

TUAC Labour/Management Seminar on
“Financialisation of the Economy: Regulating Private Equity”
12 November 2007
OECD, Room G

ROOM DOCUMENT

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26-27 October 2007, Berlin.

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Paper prepared for the conference "Finance-led Capitalism? Macroeconomic Effects of Changes in the Financial Sector", 11th Workshop of the Research Network *Macroeconomic Policies*, 26-27 October 2007, Berlin.

1. Introduction

As the amount of capital under control of and the number and size of investment deals made by private equity (PE) firms reaches new highs each year, and as the location of PE investment has spread outside the Anglo-Saxon countries, the debate on the economic and social impact of PE has intensified. In conjunction with the activities of hedge funds (HF), which have also experienced a rapid increase in number and amount of administered capital in the beginning of the 21st century, the rise of PE has also triggered an academic discussion on whether a new era of "finance-led capitalism" has emerged, in which financial criteria have (re)acquired dominance over "real economic" and social criteria in investment and production decisions (Boyer 2000; Stockhammer 2007).

Two views have dominated the debate on interpreting the economic and social impact of PE.¹ The first view, underpinned especially by the work of Michael Jensen, has focused on the positive impact of PE (Jensen 1988; Jensen 1989; Jensen and Meckling 1976). According to this view, PE can in many cases offer a superior solution to governance problems within the firm. In cases where management is inefficient and/or reaps private gains at the expense of shareholders, PE can better align the incentives of shareholders and management, resulting in a more efficient allocation of capital and possibly greater production efficiencies. As a result, the value of the firm increases, benefiting shareholders. Society is also supposed to gain, through less expensive and/or improved goods or services, and also from more jobs (or at least, more secure jobs/less job loss).

The opposing view, which as of this point has been more clearly articulated in the public debate than in mainstream political economy, focuses on the negative impact of PE. According to this point of view, PE firms are "locusts", whose gains come at the expense of other social and economic interests: 1) "financial engineering" results in PE gains at the cost of debtors, other shareholders, and the future interests of employees, simply due to changes in the financial structure of the firm (either through an increased debt/equity ratio, or through an extraction of resources through special dividends or other means); 2) operational efficiency gains are achieved by following the "low road", i.e. reducing wages, cutting employment, and possibly reducing R&D and capital investment in the short run to increase profits at the expense of long-run innovation (Socialist Group in the European Parliament 2007); and finally 3) tax subsidy for debt relative to equity allows for wealth transfers from taxpayers to PE investors.

¹ The exact definition of private equity varies from country to country, in some cases just including "buyouts" (i.e. transfer of ownership, and in many cases change in top management, of established firms), in other cases including "venture capital" (i.e. high-risk finance for startup firms). In this paper the term private equity will be used solely to refer to buyouts, excluding venture capital activity.

Although this debate for the most part has taken part on the micro-level, an increasing number of commentators are starting to make the links to macroeconomics. In addition to commentators from the scientific community who raise the question about the (re)emergence of “finance-led” capitalism and its implications for macro- and micro-economics, policy-makers and regulators are also raising questions about the macroeconomic impact of PE on financial stability. The extensive use of high-risk debt in PE transactions has led a number of central banks (ECB, Bundesbank, Bank of England) to raise questions about the possible destabilizing impact of PE, particularly if there is a slowdown in economic activity and/or interest rates continue to rise. The (often massive) increase in the debt-equity ratio of firms acquired by PE increases default risk substantially with a slowdown in economic activity. And since interest rates on debt are for the most part variable (typically some fixed premium above a standard short-term rate, e.g. 200 basis points over LIBOR), a large increase in interest rates can seriously cut into the cash flow of heavily-indebted firms. As the economic significance of PE activity increases, the threat of financial meltdown through large-scale default on PE-related bank loans also increases.

This paper aims at making a contribution to both the macro- and microeconomic debate on the social and economic impact of PE, and to offer a few recommendations for public policy. The second section analyzes the microeconomic anatomy of PE, offering an overview of the so-called “value drivers” of PE as well as the debate on whether PE gains are parallel with the gains of other actors (“win-win” situation) or come at the expense of these other actors. The third section reviews the available relevant empirical studies on PE. In general it is possible to say that there is a great heterogeneity in the role of PE, ranging from almost pure financial engineering to “win-win” situations for both PE and society. However, the lack of transparency in PE reporting creates a serious problem for evaluating the impact of PE, and as a whole there is not a strong case for a positive contribution of PE to investors and employees. The fourth section ties PE developments to macroeconomics, arguing that although the investment form PE may be new (outside of the US at least), PE in general is one of many specific manifestations of what Hyman Minsky would refer to as the risk-loving activity characteristic of highly speculative stages of financial activity (Minsky 1982; Minsky 1986). As such, the PE industry (as well as other vehicles for risk-loving behavior such as hedge funds) would be highly vulnerable to a sudden general increase in risk-aversion. The increasing difficulties of the PE industry since the real estate crisis in the US in the summer of 2007 would appear to be evidence in favor of this view.

The final section offers a number of public policy recommendations for consideration. The first recommendation is a major increase in the transparency of the PE industry and PE transactions, since the lack of transparency is a major barrier to making an informed judgment about the net impact of PE. The second recommendation is that, since the economic risks from the extensive use for debt appear to outweigh the benefits, tax law should be adjusted to remove favorable tax treatment of debt over equity. Third, a code for the behavior of PE firms, including the respecting of worker rights in line with the core philosophy of “social Europe”, should be developed with the participation of many social actors, such as the trade unions. Pressure should be applied on institutional investors (pension funds, insurance funds, etc.) to avoid investment in PE firms that do not respect this code. An increase in transparency (i.e. the first demand made) would make the implementation of such a code easier. Finally, regulators should put more pressure on banks to reduce the amount of high-risk lending activity to reduce systemic risks.

2. The Anatomy of Private Equity

In a nutshell, this section offers a schematic overview of the “nuts and bolts” of PE, as well as the possible positive and negative effects of PE investment.

The first distinction to be made is between the PE “fund” and the PE “firm” (see Figure 1). A PE fund is a pool of capital raised from a number of investors (often a quite large number), generally for a specific period of time (frequently for ten years). The funds raised are often in the form of “commitments” rather than in up-front paid-in capital. That is, capital is demanded (“drawn down”) from the investors in the PE fund as investments are made. This capital is as a rule invested in the equity of companies not listed on the stock exchange (i.e. “private” equity) – although often stakes may be taken in companies listed on the stock market, with the goal of delisting (taking them “private”) in the medium-run.

The PE fund makes its profit by selling its investments (packages of equity) at a higher price than for which they were acquired. At the end of the period of time (e.g. ten years) specified in the contract, the PE fund is dissolved and all remaining funds are returned to the investors, proportionate to their investment in the fund. Payouts to investors may also be made during the life of the PE fund, as investments are exited and no plans made to reinvest the funds.

A PE “firm” in contrast is an entity administering one or more PE “funds”. A PE firm includes the personnel (investment managers, finance specialists, etc.) needed to organize and administer a PE investment.² The investment managers in the PE firm will also typically invest some of their own capital in PE investments – although for larger funds and investments, this may be quite a small proportion of the total investment.

