LISTED PRIVATE EQUITY

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Abstract

The phrase 'private equity' became widespread in the late 1980s following major buyout fund activity. What has been neglected for some time is the existence of listed private equity - an exposure through a share in a private equity company traded on a stock exchange. While the listed market is small compared to its unlisted counterpart, it benefits from a variety of advantages that make this form of private equity worth further consideration. But is public private equity a contradiction in terms? We conclude that although there are different organizational structures between listed and unlisted private equity, an investment in listed private equity exhibits similar or even equivalent characteristics to an investment in unlisted private equity. Finally, we present an empirical overview of the listed private equity market.

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1 Introduction

Investments in private equity are often associated with unlisted private equity funds, usually structured as limited partnerships. The large amount of capital which has to be committed to limited partnerships and the long investment horizon contributes to this asset class being primarily the domain of large institutional investors. What has been neglected for some time is the existence of listed private equity - an exposure through a share in a private equity company traded on a stock exchange. It is somehow surprising that both from the academic and investor viewpoints, few have paid attention to this group of companies until the listings of prominent private equity industry participants such as KRR Private Equity Investors L.P. in 2006 and The Blackstone Group L.P. in 2007.

Basically, a listed private equity company provides shareholders an immediate exposure to a diversified private equity portfolio and occasionally the opportunity to participate in the management fees and carried interest earned by the managers of the company. This article is dedicated to the exploration and description of the listed private equity universe as a part of the whole private equity asset class. A frequently named caveat from an academic perspective is the lack of reliable risk and return data for private equity. There are numerous factors which inhibit disclosure by private equity firms and detailed discussion is beyond the topic of this paper. However, listed private equity companies demonstrate increased efforts to provide more information to current and prospective shareholders, and we show that looking at the listed part of private equity provides an innovative way of applying traditional risk and return measures.

First, we show that the typical private equity features such as investment styles, financing styles and other important characteristics are shared between the unlisted and the listed private equity universe. Second, we focus on the different organizational structures and characteristics within listed and unlisted private equity. Whereas in the unlisted universe

there is only one dominant organizational structure, limited partnerships, the listed universe can be categorized into listed indirect private equity investment companies (funds of funds), listed direct private capital investment companies and listed private equity fund managers. We conclude that although there are different organizational structures, an investment in listed private equity exhibits similar or even equivalent characteristics to an investment in unlisted private equity. We also show that listed private equity possesses additional features, such as a flexible investment horizon and liquidity, which makes it very attractive from an investor's perspective. Finally, we present an empirical overview of the listed private equity market.

2 Listed Private Equity - Definitions and Categorization

The phrase 'private equity' became widespread in the late 1980s following major buyout fund activity. 'Private equity', as the term suggests, involves investments of equity capital in private businesses. It provides long-term, committed share capital, to help unquoted companies grow and succeed. The term private equity does not require that the investing company itself is private. The fact that a private equity company is listed on a stock exchange does not influence its core business: investing in unquoted companies.

From an investor's perspective there are typically two ways to get exposure to private equity. The first way is via private equity funds. Certain 'limited partners' such as banks, insurance companies, pension funds or high net worth individuals and families commit capital to a fund. The fund itself is run by a management team called 'general partner'. The general partner is compensated by management fee and performance fee (carried interest). The limited partners commit their capital for a fixed time horizon. Over the investment horizon the general partner identifies investment opportunities and 'calls' the money from the limited partners to undertake certain investments. If the general partner decides to

liquidate an investment, the proceeds are paid back to the limited partners. Calls and liquidations do not follow a fixed time horizon. Ex ante the limited partner knows nothing about the cash flow stream (for a detailed introduction to the structure of unlisted private equity funds see Phallipou 2007).

A complement to buying a limited partnership interest is to get exposure to private equity through private equity companies traded on recognized stock exchanges. In contrast to unlisted private equity funds, where the investor base is primarily a limited number of institutional investors, the listed private equity market opens this asset class for everyone. Having an organized market at hand to buy and sell a private equity portfolio makes this asset class highly liquid. Indeed, some institutions who invest in limited partnerships also invest in listed private equity to reach and manage their private equity asset allocation more efficiently, selling their listed private equity investments as their limited partnership "calls" arise and reinvesting in listed private equity when they receive distributions. By nature, similar to secondaries in the traditional private equity market, through listed private equity an investor is able to get a direct exposure to a more or less mature private equity portfolio. Also there is no need to commit capital for a fixed period of time. In this sense listed private equity can be seen as an evergreen exposure to private equity through the permanent capital character of a listed company.

Seeing these advantages it is somehow surprising that listed private equity has been undiscovered for so long. For example Electra Private Equity has been listed on the London Stock Exchange in 1976. As of January 2009 the total market capitalization of the global listed private equity market amounted to US$ 31 billion.

Getting exposure to private equity by purchasing a share on a stock exchange sounds simple. However, it can be challenging to identify the relevant companies within the universe of all listed companies compared to other major industry sectors. For example, an investor seeking an exposure to the automobile sector or the health care sector will face few prob-

lems picking the relevant companies given there are leading data providers sorting stocks into major industry classifications. However, listed private equity can't be found in these classifications, nor are these companies in the public focus, barring such candidates as KKR, Blackstone or 3i. A pioneer in identifying and researching the global listed private equity universe is Swiss-based LPX. Their listed private equity index family has been the first set of benchmarks based of objective market valuations only. Today these indices are accepted as a reliable tool for valuation and representative benchmarks for private equity in both the academic community and industry experts. Their flagship index the LPX50 comprises the 50 largest liquid private equity stocks on a global scale.

