult if not impossible to capture the entire market and garner comprehensive data sets without any selection bias.

All this being said, numerous data sets do exist that contain meaningful performance records one can analyse. Based on them, definitive statements about return on investment in private equity can be derived. The material assembled in this volume is proof of this.

Ultimately what investors need and want to know about private equity is this: how good a performer is it really, and how attractive is it relative to other asset classes? This book aims to give answers. It provides insight into the theory and practice of performance measurement in private equity, and to support investors in forming their views on how to gauge what the asset class can deliver.

A collection of articles of well-known experts on the topic, both leading academics and influential practitioners, has been included. Combining some groundbreaking papers published in the recent past with several new articles written specifically for it, *Performance Measurement and Benchmarking in Private Equity* shines a light on some of the most current thinking, and takes into account fresh data on private equity's most recent track record.

The book gives an overview of a range of performance measurement methods, and discusses their respective advantages and disadvantages. It presents the empirical results of several papers from the academic as well as the practitioner world to show

how private equity has performed compared to other asset classes. And it describes some of the challenges investors are facing when benchmarking private equity returns and gives guidance on how these challenges can be overcome.

Four main sections provide the structure of this book:

I) Understanding performance in private equity.
II) Benchmarking private equity returns.
III) Winners and losers – the private equity performance differential.
IV) Looking for the premium – how LPs think about performance measurement.

Section I: Understanding performance in private equity

In Section I, the nature of absolute performance measurement in private equity is examined. Why is it so difficult, and why is there still a variety of different measurement tools being used, each producing results that are often in conflict with the others?

Or, as Ludovic Phalippou puts the question in Chapter 2, why is the evidence on performance measurement in private equity so confusing? Phalippou compares the approach commonly taken by industry practitioners against the methods preferred by some academics, and arrives at the conclusion that although the former can be used to show significant outperformance of private equity 'hypothetically', the latter gets closer to describing what Phalippou calls the 'true' underlying returns of private equity, which he argues are in fact closer to those that are achievable in the public markets. Whilst by no means universally accepted within academia (we will point to several studies that are favourable towards private equity at the end of this chapter), Phalippou's idea that practitioners in the asset class tend to overstate its results was widely picked up in the press this year, and has led to the question of outperformance receiving fresh attention.

In Chapter 3, Jesse Reyes also produces a comparison of different ways of calculating performance by discussing the respective strengths and weaknesses of the internal rate of return (IRR) on the one hand, and the time-weighted return (TWR) on the other. Carefully examining the tensions that exist between the two, Reyes argues that despite a number of shortcomings, the IRR is the most appropriate performance measure for private equity, especially when used to measure the results of individual funds; at the portfolio level the TWR is also instructive he concludes.

However, when it comes to comparing private equity returns with the returns of other asset classes, the IRR's weaknesses have given rise to the development of various concepts that aim to address them. Most notable among them is the public market equivalent approach (PME), which rests on an assumption that the opportunity cost of a private equity investment is equal to the rate of return of a public market benchmark. Over time, several PME-based approaches have been advanced, including the one developed by Christoph Kaserer and Christian Diller in Chapter 4, which describes a version of PME defined as 'investment volume multiple'.

Throughout the book many authors pick up on the aforementioned point that the availability of empirical performance data, or lack thereof, is a difficulty that all students of private equity performance struggle with. The good news is that several publicly accessible databases exist already, and that overall better numbers are gradually becoming available. In Chapter 5, **David Snow** gives an overview of where usable data on fund performance can be found.

In Chapter 6, **Eric Johnson** from Cambridge Associates uses his firm's most up-to-date indices to give an empirical assessment of the performance of private equity. Using data as of March 31, 2011 and also their end-to-end indices, Cambridge shows a performance of 13.3 percent for US private equity for the last 20 years and 10.8 percent for the last 10 years. The chapter also discusses vintage year returns for various quartiles split and offers an interpretation of the IRR distributions. Finally, Johnson looks at the question whether or not top quartile persistence exists between funds and over the lifetime of a group of funds.