An important parameter for the structuring of specific PE investment deals is the amount of leverage used, i.e. the mix of equity and debt finance. The most conservative case would be the use of no additional leverage, i.e. the deal is financed 100% through the equity of the PE fund. This means that the PE fund acquires the existing equity in the firm 1-to-1. The amount of debt carried by the portfolio company (i.e. company invested in) would not increase under this scenario. Typically, however, PE finances its deals with some level of debt, which has the effect of increasing the debt level of the company. Let us take a case where a firm prior to purchase has a debt level of €0 million and an equity level of €100 million (i.e. debt-to-equity ratio of 0:1). The PE fund acquires the entire equity of €100 million through a deal structured 50 % with the PE fund’s own equity (€50 million), and the other 50 % (also €50 million) through bank loans, to be carried on the balance sheet of the acquired company (portfolio company). As a result, the new financial structure of the portfolio company is now €50 million debt and €50 million equity (i.e. debt-to-equity ratio of 1:1).

For the PE fund, the use of leverage potentially allows for an increased return along two dimensions: 1) current returns can be boosted as long as the interest rate paid on the debt is below the company’s return on capital (ROC) employed (debt plus equity), and 2) returns from exit can also be increased, since the lenders will generally require only repayment of principle plus some premium upon early exit from the investment. Leverage can also work on the “downside” if these conditions are not fulfilled: 1) if the return on capital (ROC) falls below the interest rate, then lenders’ prioritized claims on cash flow (for interest payments) will push return on equity below the interest rate (in the worst case in negative territory), and

² Generally, however, specialist law firms and investment bankers will also be drawn upon to execute individual investments.

2) if the exit sale price falls below the purchase price, lenders' prioritized claims to repayment of principle means that the earnings of the PE fund will suffer disproportionately.

To illustrate the "upside" and "downside" risks of leverage, we look at the effect of the two different capital structures (no leverage and 50% debt finance) on current profits and on capital gains. In the case of no leverage, return on equity (ROE) simply equals the return on capital (ROC) (see Table 1). When ROC is 10%, 5% and 0%, the profit for the PE fund is correspondingly 10%, 5% and 0%. When leverage is used, however, the upside profit rate is increased when ROC is greater than the interest rate paid on the debt. In the case where the interest rate is 5%, an ROC of 10% yields a profit rate of 15%, i.e. 5 percentage points higher than the no-leverage case. An ROC of 5%, which is exactly equal to the interest rate of 5%, results in a "neutral" profit rate of 5%. An ROC of 0%, however, results in a loss for the PE fund of -5%, since the interest rate on the bank loan must be paid first, even if absolute ROC is not sufficient to pay the interest.

Similarly, leverage can increase both the "upside" and "downside" potential for capital gains upon exiting the investment (see Table 2). In the case of no leverage, the profit for the PE fund is derived by simply subtracting the sales price from the purchase price (€100m). In the leveraged case, however, the principal on the bank loan has to be paid back first. In the case where the sales price is equal to the purchase price (€100m), the PE investor in both cases realizes zero capital gains. In the case where the sales price is €150m, i.e. €50m greater than the purchase price, the profit rate for the no-leverage case is 50% and for the leveraged case is 100%. In the case where the sales price is only 50m (i.e. a loss of 50m), the profit loss is 50% for the non-leveraged case versus 100% for the leveraged case.

Another important parameter is the fate and level of financial participation of existing management in the acquired firm. In some cases (particularly in smaller firms), top management itself will make a significant investment and acquire a significant proportion of the equity of the portfolio firm.³ The cases where existing management makes this investment (and stays in charge in the firm) are referred to as "**management buyouts**" (or **MBOs**). Cases in which a new (external) management team takes a significant equity stake and takes charge are referred to as "**management buy-ins**" (or **MBIs**). Cases in which management takes little or no stake are referred to as "**leveraged buyouts**" (or **LBOs**). LBOs can involve either the use of existing management, or replacement through a new management team, with empirically the majority of cases appearing to be in the latter category.

There are a number of different types of existing ownership, from which the portfolio company may be acquired from (types of sellers):

- Family firm (generally SME), which is held by one or a small number of owners. A frequent motive for divestment is the so-called successor problem, i.e. the existing owner/manager may be retiring, and the second (or third, or fourth....) generation may be lacking or may have no interest in taking over the firm
- Subsidiary of a large (often diversified) company, which may be exiting a specific country/region or product market. A frequently-stated motive for such divestment in the past decade has been pressure from shareholders for shareholder value through concentrating on core competencies and divestiture of non-core product lines.

³ The operative definition used by the German venture capital and private equity association for "significant participation" is that management acquires at least 10 percent of the share capital of the portfolio firm. Other definitions use a higher minimum level, or appear to use a more subjective definition of "significant".

- Government, which may be undertaking a program of privatization of public services or production. Motives here may be to raise money to fill budget deficits, the ideological belief that private ownership is a superior governance mechanism, or the belief that private provision may be cheaper (possibly through lower wages in the privatized company)
- Stock-market listed (“public”) company, which can be taken “private” by acquiring a minimum proportion of shares in the company.⁴ One argument used by PE firms is that many companies may be undervalued by stock markets (e.g. old economy firms were undervalued in the late 1990s/early 2000s, when the greatest interest was in “new economy” stocks; or alternatively, companies with two or more product lines may suffer a stock market discount). Another example of market failure here might be that companies with dispersed ownership structure may not have enough control vis-à-vis entrenched management, since small owners have too little incentive to pay the costs involved in active ownership. A single “private” owner on the other hand would have a large incentive to pay the costs of active ownership, since they would reap all of the benefits
- A PE portfolio company (so-called “secondary buyout”). A PE firm may feel that it is not achieving the returns it expected, and may seek a buyer to exit its investment. Another PE firm may be willing to pay a higher price than other potential buyers. The phenomenon of secondary (and sometimes even tertiary or even further....) buyouts appears to be increasing as the PE industry is getting “crowded”

A further important distinction is between the different types of exits a PE fund may make from its portfolio company, depending up what kind of buyer it finds for the company:

- IPO, or “initial public offering”, through which the portfolio company is brought (sometimes back) to the stock market. The PE fund offers a portion of the shares it holds to the general public for sale; the rest is generally held for at least a specified period of time (“lock-up period”). IPOs are generally held to be the most lucrative form of exit, since the price paid by the new shareholders (particularly during more speculative phases of the stock market cycle, when liquidity is plentiful) may be much higher than that which could be acquired from other types of buyers
- Trade sale, or sale to another company, generally which is already involved in the existing product line (and may be interested in entering a new country or increasing market share), or in a related product line and seeking expansion
- Secondary buyout to another PE fund (as described above)

A further important concept is the type of so-called value drivers (sources of profit) for PE funds. One useful typology is offered by Kaserer et al (2007: 94-99), drawing on Ecker et al (2005). This typology distinguishes between three different value drivers:

⁴ Many industrialized countries have “squeeze-out” provisions, which allow companies to force sales by existing shareholders and delisting from the stock market, once a minimum level of ownership has been reached (e.g. 90 percent or 95 percent of shares).