It is the purpose of this article to show that both listed and unlisted private equity provide investors an exposure to private companies. For an investor it is the same to participate in a buyout deal financed with equity or mezzanine capital via an unlisted or a listed private equity company. The major difference between both forms of private equity is in the organizational structure.

2.1 Terms and Definitions

For both listed and unlisted private equity vehicles it makes sense to distinguish between three types of investment styles: buyout, venture and growth capital. There is no fundamental difference whether an unlisted fund or a listed private equity company undertakes one of these investment styles.

Investment Styles

Buyout typically refers to a strategy of making equity investments as part of a transaction in which a company, business unit or business assets is acquired from the current shareholders typically with the use of financial leverage. The companies involved in these

transactions are typically mature and generate operating cash flows. A prominent example is the London Stock Exchange (LSE) listed HgCapital Trust plc in the UK, which specializes in middle market buyouts.

Venture capital refers to investments made in immature companies typically start ups, for the launch, early development, or expansion of a business. For example the Swiss Stock Exchange (SWX) listed HBM BioVentures AG is a major venture capital provider on a global scale.

Growth capital refers to minority investments in mature companies. It is a type of investment suited to a diverse range of growth opportunities, including acquisitions, increasing production capacity, market or product development, turnaround opportunities, shareholder succession and change of ownership situations (a similar definition of the investment styles can be found in 3i Group plc Annual Report 2008). Growth capital is much more present in listed private equity as exits from a growth capital position which do not involve a majority holding can be less predictable. Since an evergreen listed private equity company is not obliged to distribute the money back to the limited partners after a specified period of time, it can be more flexible in setting a variable and therefore suitable investment horizon. This major advantage of listed private equity as permanent capital is evident in the largest listed private equity company in Europe, the LSE listed 3i Group plc, which has one of the largest growth capital portfolios in the world.

Financing Styles

As in the unlisted private equity market, deals in the listed market are either financed with equity, mezzanine capital or debt. Calling 'mezzanine' a financing style is often confusing. In contrast to other existing methodologies we define mezzanine capital as any capital between equity and debt e.g. subordinated debt, convertible debt or loans with equity kickers. We observe that most of the mezzanine capital provided is within a buyout deal.

However, a small proportion of mezzanine capital is also provided in venture and growth deals. This leads us to the conclusion to define 'mezzanine capital' as a financing style instead of an investment style.

2.2 Categorization of Listed Private Equity

As already pointed out the defining 'economic' characteristics of private equity, i.e. investment styles and financing styles, are shared between both listed and unlisted private equity. However, differences are seen in the heterogeneity of organizational structures, which can be regarded as a mainly 'legal' difference. Whereas unlisted private equity is almost always structured as limited partnership, the listed universe is more complex and we propose the following categorization: listed direct private equity investment companies, listed direct private mezzanine capital investment companies, listed indirect private equity investment companies (fund of funds), and listed private equity fund managers (J.P. Morgan Cazenove uses a similar categorization). Listed direct private equity investment companies and listed direct private mezzanine capital investment companies exhibit the same organizational structure and these two categories are therefore combined in Figure 1 into 'listed private capital investment companies'.

Unlisted Private Equity Fund

Figure 1a shows the simplified organizational structure of an unlisted private equity fund. An investor commits a certain amount of capital to a fund of typically fixed size and time horizon, i.e. s/he buys a limited partnership interest. This limited partnership is managed by the general partner. Over a specified time horizon (usually 10 years) the general partners can call the money for deals (Private Company I, Private Company II, ...). The investments are typically done at asset value. In the case of an exit of the investments, the general partner pays the proceedings back to the limited partners after deducting management fees and carried interest. The limited partnership organizational structure is by

far the most common structure in the private equity market. Although the first vehicle was a listed company, founded in the 1940s, today limited partnerships are the dominant organizational structure (Hsu and Kenny, 2005).

Listed indirect private equity investment companies

Organizational forms of the listed private equity market are depicted in Figure 1. Figure1b shows the structure of listed indirect private equity investment companies (funds of funds). A listed private equity fund of funds is a company that floats on the exchange with the purpose of committing capital to traditional private equity limited partnerships. 'Indirect' indicates that the company does not directly invest capital to private equity deals but 'indirectly' via investments in limited partnership, so this category could be described as 'actively managed traditional private equity'. An investor buys a share of the listed company over an exchange and in the end he owns a portfolio of limited partnerships diversified across vintages, regions, etc. Within the listed private equity universe there are currently 27 companies of this category. A prominent company among these is the UK based Pantheon International Participations PLC, which has been listed on the LSE since 1987.

We observe that listed private equity funds of funds can basically be created in two ways. Either an empty shell is listed on a stock exchange via an initial public offering, or an already existing portfolio of limited partnerships is sold via an initial public offering. In the first case, the majority of the investment portfolio consists of cash until the committed capital is gradually drawn down from the respective limited partnerships. This leads to the so called 'cash drag' in the first month after the listing. Cash drag can also be observed in the case of committing capital to an unlisted private equity fund. In the second case, an investor gets immediate exposure to private equity since the majority of the investment portfolio consists of various limited partnerships diversified across regions and vintages.