Section II: Benchmarking private equity returns

In Section II, the focus shifts to the question of benchmarking. To illustrate the critical importance of this topic, Chapter 7 juxtaposes two recent news articles from Private Equity International: the first discusses how several large pension plans in the US have been handsomely outperforming their benchmarks, whereas the second picks up on Phalippou's assertion made in Chapter 2 that performance statements such as the ones made by the US LPs tend to exaggerate and hence must be interpreted carefully.

Chapter 8 takes the form of an interview with **Steven Kaplan**, author of some of the most seminal works in the field of private equity benchmarking (Kaplan/Schoar 2005). Private equity, Kaplan maintains, has "outperformed the public markets, net of fees, in most years and for a long period of time". Furthermore, he explains, it is also the case that funds managed by particular private equity firms tend to be consistent in their return delivery. A manager who has generated benchmark-beating performance with Fund I is likely to do so again with Fund II, which according to Kaplan is an insight that helps investors improve their fund and fund manager selection success rate significantly.

'Private equity benchmarks: methods and meaning' is the heading of Chapter 9, in which **Jesse Reyes** and **Austin Long** examine private equity benchmarking by evaluating the methods currently in use, analysing their shortcomings, providing guidance on their proper use and surveying new methods that have been developed to create additional benchmarks.

One such new method is described in Chapter 10 by **David Robinson** and **Berk Sensoy**. Their 'Levered PME-multiple' calculation takes into consideration the effect of leverage on private equity investments, and shows how a higher beta for these investments will impact the PME-multiple. PMEs, they conclude, are absolutely the right way forward in private equity benchmarking, as long as the examiner can sensibly assume that the benchmark index adequately reflects the true risks facing LPs in a given fund, and also that the correct beta has been used in the analysis.

Section III: Winners and losers – the private equity performance differential

Section III takes a detailed look at how performance can vary between funds, and what investors can do to pick the best-performing ones. Setting the tone is an article by David Snow (Chapter 11), which dissects the two pricing models for a new fund currently being offered to investors by Bain Capital, and explains how each of them will affect the outcome in terms of net returns to LPs.

In Chapter 12, Alexander Groh once again mimics a public market investment approach to analyse leveraged buyout transactions at the transaction level. Using commonly accepted asset pricing theory specifically tailored to evaluate a sample of LBOs, Groh calculates a risk-adjusted return for each investment and compares it to its public market peers. As a result, LPs in the funds that sponsored the LBOs can determine whether or not the deals have beaten their benchmarks.

Robert Ryan, in Chapter 13, also ranks individual deal performance by comparing investments with similar term, timing and industry mix characteristics. Following an approach of this kind, the investor is able to not only benchmark the portfolio, but also to draw conclusions about a general partner's ability to identify and steer attractive investments.

In addition to assessing manager skill sets in order to pick those groups with the best chances to deliver, investors also need to think about their capital allocation to the asset class in terms of when and how much to invest. The money-chasing-deals phenomenon and its adverse effect on investment performance is discussed in Chapter 14, in which Christoph Kaserer and Christian Diller analyse how performance of specific private equity sectors changes when very large quantities of LP capital are being allocated to them.

Section IV: Looking for the premium – how LPs think about performance measurement

Section IV then delivers an investor view on performance measurement and benchmarking, with several real-life limited partners contributing to the discussion. First up is Benjamin Abramov of University of Toronto Asset Management. In Chapter 15, he gives an account of how his institution approached the question of benchmarking in private equity. Abramov describes the process his team went through in order to identify a suitable benchmarking methodology, and explains why in the end a combined PME+ approach was deemed the most appropriate.

A broad overview of absolute and relative performance measures is provided in Chapter 16 by André Frei and Michael Studer of Partners Group. They highlight the respective strengths and weaknesses of IRR and TWR, introduce the concept of the 'static spread approach' as yet another interesting relative performance gauge. In an empirical part with date up to March 2011 they use the 'static spread' approach and show that US buyout investments have outperformed the S&P 500 by nearly 400 basis points.