- Financial drivers, either in the form of financial engineering (e.g. changing of capital structure and tax liability), or financial arbitrage (i.e. taking advantage of different valuations offered for the same asset in different markets)
- Corporate governance drivers, either in the form of reducing agency costs (e.g. costs of reporting to stock market), of mentoring (e.g. advice from other portfolio companies), or in the form of reducing the conflict of interest between large and small shareholders
- Operative and strategic drivers, either in the form of increasing productivity/efficiency, or in improving the strategy of the company

The positive view of PE (e.g. Jensen) focuses on the positive contribution that the second and third drivers can make to the value of the firm and to society at large:

- Improvements in corporate governance can lead to a more efficient use of capital within the firm as well as in the economy as a whole, and efficiency improvements in general should have the effect of increasing welfare
- Improvements in operations should increase the competitiveness of the firm, at a minimum securing the jobs of existing workforce, in the best case however leading to increasing employment in the company itself (through greater demand for cheaper and/or improved products)

The negative (“locust”) view, however, focuses on the potential negative welfare impact of the first and second value drivers, i.e. PE funds benefit at the expense of other groups:

- Financial engineering may generate a profit for the PE fund, however, at the cost of either the previous group of shareholders or the purchasing group of shareholders. The previous group of shareholders may have sold at an “undervalued” price, or the new group of shareholders may be paying an “overvalued” price (perhaps by not adequately discounting the future probability of default due to an increased debt-equity ratio). Furthermore, banks may be underpricing risk insofar as the interest rate premium they are demanding does not reflect the true risk of default
- Improvements in operating efficiency may come mainly through “squeezing” labor: by reducing real wages and/or driving up productivity through large-scale layoffs
- Favorable tax rates for debt versus equity or for foreign relative to domestic investors lead to wealth transfers from society at large (taxpayers) to PE investors.

3. Who benefits from PE?

The answer as to which of these opposing views is correct is largely empirical, and requires a detailed review of the relevant studies. Not surprisingly, the PE industry has sponsored studies which show not only that PE investors enjoy financial returns above and beyond what they could get on the stock market, but also that society at large benefits, particularly through job creation. Most studies which attempt to compare PE investment under realistic assumptions with returns that would be gained from investment in the broad stock market, however, have shown clearly that PE investors do not really enjoy higher (risk-adjusted) financial returns.

Furthermore, an analysis of the more methodologically sophisticated studies on the real impact of PE fail shows that there is not a clear net benefit for society at large, at least when discussing employment and wage impact of PE investment.

As a general note, large-scale quantitative studies on the economic and social impact of PE have been rendered quite difficult due to the lack of transparency of the PE industry. On the fund level PE funds are generally not forced to publish data accessible to the public at large, and the quality and accuracy of information that can be gained through (as a rule quite expensive) data bases is questionable (see below for a discussion of this). On the company level (i.e. level of the firms that PE funds invest in) the reporting requirements for private (non-listed) companies vary considerably from country to country, as does the mode in which this information is made available to the public. Furthermore, companies often change name when they change ownership in the context of a PE transaction. As a result, it is virtually impossible (the only partial exceptions here are the US, and to a lesser extent the UK) to simply download a large dataset of PE-related companies with more information than sector, address, date of investment, etc. from the typical online data services – quite unlike the case for other kinds of studies, such as of listed companies, for which detailed information is available due to extensive publicity requirements.

This lack of large-scale quantitative data has forced empirical studies of PE to follow one of the following three strategies: 1) use the standard databases while accepting the accompanying danger of biased results, 2) use self-reported or "private" data from PE funds and/or institutional investors in PE, or 3) use case studies.

The first two strategies run the danger of providing overly-optimistic estimates of the impact of PE (as the more scientific studies in this group of studies admit), due to a number of systematic biases: firstly, the “survivorship bias”, since failed portfolio companies (in the worst case involving a total loss of jobs) are as a rule excluded from the analysis; second, there may be additional "selection bias", as the better firms among the survivors are overrepresented. Finally, in the case of self-reported data, there is a strong danger of “reporting bias”, since the reporting PE firms understand the potential public policy impact of the study and their self-interest in exaggerating the positive impacts of PE. The third strategy also runs the danger of examining non-representative cases, particularly when there is quite a small sample size.

Employment and Wage Impact of PE

Estimates of the "real" impact of PE investment on companies (employment and other real impacts such as wages, profits) vary quite widely from quite positive to negative. The most positive studies have been produced by the venture capital industry (associations or consultants for the industry). These optimistic studies include:

- British Venture Capital Association (BVCA) series of annual studies entitled “The Economic Impact of Private Equity in the UK”. The 2006 study (BVCA 2006) analyzed 1,457 answers from a survey of 5,700 potential respondents from buyout-financed or venture-capital financed companies. This study has the most optimistic estimate of employment growth in buyout-financed companies (an average of 7 % employment growth per year in the period under examination, the five years up to 2005/6). Sales growth was estimated at 10 % p.a. and R&D investment growth at 21

% p.a. In addition to the survivorship and potential self-reporting bias, another major weakness in this study is that the methodology used was not revealed in detail.

- Ernst & Young (2007) conducted a study of the 200 largest PE exits in North America and Europe in 2006 (100 largest in each of the two regions). For buyout-backed firms in Europe an estimate of 5% employment growth p.a. was derived. Symptomatic of transparency problems in the PE industry is the fact that E&Y were able to get detailed financial information on only 112 of these 200 transactions, even though they were all rather large. The survivorship bias in this study is exacerbated by serious selection bias: the largest (by deal value) exits were chosen, leading by definition to an overrepresentation of the most successful deals in this sample.
- A study sponsored by the European Venture Capital Association (EVCA) but performed by university researchers (Achleitner and Kaserer study 2005) had a less positive estimate of employment growth in buyout-financed companies in Europe of an average of 2.4 percent per annum. This however was significantly greater than the average employment growth of 0.7 percent in the same time period for companies as a whole in the EU-25
- Regarding the German situation, a study by PriceWaterhouseCoopers in cooperation with the German venture capital association (BVK) is overall positive on the impact of private equity, but as the most positive effects come from venture capital, the specific results for buyout investments can be seen in a more critical light (PWC 2005). Buyouts excluding “turnaround situations” (i.e. companies that make significant losses when they are purchased) averaged 4.4 percent employment growth “per financing round”. Since buyout financing rounds often lasts considerably more than a year, this average employment growth range would be in the 1-2 percent p.a. range. Profitability (EBIT) for these companies actually decreased by 1.9 percent per annum. For buyouts involving turnaround situations, profitability on average improved considerably, but an average of 29% of employment was lost. In conjunction with the survivorship and self-reporting bias involved in this sample, this study would suggest that employment is not increased in buyout-financed companies in Germany and that operations/profitability are not improved in normal (non-turnaround) buyout situations. An open question is whether the studies on the impact of PE in the UK and Europe are too optimistic, or whether the impact of PE in Germany is significantly less positive than in the UK and Europe as a whole.