A fully invested fund of funds bears the advantage over an unlisted fund of providing a diversified and permanent exposure to the private equity asset class. It is permanent in the sense that it has no finite life but reinvests proceeds from older vintage funds in new funds. A fund of fund's balance sheet consists to a large extent of the portfolio of limited partnerships. The managers of the fund can either be employees of the fund itself (internal management) or be managed by an external management company. Internal management is infrequent (2 of 27 funds of funds) but enables the fund to earn additional income for fund management. More typically, 25 of 27 funds of funds have external management where the fund has to pay management fees so there is a "double fee structure" paying the salary or fees of the listed private equity company and also the fees charged by the general partners of the limited partnerships. Funds of funds say that this reflects the considerable resources they devote to investment screening, due diligence and negotiation to select and work with private equity managers who can achieve the best results; often their long-standing relationships with top managers will provide access that investors could not achieve on their own.

Listed direct private capital companies

The majority of listed private equity companies are organized as listed direct private capital investment companies. There are currently 91 listed direct private capital investment companies. A prominent example is the UK based 3i Group plc. The term 'direct' indicates in this context that the company is invested directly in the underlying companies, and not via limited partnerships. As shown in Figure 1 the balance sheet of the listed private equity company contains largely the acquired interests in the private companies (Private Company I, Private Company II, ...). Through the purchase of a share traded on an exchange, the investor gets exposure to a diversified portfolio of private companies directly held by the listed company. In contrast to the category 'funds of funds' where only

a few companies have internal management, about half of the listed direct private capital companies are internally managed. Often the managed limited partnerships co-invest in the same private companies. In the course of a new deal a part of the transaction volume is financed by the available resources from the balance sheet and the remainder coming from the managed limited partnerships. In contrast to an investment in a traditional limited partnership, this organizational structure offers an investor not only a direct exposure to a diversified portfolio of private companies but also a participation on general partner revenues generated by the additional fund management business.

Listed Private Equity Fund Mangers

The last organizational structure is characterized as listed private equity fund managers. This category represents a minority of the listed private equity universe. A prominent example is the New York Stock exchange listed The Blackstone Group L.P. Typically, listed fund managers have no direct or indirect exposure to private companies. The acquired interest is instead held in managed limited partnerships. Figure 1d shows the organizational structure of a listed fund manager. Basically this structure is congruent to the organizational structure depicted in figure 1a with the exception that the investor buys a listed interest in the general partner and not an unlisted limited partnership interest.

To summarize, apart from the different organizational structures, an investor gets an exposure to private equity whether he buys a limited partnership interest or a share of a listed private equity company. In case of the former, the investor faces a high minimum size of committed capital and usually a fixed time horizon, whereas in the listed case the investor faces no minimum size and the time horizon is the investor's own. What has been significant over the last decades is that unlisted funds tend to focus on one investment style, for example 'leveraged buyouts'. An investor seeking diversification over investment styles

within the unlisted world is forced to invest in a several unlisted funds, which requires an enormous amount of capital. Diversification in the listed universe is simply achieved by buying a stock portfolio of listed private equity companies. Additionally, listed private equity companies are usually more diversified according to deal type and vintage. One significant difference from an investor's perspective is the fact that in the listed case the investor is often able to buy at a major discount whereas investments in the unlisted universe are initially invested at net asset value. It is therefore key to trace the historic and current net asset values (NAVs) as well as the market prices of the listed private equity companies.

3 Further Empirical Insights on Listed Private Equity

In this section we present some empirical results on the historic evolution, geographical distribution, investment and financing styles, internal and external management of the base universe of listed private equity companies. In addition we provide detailed empirical analysis of the four categories of listed private equity companies. We conclude this section with some remarks on the current underlying portfolio distribution of the base universe and some risk and return figures.

The empirical investigation is based on a major sample of 122 globally listed private equity investment companies called 'base universe'. To be included in the base universe, the majority of the assets of the company consist of either direct or indirect private equity investments. In the case of listed private equity fund managers, at least 50% of the assets under management have to be dedicated to private equity. Additionally all companies from the base universe are investible in the sense that they all fulfill predefined liquidity criteria. The liquidity criteria correspond to the Guide to the LPX Equity Indices. The base universe only contains companies currently listed on an exchange. Non-surviving companies

are excluded from the analysis.

Figure 2 shows the historical evolution of the base universe. In 1980 there were only three listings, by 1995 there were less than 25 companies listed on a stock exchange. In the following years the number has more than doubled reaching 50 listed private equity companies in 2000. With the beginning of the year 2004 a new wave of initial public offerings emerged with 38 new listings in the years 2006 and 2007, making listed private equity a serious investment niche for investors seeking exposure to private equity.

Figure 3 and Table 1 show some important characteristics of the base universe. Pie Chart 3a shows the regional breakdown of the current base universe according to the market capitalization in US$. Total market capitalization of the base universe as of January 2009 amounts to US$ 31 billion. This is a decline of around 70% from its peak of more US$ 100 billion in June 2007. By market capitalization, 19% of the base universe is listed in the UK and 50% listed in other European countries, making Europe with 69% (by number) the major listed private equity market.

