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**Article**

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## Why Private Equity Investors Buy Dear or Cheap in European Leveraged Buyout Transactions

By André Betzer, Bonn

### I. Introduction

The development on the global and European stock exchanges after the burst of the new economy bubble has led to uncertainty among institutional investors. As a consequence, so called alternative investments such as Private Equity (PE) have become more and more attractive and financially remunerative. The Private Equity Performance Index (PEPI)<sup>1</sup> of the American Institute “Venture Economics” has beaten the benchmarks NASDAQ and S&P 500 by 10.5% and 0.8% respectively over the three year time horizon from 09/30/2000 to 09/30/2003.<sup>2</sup> In particular, going private transactions have become more and more attractive to institutional investors due to low interest rates in the EURO-Zone and low equity valuations on the European equity markets. In the year 2003, 96 companies with a deal value of 20 billion Dollar were taken private, compared to 73 in 2002 and 83 in 1999, the previous record year in European markets.<sup>3</sup>

In the context of this paper a Leveraged Buyout (LBO) shall be defined as the Going Private of a publicly listed company via LBO. In the course of the transaction, 100% of the publicly-listed company’s share capital is

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<sup>1</sup> The Private Equity Performance Index is based on statistics from Thomson Venture Economics’ Private Equity Performance Database analyzing the cashflows and returns for over 1600 US venture capital and private equity partnerships with a capitalization of \$534 billion. Sources are financial documents and schedules from Limited Partners investors and General Partners. All returns are calculated by Thomson Venture Economics from the underlying financial cashflows. Returns are net to investors after management fees and carried interest.

<sup>2</sup> The 5 year and 10 year Private Equity performance remains also significantly better than the performance of the NASDAQ and the S&P 500. 6.7% and 13,3% (PEPI) have to be seen alongside 1.1% and 8.9% (NASDAQ) and -0.4 and 8.1% (S&P 500). These results stem from the database Thomson Venture Economics (02/24/2004).

<sup>3</sup> Source: [www.financialnewsonline.com](http://www.financialnewsonline.com).

bought via tender offer and the company is subsequently de-listed. As commonly practised in LBOs, the total funding needs – purchase price, refinancing of existing debt and transaction cost – are predominantly debt-financed with the equity being provided by financial investors and to a lesser extent by the company's management.<sup>4</sup>

Various studies for the US market (e.g. De Angelo/De Angelo/Rice 1984, Lowenstein 1985 and Lehn/Poulsen 1989) show that commonly significant premiums within the scope of 35% to 56% are paid in Going Private transactions. The premium is the difference between the offer price paid by the PE-sponsor – e.g. KKR, Alchemy etc. – in order to acquire the target company and the stock price one day before the announcement of the acquisition.

The contribution of this paper is threefold: Firstly, this is the first study that investigates premiums paid to shareholders in course of LBO transactions in Europe whose capital market structure and shareholder protection standards are fundamentally different from the US. La Porta et al. (2002) have shown that outside investors are willing to pay more for their assets in countries where shareholder laws are well enforced and their rights are adequately protected. The US and the UK where the common law prevails are countries where shareholder protection is well enforced. Unlike in Continental Europe where civil law predominates shareholder protection is badly implemented. Following this argumentation, premiums in Continental Europe should be higher than in the UK because in civil law countries companies should be traded with a discount for bad investor protection. A counter-argument to the preceding argumentation could be that Continental European capital markets are less developed (inter alia in terms of the role of takeovers in changing corporate control and the number of IPOs) than the UK market and therefore the exit possibility for the Private Equity Investor is much better in the UK. Furthermore, restructuring measures such as discharge of labour are better enforceable in the UK because labour legislation is much more flexible there. These reasons militate in favour of the fact that premiums in the UK are higher compared to Continental Europe.

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<sup>4</sup> Currently an average of around 70% of total funding needs in European LBO transactions is debt-financed. See: S&P LCD QII 2003. Generally, "leverage" can be measured in 2 ways: as the extent to which the transaction value is financed with debt (usually reflected by the debt/equity or debt/transaction value ratios) or alternatively as the extent to which the company's cash flows are burdened with debt (usually reflected by the Debt/EBITDA ratio).