Chapter 17 also has an empirical bent, with David Snow asking a question that is currently on many private equity investors' minds: 'Where is 2006 now?' Studying a collection of data from various sources, Snow concludes that 2006 vintage of LBO funds,

which were heavily capitalised and invested just before the onset of the post-Lehman crunch, is actually performing better than many had feared – a finding that, even though the full story of this vintage can only be told comprehensively once the underlying funds have been realised, should nevertheless give some comfort to those LPs who have significant exposure to these funds.

Finally, in Chapter 18, **Luba Nikulina**, **Mark Calnan** and **Gregg Disdale** of Towers Watson deliver an article entitled 'Which benchmark should I use?'. Central to the argument here is the idea that any benchmark must be selected with a view to the way an investor is exposed to private equity in the first place: is he investing via funds of funds, selecting funds himself, or making direct investments in privately owned companies? Whichever route into the asset class he is taking has important implications for his choice of benchmark, and the authors give guidance on the kind of quantitative and qualitative considerations that should influence this choice.

So, does private equity outperform?

There is no question that in today's investment environment, private equity offers an intriguing alternative to public equity and other mainstream investment strategies. However, private equity investing also comes with conceptual difficulties, notably in the areas of performance measurement and benchmarking, which this book is seeking to address.

The ambiguity in measuring performance stems in part from the fact that reliable data is difficult to obtain, and also from the absence of a standardised and universally accepted methodology that can be used to measure private equity returns and to compare them to public markets. Several absolute gauges exist (Money multiples, IRR, TWR, modified IRRs), as do various relative measures (PME, PME-multiple, PME+, levered PME and static spread). Each of these have strengths and weaknesses, and they vary in terms of the information that must be available if one is to use them effectively (see Table 1.1). The book examines them in detail.

Table 1.1: **Differing performance measures and the information they require**

	Absolute return measures				Relative performance measures			
Degree of information	Multiples	TWR	IRR	MIRR	PME	PME-multiple	PME+	Adv. PME
Amount of PE cashflows	✔	✔	✔	✔	✔	✔	✔	✔
Timing of PE cashflows		✔	✔	✔	✔	✔	✔	✔
Assumption for reinvestments				✔	✔	✔	✔	✔
Index values					✔	✔	✔	✔
Leverage information								✔

Source: Montana Capital Partners.

6 Private investments: shedding some light on the historical record

*By Eric Johnson, Cambridge Associates**

Introduction

This chapter provides Limited Partners (LPs), General Partners (GPs), and others with key data and insights into performance issues related to private investments (e.g., private equity, venture capital, and funds of funds focused on these two strategies). The chapter is divided into two parts. The first section provides updated performance data from Cambridge Associates Private Investments database for a range of US and ex-US private investment strategies as of March 31, 2011, as well as a discussion of several data and performance calculation issues. The second section discusses several issues related to interpreting the performance results.

The debate about improving the alignment of interests between LPs and GPs that was triggered by the global financial crisis in 2008–2009 has often been characterised in the context of a 'shift in the balance of power' in favour of LPs. As balance of power shifts can be transitory, we believe that the debate should be centred on restoring balance such that there is a fair distribution of risks and rewards between LPs and GPs.[1] Without a good understanding of the performance history of private investments, it can be difficult for both sides to agree on what is truly 'fair', rather than simply pushing for whatever the current market environment allows them to negotiate.