More methodologically sophisticated recent studies have come to somewhat less optimistic assessments of the real impact of private equity. Practically all of the newer academic studies have involved one or more researchers from the Centre for Management Buyout Research in Nottingham, UK, which is financed by the PE industry. Some of the studies have relied at least in part on self-reported data from PE funds gathered under conditions of confidentiality. Even so, the studies have come to mixed results regarding the real impact of buyouts in the UK, particularly at the plant level.

- A plant-level study of UK MBOs found that productivity increased substantially (70 percent in the short run, 90 percent in the long run), together with an output reduction of about 50 percent and an employment reduction of about 61 percent (Harris, Siegel, and Wright 2005).

- A firm-level study of MBOs and MBIs in the UK (Amess and Wright 2006) found that employment relative to non-buyout firms increased on average for MBOs (0.51 percent p.a.) but decreased for MBIs (-0.81 percent p.a.). Furthermore, the impact of PE investment on wages was negative for both MBOs and MBIs relative to non-buyout firms (-0.31 percent and -0.97 percent p.a., respectively).
- One study focusing on industrial relations, however, were quite positive regarding the impact of PE on workers. A firm-level study of MBOs in the UK and the Netherlands claimed that MBOs in both countries lead to more employment, training, employee empowerment, and wages, with these effects being stronger in the UK than in the Netherlands (Bruining et al. 2005). A possible problem with this study is the reliance on manager self-reporting for data.

An alternative research strategy has been to focus on case studies of PE investments. In Germany, the Hans-Böckler-Stiftung (HBS) has sponsored a number of case studies of PE investments, as well as overviews of PE and hedge fund activity in Germany (available on the homepage www.boeckler.de). An expertise provided by Kaserer et al (2007) for the German federal government also analyzed five buyout cases in Germany: Wincor Nixdorf AG, Grohe AG, Celanese AG, Sulo GmbH, and Premiere AG.⁵

One of the most important findings of these case studies is that there is a great deal of heterogeneity between the strategies of different PE firms as well as among individual portfolio companies. The Kaserer et al (2007) expertise is generally positive on PE, claiming that the economic impact in five of the six buyout cases examined was positive. Wincor Nixdorf in particular appears to be one of the most successful PE stories in Germany. Only Celanese AG, which was taken private in 2004 only to be brought back on to the stock market in 2005, appeared to be a case where the value driver was mainly financial engineering/arbitrage. The HBS studies, which also focus more on industrial relations and the employment impact of PE, are as a whole more critical, although positive examples of PE investments are also identified. The first investor in Grohe AG, for example, allocated more money to capital investment and R&D. Generally, however, works councilors and trade unionists report a serious deterioration in the degree to which employee rights to information and consultation are respected when a PE firm steps in.

A large-scale quantitative study of Germany would need to make a serious effort to gather “objective” financial data from annual reports, based on selection of companies at the time of initial PE investment, as well as an accompanying survey of works councilors/trade unionists to evaluate the quality of industrial relations accompanying these investments, in order to judge if the “high road” or the “low road” to restructuring was followed.

Returns for PE Investors

The lack of a strong case for PE from the point of view of employment and wages is not surprising for the critical view of PE. However, a result that should be surprising for both the supportive (e.g. Jensen) and the critical view is that, on the whole, financial returns for PE investors have not outstripped investments in the broad stock market, neither on a relative and especially not on a risk-adjusted basis. One of the key justifications for PE is that investors

⁵ In addition, one case of venture capital financing (United Internet AG) and one case of a real-estate related buyout (Gagfah) were analyzed.

can gain a superior return from this form of “alternative investment” relative to other risky investments. For financial economists, not only the absolute return that can be gained from a specific asset but also the variability of this return (i.e. the amount by which it can deviate up or down each year) is important in measuring investment performance. If two alternative assets have the same absolute return over a period of time, the one with the lower variability will be considered as having the superior risk-adjusted return. If the difference in variability is great enough, an asset with lower absolute return but also lower variability may be superior on a risk-adjusted basis than the asset with a higher absolute return but also a much higher variability.

Supporters of PE claim that PE can generally be expected to have a return in the 10-15 percent p.a. range, i.e. significantly higher than the long-term historical return of 7-8 percent from the stock market and 3-5 percent from the bond markets. Furthermore, PE should have a lower variability than the stock market, since incremental gains can be realized each year. Finally, PE returns should be uncorrelated with other broad asset classes such as the stock and bond markets. A surprising result is that none of these three claims appears to be true.

An important concept for examining the returns to PE relative to other asset classes is the idea of PME (public market equivalent). Since PE funds do not draw down 100 % of the committed capital immediately upon initiating investment, and also return invested capital on a piecemeal basis up to liquidation of the fund, important questions for comparing returns are: 1) where the committed but not yet drawn-down funds are invested up until the time they are called for by the PE fund, and furthermore, where returned funds are invested until the PE fund is liquidated, and 2) what the exact comparison benchmark should be.

The PME concept assumes that the benchmark against which PE should be compared is investment in a broad class of assets that can be bought and sold on the market – typically in a broad stock market index such as the S&P 500 index (five hundred largest companies on the US stock markets) or the MSCI Europe index (largest European listed companies). Furthermore, capital that is committed but not yet drawn-down by the PE fund is also invested in this broad market index, and realized capital that is returned by the PE fund to the investor is reinvested in this broad market index.

Using this methodology, a PME value of 1 would mean that an investment in PE would gain exactly the same return as an investment in a broad market index. A PME value of 1.2 would mean that returns in PE were 20 percent higher than the market index, whereas a value of 0.8 would mean that returns were 20 percent lower.

Although this calculation method is data-intensive due to the need to calculate returns for quite a few data points for each fund, a number of recent studies have applied this method:

- A study by Kaplan and Schoar (2005) of PE funds utilizing the Venture Economics database (recently purchased by Thomson) and the S&P 500 as a benchmark found (net of management fees) for buyout funds a median PME return of 0.80 and average of 0.97 with equal weighting of each fund and a median PME return of 0.83 and average return of 0.93 when weighting funds by size, i.e. all results were less than one.

- One of the most methodologically sophisticated studies to date on the issue of PE returns found not only a systematic bias in favor of better-performing funds in the publicly-available data bases but also a strong tendency to overstate returns due to the practice of retaining "living deads" on the balance sheets of PE funds (Phalippou and Gottschalg 2007). These are firms which are for the most part practically no longer functioning (e.g. they have not generated any cash flow in the past few years), but are still retained on the balance sheet of the PE fund. These "living deads" overstate overall PE fund performance by about seven percent. Correcting for these two factors, overall PE average performance for buyout funds is 0.95, i.e. an underperformance of the S&P 500 over the period examined of -1.65 percent per annum.
- Another of the more sophisticated of the studies on PE returns (Diller and Kaserer 2007) examined a sample based on all PE funds that had been entirely liquidated as well as samples with residual values (i.e. "living deads") of less than 10 percent and less than 20 percent of total capital. For the formally liquidated buyout funds the PME had an average value of 0.90 and a median value of 0.89. For the samples with less than 10 percent and less than 20 percent non-liquidated values the average PME returns were 0.94 and 1.06, respectively, and the median PME returns were 0.86 and 0.92, respectively. In other words, with the exception of the average performance of PE funds with "living deads" of up to 20 percent of the fund value, all estimates were less than one.