Secondly, I am the first who analyze the influence of company's stock price performance in the past<sup>5</sup> and company's shareholder structure on the acquisition price after the buyout announcement.

Thirdly, empirical studies for the US market were conducted in the 1980s and early 1990s, when the US LBO market reached its zenith. The European market lags behind the US market from a life cycle point of view and has so far not experienced a period with excessive levels of activity, which in itself justifies a dedicated study to reflect the realities of the European market environment since the mid-1990s.<sup>6</sup> This paper is the first empirical study on the extent and sources of premiums paid by PE-firms in European LBO transactions to date.<sup>7</sup>

The results of the cross-sectional regression show that Private Equity Firms are willing to pay more for companies whose stock price performed badly in the two years before the buyout. Furthermore, the hypothesis is backed that companies with a high pre-LBO free float and thus conceivably weak monitoring by shareholders are traded at a discount on the stock exchange. For this reason, PE-firms pay for the mitigation of this agency conflict. In addition to that the cross sectional analysis confirms the descriptive statistic result that premiums are significantly higher in the UK than in Continental Europe. Controlling for competitive bidding during the acquisition process shows that the more acquirers are involved the higher the price in the end for the target company.

The rest of the paper is organized as follows. The next section deals with the data sources and presents various descriptive statistics. Sections III. and IV. outline and interpret the design and the results of the cross-sectional analysis. Furthermore, they specify the variables and proxies that are used. Section V. concludes.

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<sup>5</sup> *Halpern/Kieschnick/Rotenberg* (1999) were the first who investigated prior stock price performance in the context of LBOs. Their findings are that prior stock price performance of LBOs is weaker than of companies staying public.

<sup>6</sup> *Renneboog/Simons/Wright* (2005) state that "most that is currently known about public to private transactions results from US research analyzing US samples covering the 1980s ... while a vibrant, and economically important PTP market has developed in the UK from the late 1990s onwards ...".

<sup>7</sup> Other recent studies on the European/UK LBO market are *Weir et al.* (2003) who investigate the difference between UK acquisitions and UK Going Private's, *Andres/Betzer/Hoffmann* (2006) who investigate the market reaction to announcements of European LBO transactions and *Weir/Laing* (2002) who analyse the difference between UK companies staying on the market and UK companies Going Private.

## II. Data Sources and Descriptive Statistics of the Data

A total of 176 European Going Private's that took place from 1996 to 2002 are investigated. The identification of the transactions has been conducted by researching the Reuters, Bloomberg, and Wall Street Journal Europe databases. The transactions were filtered by the following five criteria in order to be included in the final LBO-sample:

- (1) The transaction had to take place in one of the EU member states.<sup>8</sup>
- (2) The deal financing had to be at least 50% debt financed.<sup>9</sup>
- (3) A significant majority of the target company's common stock is bought via tender offer.
- (4) Complete shareholding data at least one year before the buyout had to be accessible.
- (5) The buyout had to be led by a Private Equity Investor as opposed to wealthy individuals or strategic investors.

After having applied the criteria above, I obtained a sample of 76 LBO transactions. There is a clear dominance of UK companies in the sample as of 76 companies 49 are from the UK.

As the cross-sectional analysis requires some variables to be industry-adjusted, peer groups of five publicly listed competitors for each of the 76 companies were identified. The selection of the peer groups is based on the automatic Bloomberg peer group selection – out of this selection, those five companies that were most comparable to the LBO company with respect to their operations and regional focus and in terms of size were included in the peer group.<sup>10</sup> For three companies an appropriate peer group could not be identified.<sup>11</sup>

The offer date of the final 73 LBOs is the day on which the acquiring Private Equity firm released their tender offer price to pre-LBO share-

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<sup>8</sup> Based on the composition of the EU in Dec. 2002.

<sup>9</sup> Where debt financing includes all cash interest bearing debt or debt-like tranches, such as Senior Debt, Mezzanine Notes and Bridge Loans. They did not include debt-like tranches sponsored by the Private Equity investor, such as shareholder loans or PIK notes.