16 out of 34 listed companies from the UK are listed direct private equity investment companies with the remainder being 11 funds of funds, six listed direct mezzanine capital investment companies and one listed private equity fund manager. For Europe ex UK the majority of the companies are listed direct private equity companies with a market capitalization of US$ 11 billion. There are no listed direct mezzanine capital investment companies for Europe ex UK.

The majority of the listed direct mezzanine capital investment companies are located in North America. 20 of the 22 direct mezzanine capital investment companies from North America provide mezzanine capital in buyout deals, representing US$3 billion. Total market capitalization of the 31 North America companies amounts to US$ 7.4 billion. The regulatory background in the US inhibits the formation of listed funds of funds, some of whom have chosen to list in Europe instead. The Asia/Pacific region plays a minor role in

the global listed private equity market, representing 6% of the total market capitalization. It consists largely of listed direct private equity investment companies, well diversified over investment styles. Figures 3b and 3c show the proportion of companies who are externally or internally managed. The majority of the companies (58%) are externally managed. 20% of the companies of the base universe derive income from additional fund management. As already indicated above additional fund management is a major advantage since it gives an investor the opportunity to participate in a steady cash flow stream. Figure 3d and 3e show the financing and investment styles. Not surprisingly buyout is the dominant investment style representing 77% of the base universe. 74% of the companies pursue an equity financing style. Only 26% follow a mezzanine strategy.

To give an idea of the distribution of assets of the global listed private equity companies we use a kind of "aggregate balance sheet". Table 2 shows a balance sheet of a sample of listed private equity companies. These companies represent about 76% of the total market capitalization of the base universe. The breakdown of assets of fair value basically consists of the direct and indirect private equity portfolios as well as cash and cash equivalents (intended to finance coming deals) and other assets such as investments in listed assets, real estate, infrastructure, investment funds, hedge funds and other assets. We derive these numbers directly from the reports and press releases of the companies and by own calculations. Interestingly US$79.500 billion or 84% of total assets consist of the aggregated direct and indirect investment portfolio. This means that an investor in this sample gets an immediate high exposure to the private equity asset class avoiding the cash drag typically associated with an investment in a limited partnership. The total portfolio of US$ 95 billion is financed with debt of US$ 29 billion and US$ 65.6 billion with equity (net asset value). A very important ratio in the private equity industry is the price to net asset value (price to book ratio). In our sample we calculate a surprising price to book ratio of 0.36 implying a 'discount' of about 64%. Such a price to book ratio is historically low and

represents the current status of markets. This fact is one of the most important advantages of listed private equity over unlisted private equity as an investor has the possibility to get an exposure to private equity at a discount. In the LPEQ Preqin Survey "How do Institutional Investors Regard Listed Private Equity?" a research survey of 100 European LPs in December 2008, 70% of those interviewed agreed that 'Widening discounts of listed private equity shares create a buying opportunity' [1].

Still many investors generally believe that private equity has relatively low return volatility, yet often producing double-digit rates of return. High expected returns and low volatility would translate into an appealing risk/return profile, while low correlations to traditional asset classes imply attractive portfolio diversification benefits. As mentioned, when measuring risk and return, listed private equity provides a way to overcome the inherent difficulties with traditional private equity. Having a daily market price makes it possible to apply basic concepts that are generally accepted in academic financial research to a market that otherwise needs to rely on specially designed methodologies, leading to empirical results that are hard to compare with other (traditional) asset classes. Thus, looking at the development of the listed private equity market is revealing and provides insights to issues that have been difficult to uncover previously. The first key issue of interest to investors and more broadly is to investigate the 'risk and return profile' of private equity investments. These derived results might be surprising at a first glance. Private equity has experienced both years with outstanding (excess) returns and also years with poor performance. Volatility has been higher than usually assumed and correlations, though still low compared to traditional asset classes, might be higher that one would have guessed.

A caveat is that different private equity investment styles develop differently over time. Venture capital behaves dramatically differently to buyout or growth capital. Obviously, the contribution of different investment styles to the overall performance of the private

[1] www.LPEQ.com

equity market (here proxied by the LPX50) changes over time. Strong returns in Phase 1 result mainly from the rise of valuations in the venture business. As venture capital was often invested in dot-com and high-tech businesses and valuations came down in the years after the burst of the dot-com bubble (Phase 2), venture capital returns were necessarily affected, leading to three years of negative performance in the LPX50 index. In contrast, returns up to 50 percent p.a. in the years 2003 to 2006 were triggered by the buyout boom (Phase 3) that ended in 2007 with the first turmoil in the credit market and led to a sharp decline in prices in 2008 as a result of the global financial crisis (Phase 4).

A possible objection is that these price movements are unique to the listed private equity market and might not necessarily represent the development of traditional private equity investments, where no market prices exist. However, classical return measures for traditional private equity, such as the calculation of IRR, rely on the assumption that interim distributions are re-invested at the same rate of return. Moreover, the fact that it is not possible to calculate meaningful risk measures such as volatility does not mean that volatility is low or does not exist.