At the core, LPs want to know whether they have been adequately compensated for allocating their capital to private investments, and whether they are likely to be fairly compensated in the future for new commitments. With the recent downturn that began in August 2011 as a backdrop, LPs and GPs who are continuing to reconsider the terms for private investments can better see the additional micro and macro risks that may not have been as evident to investors during the heady days of the late 1990s bubble or during the fundraising boom of the 2000s that preceded the current crisis. With a better understanding of how various private investments have actually performed, both in absolute terms and versus each other, as well as in comparison to other publicly traded assets, LPs and GPs can be better prepared to understand each other's points of view. Without an understanding of the historical returns and the risks of poor performance as an LP sees them, for example, GPs could be tempted to dismiss LP requests for more 'fair' terms as simply self-interested negotiating tactics being pushed from a position of (perhaps temporary) strength, rather than as more serious attempts to help improve the industry for all parties' long-term benefit. On the other hand, if GPs in certain strategies are truly so

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* Joshua Gartner of Cambridge Associates assisted in the preparation of this chapter.

[1] Cambridge Associates LLC, (2009), *Restoring Balance to GP/LP Relationships*.

highly skilled that they can be reliably expected to provide great outperformance that isn't available through other investments, it could even be possible that higher fee and carry terms would in some cases be 'fair'.

Writing presciently at the end of 2006, Oliver Gottschalg of HEC School of Management noted:

> ...*[The] claim that private equity offers great returns* per se *is in fact dangerous for the industry. It currently attracts additional capital in times when fund sizes and deals sizes are at a record high already. Importantly, it also attracts capital from less experienced and less sophisticated investors who may end up backing the wrong GPs, based on the belief that even a random fund selection process would lead to the supposedly attractive average returns. …[A]s long as less skilled GPs continue to get funded average future returns are less likely to increase than they otherwise would be.*[2]

A clearer understanding of historical performance and the issues associated with measuring and interpreting performance can help lead to a more informed discussion of what a truly well-balanced and fair relationship between LPs and GPs might look like. After all, for the long-term health of the industry, it would be in both parties' interests if the majority of the LPs who are willing to incur the additional illiquidity and other risks associated with locking up their capital for as much as a decade (or more) could reasonably expect that they would be fairly rewarded, rather than only those LPs who are able to identify, access, and deploy a large portion of their capital with the oft-cited 'top quartile' funds.

Overview of the returns data

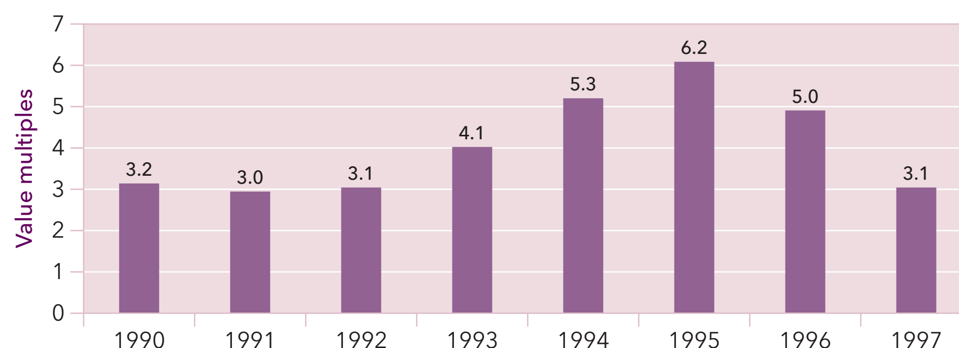
Introduction

One key conclusion the industry has known for some time is that private investments can be extremely rewarding when they perform well. For example, every vintage year from 1990 to 1997 in the Cambridge Associates US Venture Capital Index had a Total Value to Paid In (TVPI) multiple of 3x or greater, with vintages 1994, 1995, and 1996 returning 5.3x, 6.2x, and 5.0x, respectively, and many funds returning even larger multiples of capital to their LPs (see Figure 6.1).

Moreover, even in what might be considered to be 'bad' vintage years with aggregate TVPI multiples of less than 1.2x or so, some private investment funds have generated large 3.0x or higher TVPI multiples. As a long-standing adviser to endowments and foundations, we have helped many of our clients invest in venture capital, private equity, oil & gas, real estate, distressed securities, and other private investments for decades, and have seen the attractive long-term risk-adjusted returns that many of these investors have earned relative to other types of institutional investors that have shied away from these asset classes. Newspaper articles describing the large gains accruing to venture capital funds from the IPOs of highly successful technology companies have provided further

[2] Performance Assessment: What We Know and What We Don't Know, *Private Equity International*, December/January, 2006/07.