<sup>10</sup> The balance sheet data used comes from the balance sheets in the three years prior to the announcement date of the buyout. Between the companies in the Peer Group the currency can differ in cases where I could not find enough comparable companies in the same country. Therefore, I corrected these differences by converting the different rates into one official exchange rate.

<sup>11</sup> These companies are: Allied Textile Companies, Ferretti SpA and Riverdeep.

*Table 1*  
**Country Composition**

Country	Sum
AU	1
D	7
DK	1
F	9
FIN	1
IRL	2
NL	1
S	3
UK	48
Overall Sum	73

*Table 2*  
**Number, Average Transaction Value, Median Transaction Value,  
Total Deal Value of the 73 Sample LBOs 1997–2002**

Transaction Values are taken from the *Bloomberg* database

Year	Number of LBOs	Average of transaction value (in Mio. €)	Median of transaction value (in Mio. €)	Total Deal Value (in Mio. €)
1997	2	166.0	166.0	332.0
1998	10	510.8	204.1	5108.1
1999	27	417.8	201.3	11279.4
2000	20	389.8	428.6	7795.8
2001	5	452.0	314.0	2259.8
2002	9	634.3	223.0	5708.6
1997–2002	73	445.0	220.0	32483.7

holders on various newswires like Bloomberg. Share price and balance sheet data used in this study are taken from DataStream and Bloomberg databases.

Table 2 shows various descriptive statistics of the sample data. The relationship between the average and the median transaction value in Table 3 indicates that there are a few large transactions and a lot of smaller ones over the sample period. The majority of transaction volumes (more than 68%) lies below EUR 400m .

Table 3

**Key Data of the Sample LBOs**

The relative *P/E-ratio* is computed by dividing the company's *P/E-ratio* by the *P/E-ratio* of the industry peer-group. The *management stake* is the fraction of management's voting rights in the company. *Profitability* describes earnings before interests, tax, depreciation and amortization (EBITDA) standardized with total assets. *Leverage* is given by the ratio *net debt/ total assets*. *Debt Capacity* is calculated by dividing the net debt to company's EBITDA (three year average before the buyout). Last but not least, *Market Cap* is the company's outstanding shares multiplied with the stock price. The data is taken from the last published balance sheet before the buyout announcement (apart from the *P/E-ratio*).

	Average	Stand. Deviation.	Median
relative P/E-ratio	0.84	0.50	0.69
Management Stake (%)	14.43	23.78	3.60
Profitability (%)	16.25	11.30	15.70
Leverage (%)	11.05	22.23	12.32
Debt Capacity	0.59	4.23	0.70
Market Cap (in Million €)	270.91	580.26	102.88

In table 3 the particular features of LBO targets can be observed: Firstly, they are hardly leveraged. Therefore, the financing of the acquisition can bear a huge amount of debt while still keeping a sound capital structure. Secondly, the companies are small on average which makes the fund raising for PE-firms much easier. Thirdly, their stock price performance before the buyout announcement is worse than their industry peer group.

The average premium paid in this European sample is 36.21% and is thus very similar compared to the premium paid in the US market. In the UK the average premium is roughly 44% whereas the average premium in Continental Europe is 18.2%. These numbers are opposed to the implicit prediction of LaPorta et al. (2002) that premiums in civil law

countries should be higher because of less shareholder protection, but they support the thesis that Continental European capital markets are less developed than the UK market and that restructuring measures such as discharge of labour are better enforceable in the UK.

In the following, the relationship between premiums and abnormal returns in the context of a LBO transaction is presented. The average premium offered to shareholders in a LBO is considerably higher than the stock price gain initiated by the announcement of the buyout. The reason for this phenomenon is that investors on the stock market have to take the transactions' probability of success into account and therefore will bid a price below the acquirer's offer. This probability of success depends inter alia on the attitude of the management towards the acquisition and finally, on the willingness of the shareholders to accept the offer. The share price at the announcement date reflects the expected value estimated by shareholders. Formally, that is

$$\text{Stock Price at announcement date} =$$

$$(1) \quad (\text{expected tender offer price}) * (\text{success probability}) + (\text{price without LBO})$$

$$* (\text{failure probability}).$$

Studies for the US market (e.g. De Angelo/De Angelo/Rice (1984), Lehn/Poulsen (1989) and Amihud (1989)) find that the average stock price reaction on the day of an LBO announcement is 19.39%. The average premium paid in those transactions is roughly 15% percentage points higher.