From an empirical perspective, discounts in the secondary market for traditional private equity dramatically differ over time. It is appropriate to assume that trading in these markets - and thus making market prices available - would translate into a similar price pattern to that observed in public markets. Seen from an economic perspective and from the background of this chapter, it seems appropriate to assume that both forms of private equity, unlisted and listed, face an equivalent behaviour in terms of performance. A study from the University of Basel (Huss/Zimmermann 2005) looks at more than 7000 cash flows from unlisted private equity funds. The data is drawn from a database compiled by Preqin (Private Equity Intelligence Ltd., London, UK) The company has been highly successful in collecting data of over 800 different private equity funds, using a wide spread of sources, such as voluntary disclosures of both general and limited partners, but also utilizing public

information.

The drawdowns (or capital calls) from unlisted private equity funds are 'virtually' invested in the LPX50 that serves as a public market benchmark. Similarly, distributions are de-invested from the benchmark. This approach, called the Public Market Equivalent (PME), takes the de facto timing of all cash inflows and outflows into account, which is one of the key advantages of the model.

Intuitively, the PME approach can be seen as buying 'shares' of a public market index when capital is called by a private equity fund and selling 'shares' when distributions are made. The value of the actual number of 'shares' bought (sold) equals the cash flow to (from) the private investment at the time it occurs. So, the cash flow pattern of a private fund is perfectly replicated by an investment in the benchmark. The PME shows, in terms of present value, the amount of money that is necessary to invest in the public benchmark for every dollar invested in the private equity fund, in order to yield equivalent cash flows as they are generated by the fund. Thus, the PME is a sensible and useful measure for LPs as it reflects the return to unlisted private equity funds relative to a public market alternative. If the PME exceeds one, the private equity investment outperformed the public market alternative. Correspondingly, a PME less than one reveals underperformance.

Ending up with PME ratios around 1 and median PME ratios around .8 to .9, depending on the sample, the study concludes there are no significant differences in the behavior of listed and unlisted private equity vehicles during the investigated time span.

4 Summary and Conclusion

This chapter introduces an alternative way to look at private equity investments. The listed private equity market, despite its long history, is often overlooked by both partici-

pants in the private equity industry and the academic community. While the listed market is small compared to its unlisted counterpart, it benefits from a variety of advantages that make this form of private equity worth further consideration. But is public private equity a contradiction in terms?

From an economic perspective the differences between listed and unlisted traditional private equity are small. The core business and thus the way investment decisions are taken, investments are financed and the portfolio is managed is little influenced by the legal form of the private equity investment company. It does not matter if a venture capital or buy-out deal is pursued via an unlisted fund or a listed company. What makes the difference between the listed and unlisted world of the private equity asset class is the categorization of its organizational structures. In the unlisted world, limited partnerships are the single dominant structure, while the listed world is more heterogeneous.

The universe of listed companies can be categorized in four categories: listed direct private equity investment companies, listed direct private mezzanine investment companies, listed indirect private equity companies (funds of funds) and listed private equity fund managers. Listed private equity fund managers give an investor the opportunity to participate in the fees generated by the managers (general partners) of a private equity fund management business. The other categories provide an investor with a diversified direct or indirect portfolio of private equity assets with different investment and financing styles.

Furthermore, listed private equity has some significant advantages for investors. Quotation on a public stock exchange provides the liquidity for listed private equity vehicles that is lacking through a limited partnership investment. Since a fund has to fulfill strict requirements when listing on a stock exchange, the transparency of listed private equity to all shareholders is significantly higher than unlisted funds. The availability of market prices is a further advantage. We present some descriptive facts on the listed private equity market to give an impression on the size, development and geographical location of this

market. We further show how assets are invested in this industry. The private equity investment portfolio makes up more than 60% of total assets of a "typical" listed private equity company. It is a function of the current market environment that listed private equity companies trade with price to book ratios of less than 0.4 on average.

From an empirical perspective, listed and unlisted private equity funds behave very similarly in their risk and return pattern, when comparing listed results with a representative sample of unlisted private equity funds, covering twenty years of data. Having market prices available makes it easy to apply common statistical concepts to the private equity industry and thus calculate a variety of measures for straightforward comparison with other asset classes. We show risk and return figures for different phases in the private equity market cycle, along with a correlation table to indicate the magnitude of these key figures in finance.

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Figure 1

Figure 1 presents the different organizational structures of listed and unlisted private equity.

Figure1a: Unlisted Private Equity

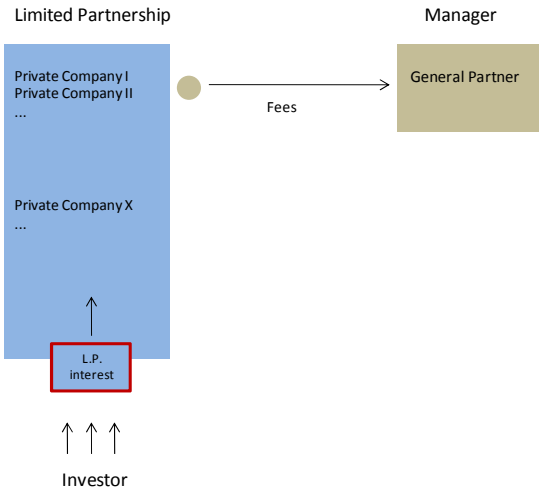

Figure1b: Listed Indirect Private Equity Investment Company (Funds of Funds)