Figure 6.1: **US venture capital TVPI multiples by vintage year, as of March 31, 2011**



Note: Returns are net of fees, expenses, and carried interest.
Source: Cambridge Associates LLC Private Investments Database.

anecdotal evidence about the possible rich rewards from successful winners in private investments. All of these factors have contributed over the years to the strong growth of the private investments industry and the entry of new LPs seeking future strong returns.

There are many reasons to believe that the most talented GPs should be able to generate better (and different) returns than those from public stocks, a topic which is beyond the scope of this chapter. Private equity and venture capital funds can also provide LPs with access to types of companies and/or geographies that aren't easily accessible (if at all) via stocks, providing additional opportunities for portfolio diversification and value enhancement. Examples might include venture capital investments in technology companies or emerging markets private equity funds' investments in countries with thin public markets that don't well represent their countries' underlying economies.

Yet there have clearly been periods where the majority of funds in particular strategies have delivered disappointing returns over substantial time periods, such as US venture capital funds in the vintage years following 1998. Even in strategies with reasonable aggregate returns on a dollar-weighted basis, frequently the return from the median manager is much less impressive, leading to a widely recognised emphasis on investing with those funds that are in the top quartile of the performance distribution.

An important question for an LP, and for the GPs who are its partners in deploying capital, is whether the LP's private investment programme as a whole will be able to generate sufficiently better (and/or different) returns than those of other public market investments in which the LP would otherwise have invested. The answer to this question will depend on a number of factors, all of which are unknown in advance: 1) the future returns of private investment strategies and the distribution of those returns among the manager universe, 2) the LP's skills in selecting an appropriate mix of strategies, 3) the LP's ability to identify and access enough sufficiently good funds from the manager universe, 4) the LP's decisions on the timing and sizing of commitments and

5) public market returns in the strategies where the LP would otherwise have invested capital. Some of these factors are interrelated – an LP's manager selection skills would not need to be very good if 90 percent of the managers in a given strategy were to outperform the public markets, but those manager selection skills would need to be very strong if only 10 percent of managers were to outperform.

This section begins with a discussion of several data and performance calculation issues. It then provides aggregate return data for a wide range of private investment strategies over the last 20 years, as well as data on the distribution of returns for four major categories of private investments: US private equity, US venture capital, ex US developed markets private equity/venture capital, and emerging markets private equity/venture capital.

Data issues

Investors considering whether to allocate to private investment strategies should be aware of, but not overwhelmed by, the limitations related to private investment performance databases. Unfortunately, none of the available private investment benchmarks (even for the US and other developed markets, much less the emerging markets), can come close to meeting all of the characteristics of an ideal benchmark. None can provide a complete and verifiable coverage of the entire opportunity set of private investments, nor is it possible for an investor to invest in a broad index of all the private investment funds in the benchmark. In the case of the Cambridge Associates benchmarks, we focus on institutional-quality funds in which third-party LPs could conceivably have invested, for returns-oriented purposes. As a result, we omit corporate funds, evergreen structures, and sponsored vehicles (such as those intended primarily for building a bank business). Non-commercial developmental funds, such as certain funds primarily sponsored by international development banks, are also excluded (though many funds with capital from such banks are returns-oriented, and are included in the statistics).