In addition to the incorrectness of this first claim (i.e. that PE buyout fund relative returns beat the stock market, a second claim made by PE supporters also appears to be incorrect, namely that the relative volatility of PE returns is lower than the stock market. This claim was examined by comparing the volatility of stock market returns on the S&P 500 and MSCI Europe with the volatility of PE fund returns estimated by a variety of studies (Kaserer et al. 2007: 183-184). In all cases the volatility of returns from buyout funds (both average and median returns) exceeded the volatility of the S&P 500, and in most cases they also exceeded the volatility of the MSCI Europe index.

Finally, a third claim of PE supporters, i.e. that PE returns are not highly correlated with other asset classes such as stocks and bonds, also does not appear to hold. A study of the drivers of PE fund performance showed that PE fund returns are highly correlated to both the level of interest rates and the trajectory of the stock market (Phalippou and Zollo 2006).

4. Macroeconomics and Private Equity

This section attempts to situate trends in the PE industry in a macroeconomic context. The increasingly popular "financialization" thesis is that we have reached a new stage of development in capitalism, and the trends in the PE industry as well as financialization in general can be expected to continue for the foreseeable future. The view I develop here however only partially agrees with this thesis. I agree insofar as key developments such as the rise of the new financial investors are in all likelihood irreversible; however, I would disagree in the sense that recent developments cannot be linearly extended into the future. Instead, much of recent PE activity can be attributed to cyclical factors, in particular the strong tendency towards speculative activity and the "mispricing" of risk (strong taste for risky assets). In doing so I draw upon the work of Hyman Minsky.

In a nutshell, Minsky's work can be used to identify three different stages in the financial system cycle:

1. Risk-averse phase, characterized by extreme investor avoidance of risky assets (such as stocks) relative to less risky assets (such as government bonds, bank deposits, or even gold).
2. Normal phases, in which return on different types of assets have some reasonable relationship to the level of risk involved: riskier assets carry some level of “risk premium”, for example stocks are expected to return more than government bonds in the long run (7-8 percent versus 3-4 percent), although in the short run they may lose up to 50% of their value. Higher quality stocks (e.g. AAA) will have a higher valuation than lower quality stocks) (e.g. B- or lower).
3. Speculative phases, in which the risk premium turns negative: investors are actually willing to pay more for riskier assets than for less risky assets. The valuations on riskier stocks will actually be higher than for less risky stocks. Risky investments during these speculative phases are often financed heavily with debt, such as buying stock on margin from brokers (i.e. stock purchases are financed only in part through cash purchases, the rest comes from loans).

Normally, financial systems fluctuate between phase 1 and phase 2 of the cycle. If the financial system is in phase 1, a typical condition during recessions or depressions, the job of the central bank is to reduce interest rates and increase liquidity to move the financial system into the “optimal” phase (i.e. phase 2). When financial systems become too exuberant, and phase 2 shows signs of threatening to change into phase 3, the central bank should “take the punch bowl away from the party” and slow down speculative froth, if necessary initiating a period of phase 1.

However, during some periods of history, financial systems have entered extended periods in which phase 3 is dominant. Arguably the world financial system has been in such a phase – with relatively brief interruptions (Asian/LTCM crisis in 1998, new economy crash of 2000/1), since the mid-1990s. According to this argument, a significant proportion of capital has become speculative, in the sense that it is seeking returns significantly greater than the 7-8 percent per annum offered by the traditional “blue chip” stock market, and is willing to pay a premium for this higher risk. Examples of these types of investment include:

- New economy (internet, biotech) stocks (2nd half of 1990s)
- Emerging market stocks (2nd half of 1990s, again since mid-2000s)
- Hedge funds (since mid-1990s)
- Venture capital (2nd half of 1990s)
- PE buyout funds (since stock market crash 2000/1)
- Commodity funds (since stock market crash 2000/1)
- High-risk debt (since stock market crash 2000/1)
- Derivatives (futures, options, swaps, etc.) based on the previous assets

There are numerous indicators supporting this hypothesis. One set of indicators relates to the amount of investment flowing into these assets. A second relates to the risk spreads between these different types of assets: risk spreads between higher and lower risk assets in many of these categories have reached historical lows or even turned negative since the mid-1990s.

Figures 2, 3 and 4 illustrate various indicators for this increasing taste for risk and lower risk premia paid for this risk.

In this context, PE can be seen as one important vehicle for this third speculative phase of the Minsky cycle. As one indicator for speculative activity, the expectations for returns from PE are significantly higher than from blue chip stocks; typical for these expectations are the values in the range of 10-15 percent range per annum, as opposed to 7-8 percent for the stock market. A second indicator is the heavy use of (high risk) debt to boost returns, both for the PE fund and for the lender.

The amount of capital allocated to PE has grown tremendously in the past decade, particularly in countries like Germany where it historically has played a very modest role. In Europe, funds raised by PE funds have increased from €20 billion p.a. in 1997 and 1998 to €112 billion in 2006 (see Figure 5).

Indicators of overheating / crowding are the increased use of leverage in PE transactions, higher price/earnings multiples, and an increasing proportion of exits accounted for by secondary buyouts (i.e. portfolio companies are merely reshuffled from one PE fund to another). Figure 6 shows that the purchase price and debt load multiples (i.e. acquisition price paid for the firm and level of debt measured as a ratio to EBITDA earnings) have increased roughly 30-40 percent since the early 2000s. Figure 7 shows that the proportion of secondary buyouts (i.e. firms whose ownership is transferred from one PE fund to another) has increased in the past few years, and actually exceeded the value of "new" buyouts in the first half of 2007. A study conducted by the European Central Bank indicates that the exposure of large banks to buyout-related debt has increased massively in the past few years, and the danger of systemic risk to the banking system must be examined closely. For the upper quartile of banks (i.e. banks with the highest exposure), buyout-related debt now represents about 25 percent of "Tier 1" capital, as defined under the Basle Capital Adequacy Standards (see Figure 8). A series of defaults on buyout debt could rapidly erode this bank capital, possibly forcing these banks to cut back on lending activity and thus having a negative effect on economic growth in Europe.

One implication of the view of the relationship of the "third phase" of the Minsky cycle with the development of the PE industry is that the current level and characteristics of PE activity is not necessarily a permanent feature of the modern financial system. As we move back from the third to the second or even first phase, both the level and the speculative degree of PE activity should decrease. Since it is not clear when a more restrictive macro policy will be instituted, and whether this restrictiveness would be sufficient to curb the socially negative types of PE activity, it is also important to consider what sort of direct regulations and voluntary restraints might be desirable.