For the European market Andres/Betzer/Hoffmann (2006) detected an abnormal return of 11.94% on the announcement day which is 24.27 percentage points lower than the premium of 36.21% in this study.

The premiums and abnormal returns have a correlation coefficient of 0,3917. This is quite low keeping in mind the theoretical relationship between premium and abnormal return outlined before.

### III. Characteristics of LBO Candidates

This section presents the possible reasons why PE-firms pay more or less for a target company. The proxies for these hypotheses are explained and finally included in an empirical model which will be tested in a multivariate regression.



PE-Firms scan the market for companies whose value can be enhanced by a better management and improved cost efficiency. They rely on a significant debt capacity of the target firm in order to finance the deal with a huge amount of debt and thereby discipline the management in its actions. The best proxy in this context is the ratio of net debt to EBITDA.<sup>12</sup> Net debt is the sum of long and short term debt less cash and marketable securities. The lower the ratio the more the company can be indebted in the future and the more the management can be disciplined with the help of leverage. This leads to the following testable hypothesis:

*H1 (debt capacity):* The lower the amount of debt on the firm's balance sheet relative to its operating profit the more the PE-Investor is able to pay for the company.

The expected coefficient of this variable is therefore *negative*.

In a neoclassical context it can be argued that increasing interest payments resulting from the higher debt amount on the balance sheet as well as the higher interest margins lower taxable income although the EBITDA of a company might not have changed (Kaplan 1989 and Lowenstein 1985). Thus, *ceteris paribus* post-LBO cash flows are higher, which justifies a higher tender price: wealth is transferred from tax receiving public entities to pre-LBO shareholders.

*H2 (taxshield):* PE-Investors pay more for companies with high tax liabilities.

For the variable *taxshield*, I use the balance of (net)tax payments<sup>13</sup> standardized with EBITDA in the fiscal year prior to the buyout announcement. The expected coefficient is positive.

Empirical results of US market studies support the tax hypothesis by showing that tax benefits significantly drive pre-LBO returns (e.g. Lehn/Poulsen 1988 and Lehn/Poulsen 1989).

The additional debt imposes financial pressure on the target company. Due to that fact, PE-Investors work on finding areas where expenses can be reduced without causing harm to the core business of the target. These areas are mainly management's investments in negative present value projects and labour costs in non-core areas of the company.

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<sup>12</sup> PE-Firms regard companies with a ratio below 5 as possible acquisition targets.

<sup>13</sup> This means that tax liabilities and tax refunds from different countries are balanced.

The management could invest the internally generated cash flow in projects with a negative present value because these investments increase their own private benefit (e.g. empire building, perks etc.). Therefore, PE-Investors take a closer look at companies that “over invest” with regard to their industry competitors. In those companies, a more efficient structuring of the capital expenditures will lead to a higher firm value. From this argumentation, I can derive the following hypothesis:

*H3 (Capex):* The premium is higher for companies which undertake more capital expenditures (CAPEX) than their industry peer group.

Due to the fact that CAPEX are cyclical in nature and thus vary significantly over time I employ a three year average prior to the transaction. To account for the differences in firm size I divide the CAPEX by the three year average of total assets.

Further significant cost reductions can be reached through staffing cutbacks. In the relevant literature this phenomenon is called wealth transfer from employees to shareholders. The idea behind is that there is a deterioration of the employees’ position because of the more efficiently organised manufacturing and administrative process and, as a consequence, the layoffs of salaried personnel. These dismissals of staff are mainly focused on the administrative levels of employment. Lichtenberg and Siegel (1989) show empirically that there are only few reductions in workforce at the manufacturing level, but there are cutbacks of 16% at the administrative level. The effect can be described as follows:

*H4 (employees):* The lower a company’s turnover per head compared to the peer group the higher the premium paid for the target company.