The Cambridge Associates database is compiled from the GPs' own financial statements for their funds, using cash flow data, which allows for internal consistency and error checking. The database contains not only the fund-level information on over 4,400 funds, but also details on more than 56,000 company-level investments and another 5,200 investments made by funds of funds and secondary fund managers. The database includes funds that entered our clients' portfolios while we were their adviser, as well as legacy investments made by others who later became Cambridge clients. Importantly, we also include a large number of funds in which none of our clients are invested. We work with a variety of industry associations to encourage broad manager participation to improve the breadth and quality of the coverage of the industry, and we provide managers with a robust set of industry performance statistics for free as an incentive to encourage their participation. Because of the nature of private investment funds (which have a fixed term and will continue needing to provide reporting until the fund is liquidated), and since many of the funds in the database are in client portfolios for which we provide performance reporting, a poorly performing fund won't necessarily drop out of the latest performance figures (as it would in marketable stock manager databases when a manager closes a product or stops reporting results).

9 Private equity benchmarks: methods and meaning

By Jesse Reyes, QuartileOne, LLC and
Austin Long, Alignment Capital Group, LLC

This chapter examines private equity benchmarking by evaluating the methods in current use, analysing some of their shortcomings, providing guidance on their proper use and surveying new methods that have been developed to provide additional benchmarks.

What is a benchmark?

Before the advent of modern power tools, craftsmen resorted to tradecraft to precisely build furniture. At the time, without accurate rulers or measuring tapes, they used trade tools such as 'story sticks' and for measurement would make marks on their workbenches as points of reference. For example, these 'benchmarks' might be used to make sure that all legs for a table were the same length.

Thus, a benchmark is a point of reference. In investments the term has evolved to mean the use of indexes and other return statistics to evaluate the performance of financial securities. There is a large body of knowledge regarding the use of indexes as benchmarks in the public securities markets and an entire performance measurement industry has evolved for the express purpose of creating and using a bewildering variety of benchmarks. Benchmarks range from the trivial (for example, 'what was the return last year' or 'I want a 10 percent real return') to the extremely complicated (for example, a set of heuristics and algorithms that can be used to evaluate a complicated investment structure).

Opportunity cost and benchmarking

The choice of a benchmark would seem to be trivial. After all, in the public markets there are stock indices derived from a seemingly endless supply of composites. However, the choice of a benchmark is actually quite complicated in that a true benchmark should be chosen on the basis of the investment decision being evaluated, whether the benchmark is intended for direct comparison or for what we call an opportunity cost comparison.

Take the case of the 'naïve manager'. Assume an investment manager has a choice of two securities, A and B. The manager can choose any proportion of investment in these two securities, for example, 70 percent A:30 percent B, 20 percent A:80 percent B, 0 percent A:100 percent B and so forth. Without superior knowledge, the naïve (passive) manager would have no basis for a decision between the two investments and would therefore select a 50:50 weighting. The investment weighting decision that the active manager actually makes should be superior to the returns of this 'naïve manager' decision.

Given even a simple investment portfolio, there are myriad potential decisions to evaluate. For example, a portfolio manager might make a decision to invest in private equity versus another asset class, a decision to invest 30 percent in venture and 70 percent in buyouts, or a decision to invest in 2003 vintage year funds but not 2004. In each case a benchmark should be appropriate to the decision being evaluated.

For a relevant example in the private equity industry, take a buyout fund of funds manager who must make two critical investment decisions: which vintage years to invest in (a temporal allocation decision) and, within those vintage years, which buyout managers to invest in (a series of manager selection decisions).

This manager forms a buyout fund of funds in 2001 and invests in underlying funds with vintage years 2001, 2003, 2004 and 2006. Note that the manager chose not to invest in 2002 and 2005. There are two different benchmarks for these two different decisions. The first benchmark would exactly mirror the manager's temporal allocation decision by using return data from the exact same vintage years in which the manager chose to invest. The only difference between the manager's series of investment selection decisions and the benchmark would be the relative performance of the funds the manager selected versus the performance of the funds in the benchmark. This direct comparison benchmark would measure only the manager's selection prowess.