5. Policy Recommendations for Private Equity

On the whole, a critical analysis of PE activity fails to show a clear gain for either PE investors or for employees. Given the heterogeneity of PE activity, however, which spans from "win-win" cases for both society and PE investors to clearly exploitative activity, it would be desirable to consider what type of regulatory regime would discourage negative PE investments while at the same time encouraging (or at least not discouraging) the positive cases. In other words, neither a laissez-faire approach nor an outright ban on PE activity would be desirable.

On the basis of this approach, the following policy recommendations for the regulation of PE would make sense:

- The transparency of PE activity, including more detailed and publicly-available financial and social reporting on portfolio companies, as well as on PE funds themselves, needs to be dramatically improved.
- In many countries (e.g. Germany) PE firms and funds are not subject to regulation through a public authority. PE firms and funds should be required to register with such an authority, which could be either an existing financial markets regulator, or a central bank. This registration should include a check on the qualifications and track record of top managers planned for the PE firm.
- Regulatory standards should be developed which define dangerous debt-equity ratio levels, and financial engineering measures which increase the debt-equity ratio above this level should be prohibited.
- Tax law should be altered with the goal of eliminating subsidies for speculative PE activity through the tax system (e.g. favorable tax treatment of debt capital).
- Employee rights to information, consultation, and codetermination in the case of PE transactions need to be strengthened, and a "code of conduct" for PE firms should be developed.
- Pressure needs to be applied on institutional investors (pension funds, mutual funds, insurance companies, etc.) to discourage investment in PE funds which do not fulfill transparency and worker information/participation requirements and respect the code of conduct.

Figure 1: Structure of Private Equity

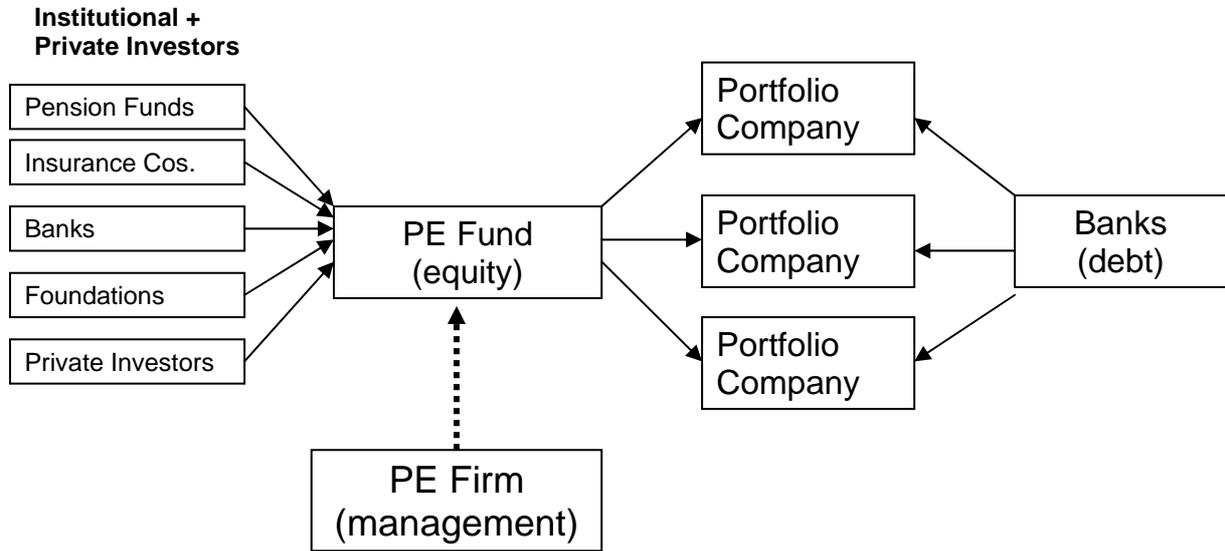


Table 1: Effect of Leverage on Current Profits

	Debt	Equity	ROC	Interest Paid (5% rate)	Profit (Rate)
Case 1: No leverage	0m	100m	10m (10%)	0m	10m (10%)
	0m	100m	5m (5%)	0m	5m (5%)
	0m	100m	0 (0%)	0m	0m (0%)
Case 2: 50% leverage	50m	50m	10m (10%)	2.5m	7.5m (15%)
	50m	50m	5m (5%)	2.5m	2.5m (5%)
	50m	50m	0 (0%)	2.5m	-2.5m (-5%)

Table 2: Effect of Leverage on Capital Gains

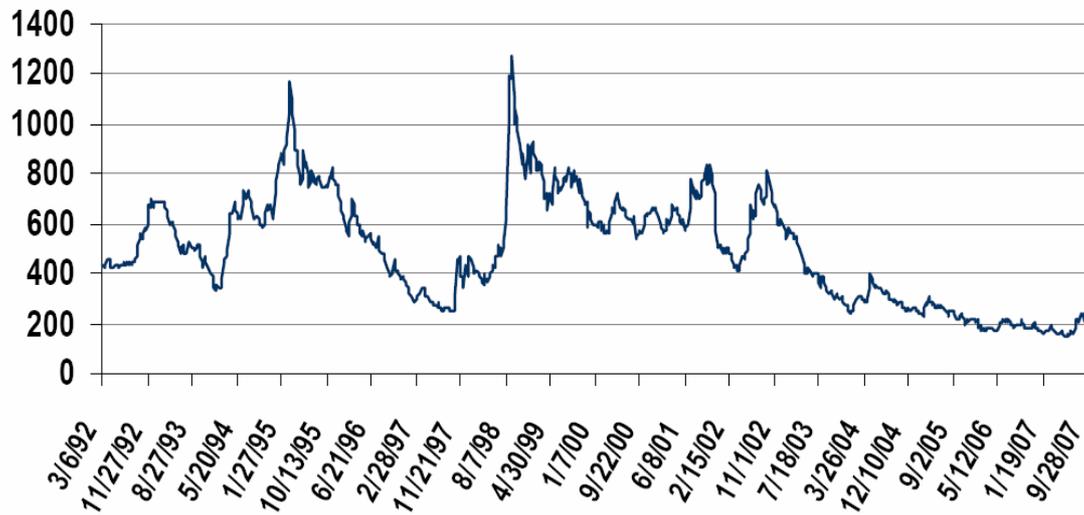
	Debt	Equity	Sale Price	Sales Profit (Rate)
Case 1: No leverage	0m	100m	150m	50m (50%)
	0m	100m	100m	0m (0%)
	0m	100m	50m	-50m (-50%)
Case 2: 50% leverage	50m	50m	150m	100m (300%)
	50m	50m	100m	50m (100%)
	50m	50m	50m	-50m (-100%)

Table 3: Summary of Relevant Studies on Real Impact of PE

Study	Sample	Employment Growth
BVCA (2006)	UK Buyouts	7 % p.a.
Ernst & Young (2006)	US + Europe (200 largest buyout exits)	5 % p.a.
EVCA (Achleitner + Kaserer) 2005)	European buyouts	2.4 % p.a.
PWC/BVK	German BOs – turnaround -- „normal“	29% per round (EBIT + 56.7%) 4.4% per round (EBIT -1.9%)
Harris et al (2005)	UK buyouts – plant-level	Employment loss 61%, output loss 50%, productivity up 90%
Amess and Wright (2006)	UK buyouts – firm level (relative to non-buyout firms)	MBO: Wages -0.31% p.a. Employment +0.51% p.a. MBI: Wages -0.97% p.a. Employment -0.81% p.a.