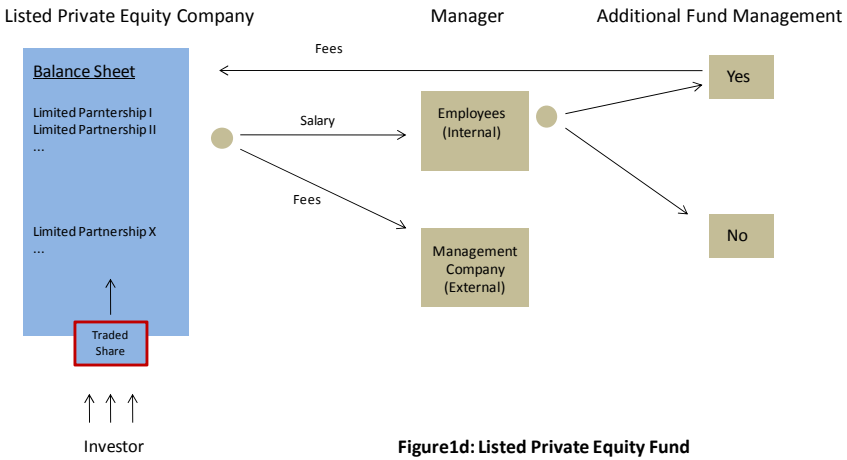

Figure1c: Listed Direct Private Capital Investment Company

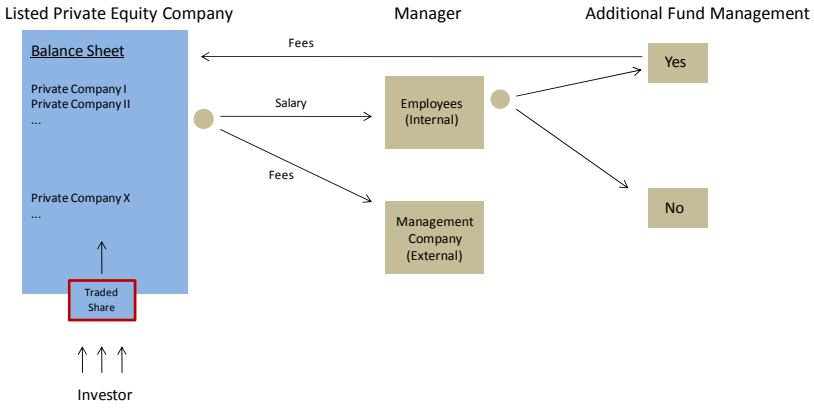

Figure1d: Listed Private Equity Fund Managers

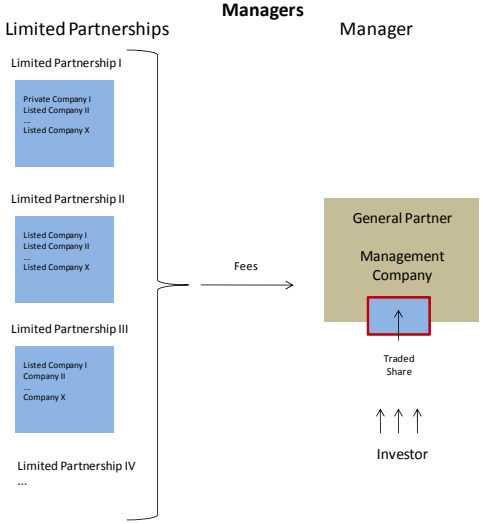

Figure 2

Figure 2 shows the historic evolution of the listed private equity base universe. The base universe only contains the companies currently listed on an exchange. Non-surviving companies are excluded.

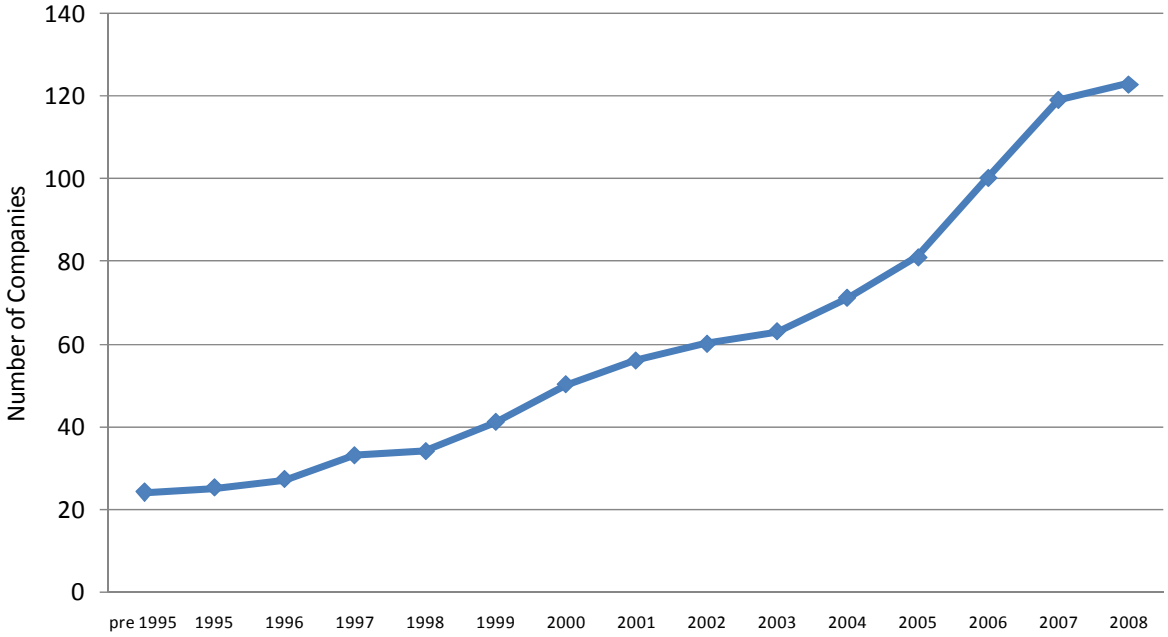

Figure 3

Figure 3 presents pie charts on geographical allocation (a), fund management (b,c), financing styles(d), investment styles (e), categorization of the listed private equity universe as of 30 January 2009.