Alternatively, the manager could select a composite benchmark made up of all the vintage years in the investment period, from 2001 through 2006. The manager's decision not to invest in 2002 and 2005 should provide superior results when compared to the benchmark that includes those vintages. In this second benchmark there are two potential differences between the manager's investments and the benchmark: the vintage years selected and the managers selected within each vintage year. This benchmark thus evaluates both the vintage year timing decision and the series of manager selection decisions as well. This second benchmark comparison is what we call an opportunity cost benchmark – the manager had the opportunity to invest in all five years but did not do so, a decision the outcome of which should be measured against

Table 9.1: **Example of a benchmark selection for a fund of funds**

Vintage	Fund of funds manager's portfolio	Direct benchmark	Opportunity benchmark
2001	X	X	X
2002			X
2003	X	X	X
2004	X	X	X
2005			X
2006	X	X	X

the benchmark and either rewarded or penalised. The investment decisions incorporated into this simple illustration are summarised in Table 9.1.

Although many investment professionals believe the direct comparison benchmark – that is, one that exactly mirrors the manager's actual investments – is the only viable benchmark, our example makes it clear that a direct comparison benchmark only evaluates one dimension of the investment decision. Just as in the public markets, which frequently use benchmarks involving a broad stock market index, a private equity benchmark should reflect what the manager did decide to invest in as well as what the manager did not decide to invest in.

Of course, in addition to comparing returns to a private equity universe, the buyout fund of funds manager in our example could also compare his or her portfolio return to the return of the public market or to the returns of other asset classes such as hedge funds or real estate. In each case the choice of a benchmark depends on the decision or set of decisions the manager is trying to evaluate.

Can private equity truly be benchmarked?

For over 25 years, private equity benchmarks have employed the vintage year peer group methodology. Does this direct comparison methodology meet the definition of a benchmark or does the industry need other benchmarks?

In their seminal article, 'Benchmark Portfolios and the Manager/Plan Sponsor Relationship,'[1] Jeffery Bailey, Thomas Richards and David Tierney (hereinafter 'BRT') set out in detail the fundamental properties of a useful investment benchmark. Their analytical framework has been adopted by the Institute of Chartered Financial Analysts as a part of its body of knowledge, which candidates for the CFA designation must master. According to BRT, a benchmark must be:

1. *Unambiguous:* the securities underlying the benchmark must be clearly delineated.
2. *Investable:* the investor must have the option to choose between active management and a passive holding of the benchmark.
3. *Measurable:* the benchmark must be calculable on a reasonably frequent basis.
4. *Appropriate:* the benchmark should be consistent with the investment manager's style or biases.
5. *Reflective of current investment opinions:* the investment manager has current investment knowledge (be it positive, negative or neutral) of the securities that make up the benchmark.
6. *Specified in advance:* the benchmark is constructed prior to the start of an evaluation period. More to the point, the exact composition of the benchmark is specified before the measurement period.

Although the BRT criteria were written to apply to investment portfolios of publicly traded securities, we will examine in detail the application of each of these principles to private equity.

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[1] Published in *Current Topics in Investment Management,* HarperCollins, New York, 1990.

Potential sources of private equity benchmarks

There are four potential sources of private equity benchmarks, whether based on a direct comparison or based on opportunity cost (see Figure 9.1).

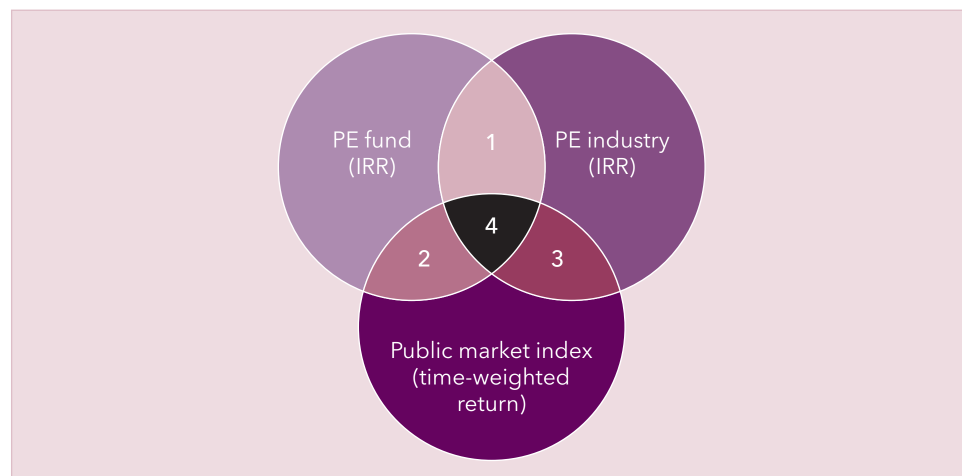
Benchmark 1 compares the returns of a private equity investment or portfolio to the returns of an appropriate segment of the private equity industry over the same time period. This is equivalent to the private equity industry standard method pioneered by one of the authors, which compares the returns of a single fund or portfolio of funds against a vintage year peer group or other subset of the overall private equity industry.