Figure 2: Decreasing Risk Premium for Emerging Market Debt versus 10-Year US Treasuries

Emerging Market Sovereign Spread vs. 10-year Treasuries



Source: Merrill Lynch Bond Indices

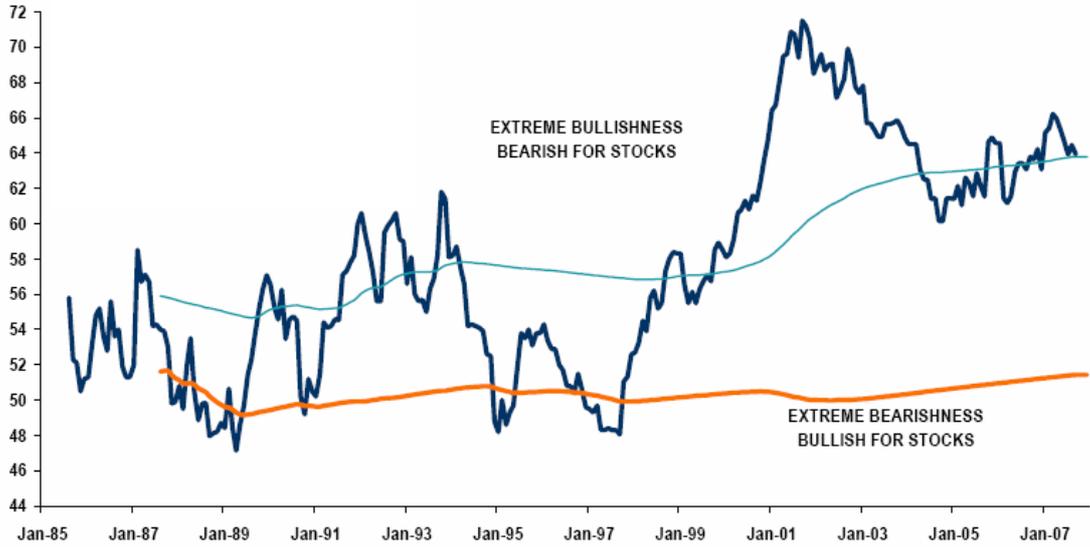
Figure 3: Decreased Demand for High-Quality Debt

Global AAA-rated Corporate debt as a % of total



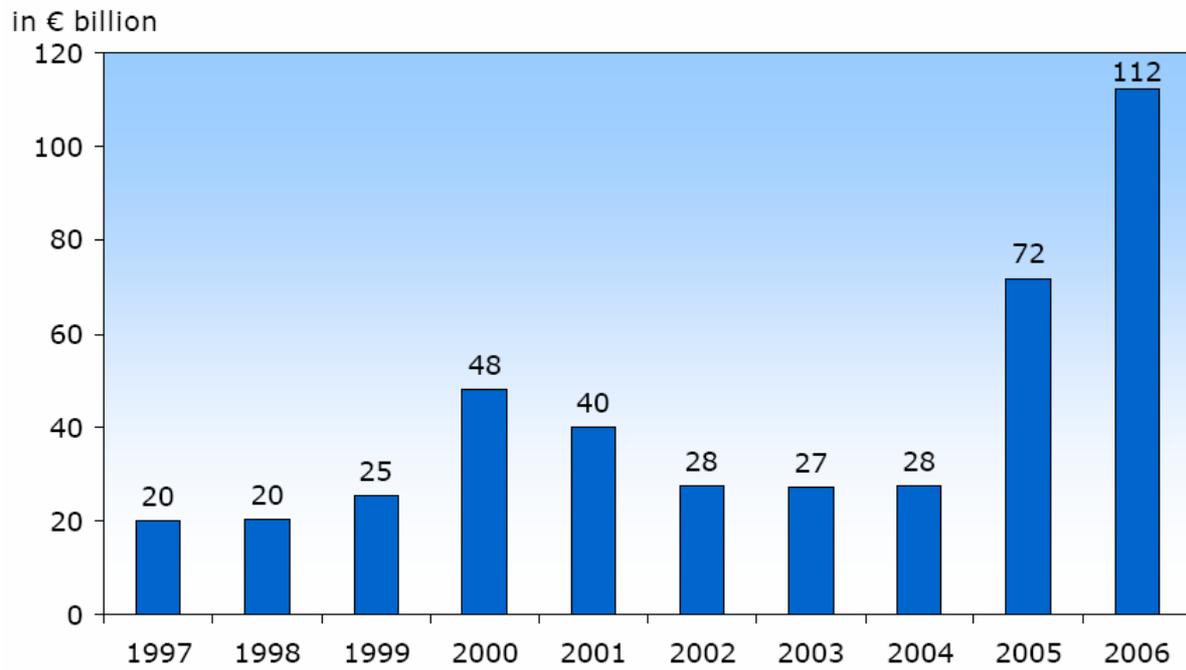
Figure 4: Wall Street Investment Bank Asset Allocation Recommendations

% of portfolios
allocated to stocks



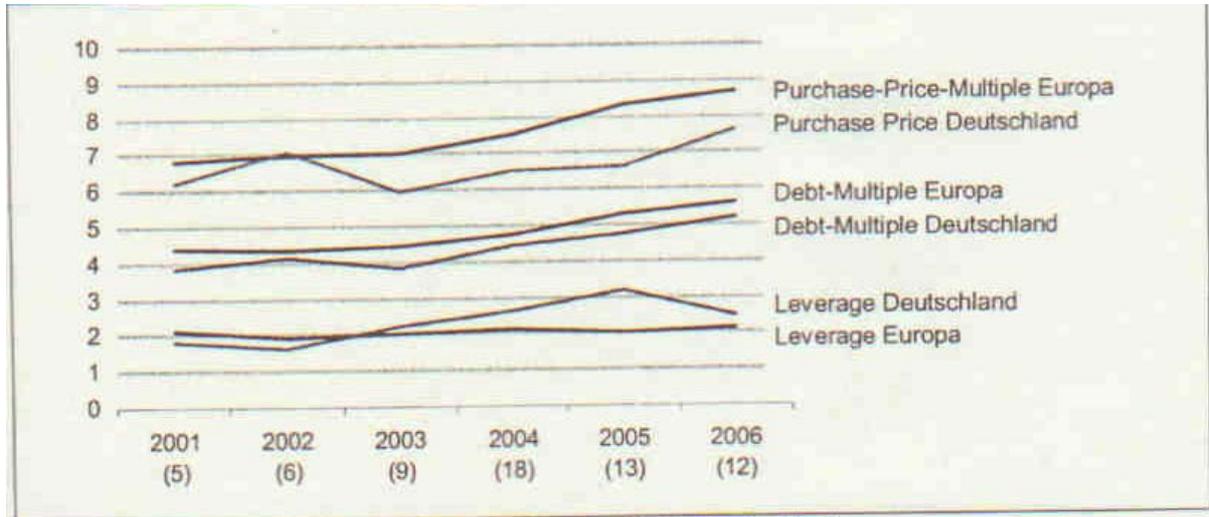
Source: Merrill Lynch Investment Strategy