Turnover per head is defined as the average sales divided by the average number of employees during the three-years period prior to the announcement. The variable *employees* is thus the ratio of the company’s turnover per head and the peer group’s turnover per head.<sup>14</sup>

Even though this ratio primarily describes management skills and organizational efficiency of a company, a lower turnover per head compared to close competitors suggests room for efficiency improvements at

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<sup>14</sup> I also used a variation of this variable, namely the ratio of personnel expenses to turnover. I expect that companies with a higher ratio will receive substantial higher bids for their shares than companies with a lower ratio. The use of this variable shows similar results as the ratio Turnover/number of employees.

the disadvantage of employees. The expected coefficient for *employees* is thus negative.

Kaplan (1989) presents results, which do not support the hypothesis of wealth transfer from employees. However, Kaplan did only look at the development of the number of employees after the LBO transaction and did not take into consideration the development of wages or whether employees were laid off and subsequently replaced by new (cheaper) employees.

The mitigation of agency cost of equity is another possible source of value creation realized when taking a public company private. Before the buyout, the free rider problem prevents shareholders – especially those with small holdings – from sacrificing their resources to monitor management (Amihud 1989 and Jensen/Murphy 1990). In contrast, the management of the LBO company is closely monitored by professionals – “active investors” (Jensen 1989) – who can efficiently execute this task and fully benefit from the effect.

This argumentation leads to the following hypothesis:

*H5 (monitoring):* A higher free float leads to a higher tender offer price of the Private Equity Investors.

The free float is determined by subtracting all shareholdings of investors with a share of more than 5%<sup>15</sup> of the share capital from the total share capital. These shareholdings are based on the last annual financial statement published prior to the LBO announcement. In contrast to common stock exchange free float-definitions,<sup>16</sup> shareholdings of mutual funds are considered not to be free float as soon as they are in excess of 5%. It can be argued that these sizeable shareholdings give the fund a certain degree of influence. In addition, such funds will probably pay more attention to management’s actions than funds with smaller shareholdings. Even though it is unlikely that fund managers with large shareholdings will actively interfere, they will surely have and use the opportunity to directly approach management to express their views. The expected coefficient for *monitoring* is therefore positive.

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<sup>15</sup> Although shareholdings below 5% have to be declared in the UK, I applied the 5% threshold European wide in order to get consistent results (e.g. the German regulation defines the threshold as 5% and therefore it is not possible to get information about shareholdings below 5%).

<sup>16</sup> E.g. the definition of the Deutsche Börse AG.

Empirical studies for the US market, to my best knowledge, have not investigated the influence of the shareholding structure on premiums so far.

Another reason for high premiums could be superior information about the company's future potential on the side of management. It is commonly assumed that corporate managers are – at least periodically – better informed than the public about the firm's future cash flows and hence its intrinsic value and fail to credibly signal this to the market (see e.g. Miller/Rock 1985, Myers/Majluf 1984 and Seyhun 1990).

In particular, management could have a deeper knowledge and conviction of the merits of the LBO and accordingly can bid for the share at a higher premium to current market price than a third party (Williamson 1988). Therefore, it is reasonable to assume that buyouts where the management initiated the deal will lead to higher premiums than the hostile approach of a third party:

*H6 (MBO):* An MBO will lead to a higher premium than a third party buyout.

Studies for the US market do not support this hypothesis as Easterwood, Hsieh and Singer (1988) found no difference in premiums offered in MBOs compared to third party buyouts.

Conceivably, PE-Firms will pay more for companies whose stock price performance was very bad in the past or whose P/E ratio is worse compared to its industry peers. A (relatively) low pre-LBO market valuation of a companies' equity could have several reasons. Firstly, in a scenario of efficient capital markets it could be a sign of agency-conflicts within the company. Secondly, capital markets could be inefficient and the market value of the company might not reflect its fair value.

These reasons might lead to a devaluation of a companies' stock with regard to its potential value. Dissatisfied managers who see the market value of their company slumping and find no way to communicate their beliefs about the 'fair' value to other market participants could seek a way out of this situation by attempting a LBO buyout. On the other side, active Private Equity investors can find appropriate buyout 'candidates' by looking for those badly performing companies.