Benchmark 2 compares the returns of a private equity investment to the returns of a public market index (or any other asset class, whether liquid or illiquid, that is measured by time-weighted rate of return) over the same time period. This measures the opportunity cost of actively investing in a private equity investment rather than passively investing in a public market index. This benchmark was first formulated about 17 years ago by one of the authors, among others, and has been refined since.

Benchmark 3 compares the returns of the private equity industry as a whole (or any appropriate segment thereof) to the returns of the public markets (or any other asset class, whether liquid or illiquid, that is measured by time-weighted rate of return) over the same time period. This benchmark compares the opportunity cost of actively investing in the relevant private market industry segment with passively investing in a public market index or other asset class. It is a generalised case of Benchmark 2.

Benchmark 4 compares the returns of a private equity investment relative to a public market index, or any other time series measured by time-weighted rate of return, to the returns of the appropriate segment of the private equity industry relative to the same public market index or time series, all over the same time period. This benchmark

Figure 9.1: **Four potential sources of private equity benchmarks**



Source: Alignment Capital.

measures how well a private equity investment performed versus the public markets with how well the industry itself performed versus the public markets. In other words, this benchmark compares the opportunity cost of actively investing in the private equity investment to the opportunity cost of actively investing in the selected industry segment's composite, in both cases gauged against passively investing in a public market index. This benchmark is therefore a combination of Benchmarks 1, 2 and 3.

Analysing potential benchmarks

Each of these potential benchmarks can be analysed using the BRT criteria, as follows:

Criterion 1: Unambiguous – the securities underlying the benchmark must be clearly delineated
Benchmark 1: Typically, benchmarks for private equity do not disclose the identities of the underlying funds in the peer group. However, it is possible to construct a usable private equity benchmark from industry data that provide some degree of transparency regarding the underlying investment strategies and characteristics of the funds in the benchmark, even though knowledge of the underlying investment strategies and characteristics of the peer group is not technically the same as knowing the exact composition of the benchmark.

Benchmarks 2 and 3: The benchmark is typically a public market index, which means that the underlying securities are almost always disclosed.

Benchmark 4: The private equity dimension of this benchmark has the same disclosure issues as Benchmarks 1, 2 and 3, while the public market index dimension will almost always disclose the underlying investments.

Criterion 2: Investable – the investor must have the option to choose between active management and a passive holding of the benchmark
Benchmark 1: This benchmark is made up of illiquid closed-end funds which cannot be passively held as an investable security. A passive investment that holds all of the funds in the benchmark does not exist.

Benchmarks 2, 3 and 4: The public market index can be passively held, but not the private equity industry portfolio and the individual manager portfolio.

Criterion 3: Measurable – the benchmark must be calculable on a reasonably frequent basis.
Benchmarks 1, 2, 3 and 4: These benchmarks can all be calculated on at least a quarterly basis.

Criterion 4: Appropriate – the benchmark should be consistent with the investment manager's style or biases
Benchmark 1: As we discuss below, it is possible to construct a private equity industry benchmark that is roughly consistent with the subject investment or portfolio in terms of investment style, vintage and certain other characteristics.