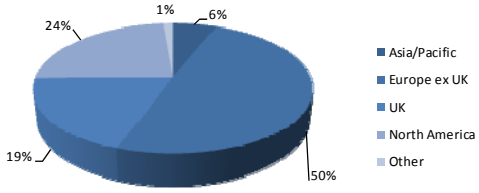

Figure 3a: Regional Breakdown of the LPE Universe
(USD Market cap. weighted)

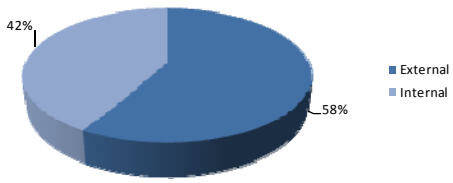

Figure 3b: External vs. Internal Fund Management
(Number of Companies)

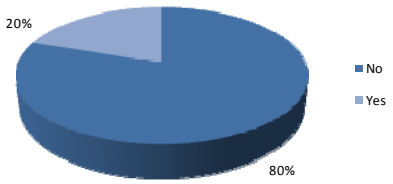

Figure 3c: Additional Fund Management
(Number of Companies)

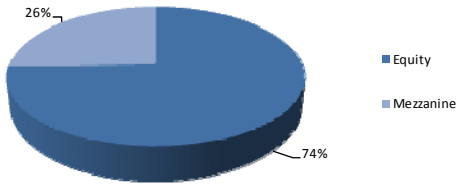

Figure 3d: Financing Style
(Number of Companies)

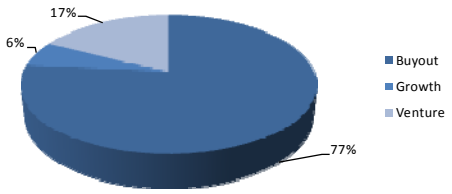

Figure 1e: Investment Style
(Number of Companies)

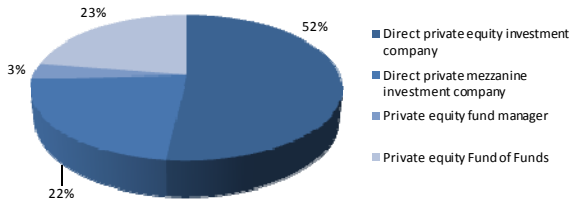

Figure 3f: Categorization of the global LPE Market
(Number of Companies)

Table1

Table 1 shows a breakdown according to market capitalization into the four categories: listed direct private equity investment companies, listed direct mezzanine capital investment companies, listed indirect private equity investment companies and listed private equity fund managers as of 30 January 2009.

Listed Direct Private Equity Inverstment Companies

USD billion

Region	Number	Market Cap	Investment Style	Number	Market Cap
Asia/Pacific	7	1.86	Buyout	3	0.44
			Growth	1	0.16
			Venture	3	1.26
Europe ex UK	32	11.16	Buyout	21	10.54
			Growth	5	0.16
			Venture	6	0.45
North America	7	2.76	Buyout	5	2.61
			Growth		
			Venture	2	0.16
UK	16	3.56	Buyout	10	2.80
			Growth		
			Venture	6	0.76
Other	1	0.42	Buyout	1	0.42
			Growth		
			Venture		
Total	**63**	**19.77**		**63**	**19.77**

Listed Direct Mezzanine Capital Investment Companies

USD billion

Region	Number	Market Cap	Investment Style	Number	Market Cap
North America	22	3.93	Buyout	20	3.70
			Growth		
			Venture	2	0.22
UK	6	0.73	Buyout	6	0.73
			Growth		
			Venture		
Total	**28**	**4.65**		**28**	**4.65**

Listed Indirect Private Equity Investment Companies

USD billion

Region	Number	Market Cap	Investment Style	Number	Market Cap
Asia/Pacific	1	0.01	Buyout	1	0.01
			Growth		
			Venture		
Europe ex UK	15	2.26	Buyout	13	1.99
			Growth	1	0.20
			Venture	1	0.08
UK	11	1.55	Buyout	10	1.48
			Growth		
			Venture	1	0.07
Total	**27**	**3.82**		**27**	**3.82**

Listed Private Equity Fund Manager

USD billion

Region	Number	Market Cap	Investment Style	Number	Market Cap
Europe ex UK	2	1.83	Buyout	2	1.83
			Growth		
			Venture		
North America	1	0.78	Buyout	1	0.78
			Growth		
			Venture		
UK	1	0.03	Buyout	1	0.03
			Growth		
			Venture		
Total	**4**	**2.64**		**4**	**2.64**

Table 2

Table 2 shows the distribution of the sum of the underlying portfolios of a representative sample of listed private equity companies as of 30 January 2009.