Figure 5: PE Fundraising Activity in Europe



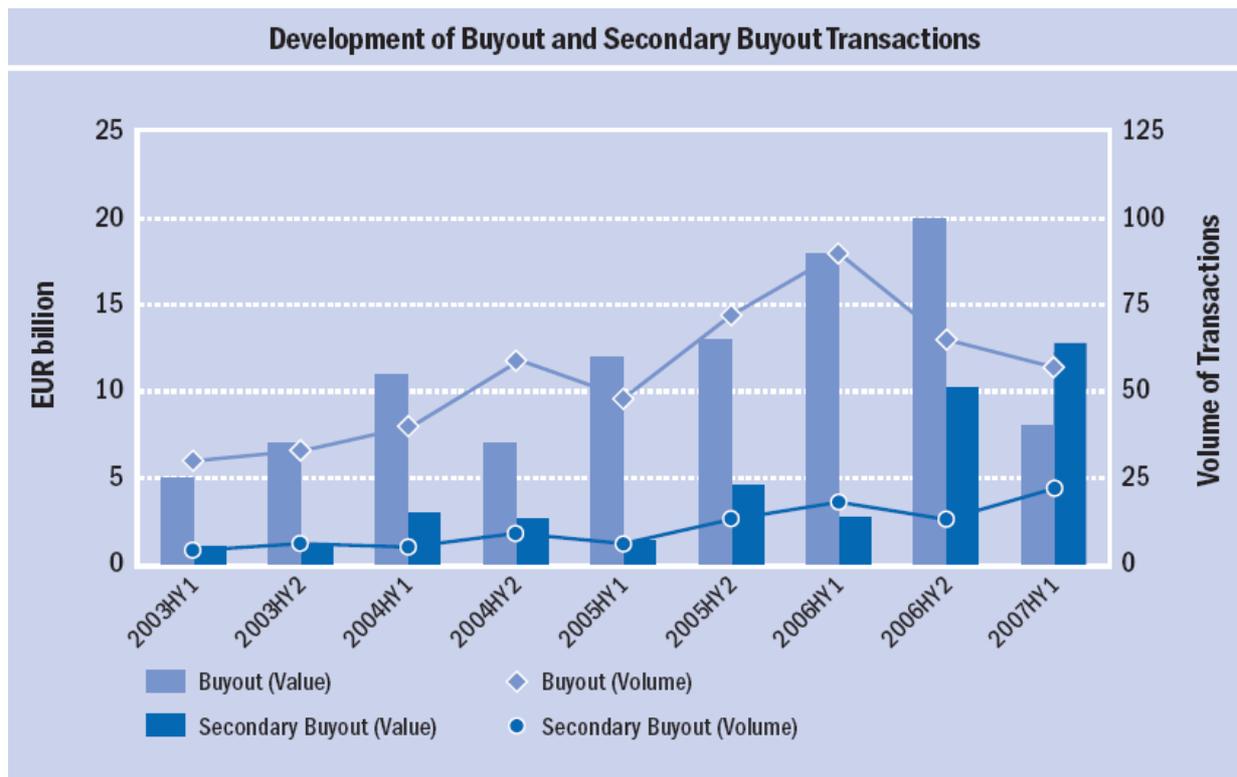
Source: EVCA/Thomson Financial/PricewaterhouseCoopers

Figure 6: PE Purchase Price and Debt Load Multiples



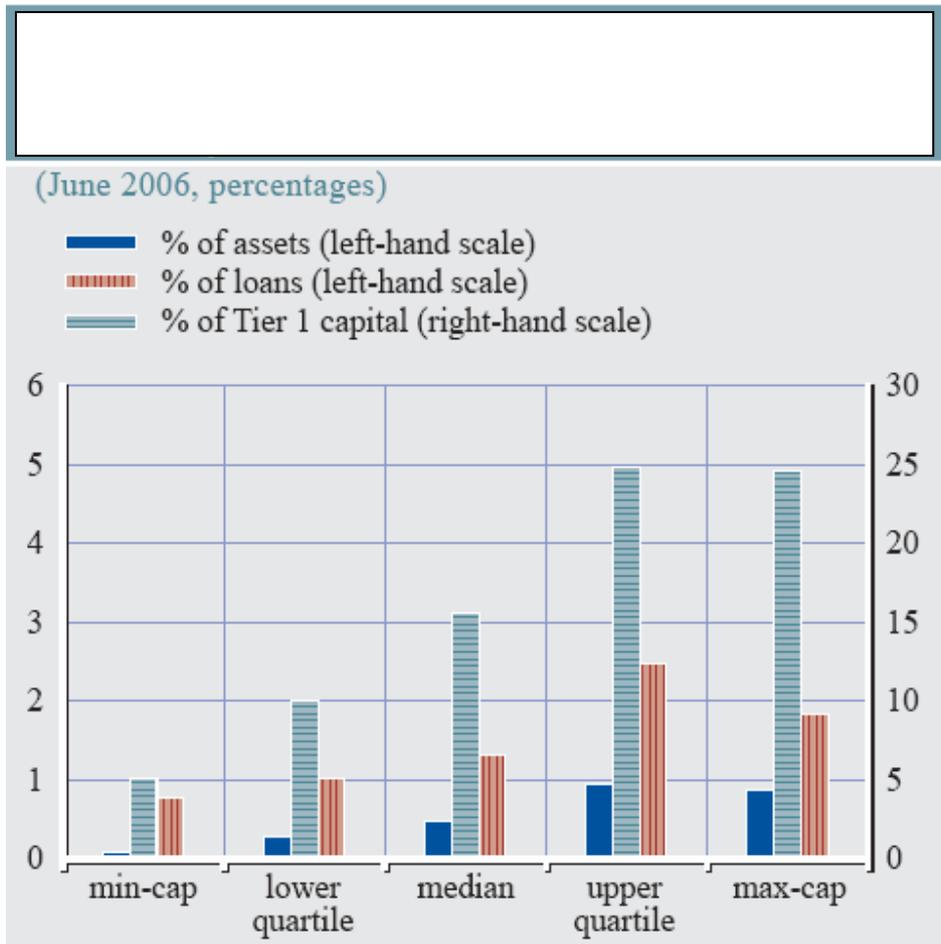
Source: Kaserer et al (2007: 209)

Figure 7: Development of "New" and Secondary Buyout Transactions in Germany



Source: Ernst & Young (2007: 6)

Figure 8: EU banks' LBO net exposures as share of total assets, total loans and tier 1 capital



Source: ECB (2007: 21)

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