"Balance Sheet" of Global Listed Private Equity

Assets	USD billion		Equity and Liabilities	USD billion			
Private Equity Portfolio Direct	56.44		Liabilities	29.28	30%		
		84%					
Private Equity Portfolio Indirect	12.06		Net Assets (Equity)	65.57		64%	"Discount"
Cash and Cash Equivalents	10.98				70%		
Listed Investment Portfolio	6.98						
Real Estate Investment Portfolio	1.20						
Infrastructure Investment Portfolio	0.58						
Investment Funds	0.46	16%				36%	Market Capitalization
Hedge Funds	0.39						
Other Assets	5.74						
Total	**94.84**	**100%**	**Total**	**94.84**	100%		

Figure 4

Figure 4 shows the performance of the LPX50 TR in comparison with the MSCI World and Nasdaq Composite. All indices are calculated in USD.

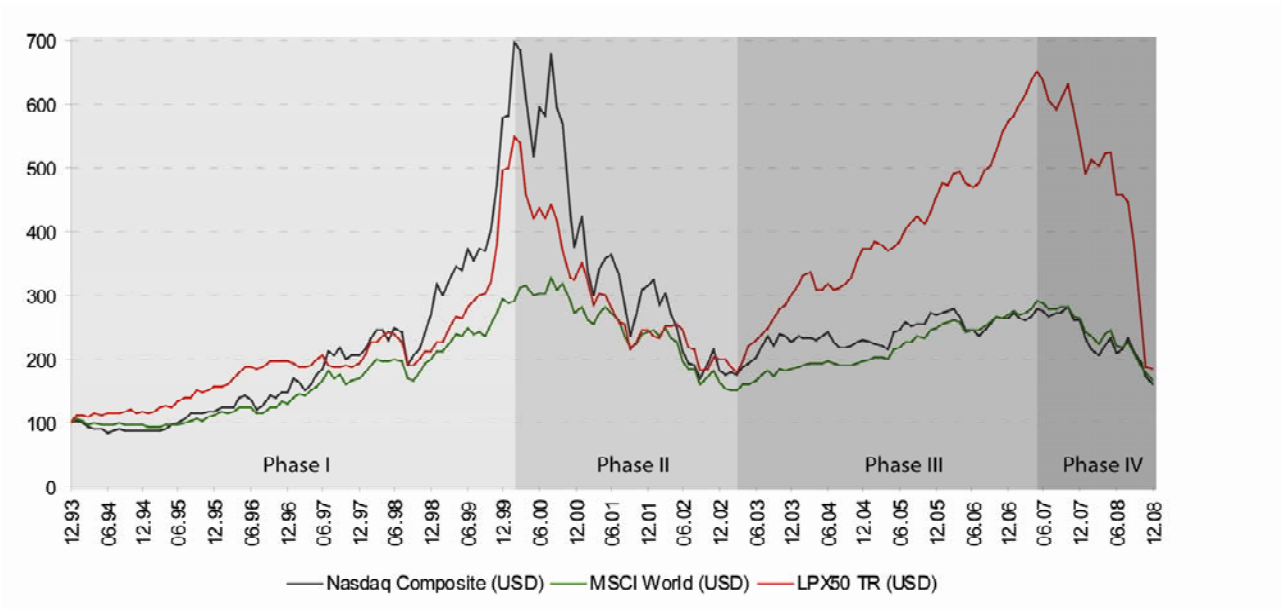

Table 3

Table 3 shows risk and return figures for four different periods between January 1994 to December 2008 for the LPX50 TR, MSCI World and Nasdaq Composite. Return is annualized over the relevant period. Risk is calculated as the annualized standard deviation over the relevant period. All figures are calculated on a USD basis.

	LPX50		**MSCI World**		**Nasdaq Composite**	
	Return	Risk	Return	Risk	Return	Risk
Phase 1 January 1994 - February 2000 *Index Launch until high-tech boom*	31.81%	18.47%	18.84%	15.69%	37.05%	24.70%
Phase 2 March 2000 - March 2003 *Burst of the "dot-com bubble"*	-30.29%	24.70%	-19.12%	19.87%	-36.01%	40.51%
Phase 3 April 2004 - June 2007 *"Buyout Boom"*	34.50%	11.83%	16.39%	9.15%	11.19%	14.57%
Phase 4 July 2007 - December 2008 *Credit crunch - financial crisis*	-56.04%	41.66%	-30.68%	17.53%	-30.00%	22.98%

Table 4

Table 4 shows the correlation between selected asset classes. Correlations are calculated on a monthly basis based on historical data from January 1994 to December 2008.

Asset Class	Stocks Global	Real Estate Global	Bonds Global	Infra-structure Global	Private Equity Global
Stocks Global	**1.000**				
Real Estate Global	0.423	1.000			
Bonds Global	0.371	0.127	1.000		
Infrastructure Global	0.686	0.517	0.050	1.000	
Private Equity Global	**0.772**	**0.442**	**0.002**	**0.659**	**1.000**

Asset Class	Underlying Index
Stocks Global	MSCI World TR
Real Estate Global	FTSE European Real Estate
Bonds Global	JPM Global Government Bond
Infrastructure Global	NMX30 TR
Private Equity Global	LPX50 TR