Although the influences of the interpretations mentioned above cannot be strictly separated they can be united under the following two hypotheses:

*H7 (P/E)*: The lower the companies' P/E-ratio compared to an industry peer group, the higher the premium paid in the transaction.

The P/E-ratios employed in this study are based on a mean of ten trading days, measured two months prior to the announcement. By going two months backwards from the announcement date I would like to exclude possible anticipation effects of the LBO that would bias the results. The P/E variable is defined as the target's P/E-ratio divided by the peer's P/E-ratio. The expected coefficient for *P/E* is negative.

*H8 (price)*: The more the market-adjusted share price declined during the 2 years prior to the announcement, the higher the premium paid by the PE-Investor.

The numerator of the variable *price* is defined as the ratio of the closing market price two months prior to the LBO announcement divided by the average price, measured over 500 trading days counting backwards from two months prior to the LBO announcement. In order to exclude market movements I divide this figure by the equivalent ratio of the Dow Jones 600 market index which is a broad European index. The expected coefficient for *price* is negative.

Neither for hypothesis six, nor for hypothesis seven, any empirical analysis in the Going Private literature is existing.

According to La Porta et al. (2002) the stock price of companies is influenced by the degree of legal protection of minority shareholders in the relevant country. This means that in countries with a better legal protection of shareholders' rights and interests, outside investors are willing to pay more for financial assets. Contrarily, in countries with a rather weak investor protection equity is traded at a discount. La Porta (2002) distinguishes between Common Law and Civil Law and observes a higher stock price valuation in countries whose legal system is based on Common Law. Relating to premiums paid in LBO transactions, the premium should be higher in Civil Law countries, where shares are traded at a discount. After the Going Private, the protection of minority shareholders is no longer required and the justification for the discount disappears.

*H9 (law)*: The premium paid is higher in Continental Europe than in the UK.

In this study I use a dummy variable to test for the influence of shareholder protection with "1" standing for Civil Law and "0" representing Common Law. The expected coefficient for *law* is positive.

Finally, I use a binary dummy variable to test the differences in single bid and multiple bids transactions. The rationale behind this test variable is Lowenstein's argument (1985) that competitive open bidding will drive up the premiums received by shareholders.

*H10 (contested)*: Contested bidding will drive up the premiums in LBO transactions.

Lowenstein (1985) as well as Amihud (1989) present results which show substantially higher premiums in cases when there is competition among bidders. However, Easterwood, Hsieh and Singer (1988) do not support these results because they find no significant differences in both transaction designs.

The following regression model describes the previously described determinants of the buyout decision of PE-firms:

$$(2) \quad \text{Premium}_i = c_0 + c_1 \text{debt capacity}_i + c_2 \text{capex}_i + c_3 \text{employees}_i + c_4 \text{monitoring}_i + c_5 \text{MBO}_i + c_6 \text{P/E}_i + c_7 \text{price}_i + c_8 \text{taxshield}_i + c_9 \text{law}_i + c_{10} \text{contested}_i + e_i.$$

#### IV. Results of the Cross Sectional Analysis

A test of the hypotheses derived in section III. is conducted by estimating equation (2) using the method of Ordinary Least Squares (OLS). Tests for heteroscedasticity show that there is heteroscedasticity in the residuals. To avoid this problem I use White's (1980) heteroscedasticity consistent covariance matrix estimator in order to obtain unbiased estimates of the coefficient covariances.<sup>17</sup> The statistical power of the results was further checked through several robustness tests of the regression. No evidence could be found for serial correlation<sup>18</sup> or for multicollinearity<sup>19</sup> between the independent variables.

<sup>17</sup> Tests for heteroscedasticity were conducted using the White Heteroscedasticity Test (without cross-terms). The test statistics of both models (29.43 and 19.75) lie above the 0.05-critical Chi-Square values (27.58 and 12.59).

<sup>18</sup> I tested for serial correlation because the LBO-sample was arranged in a chronological order which could lead to serial correlation in the disturbance terms. The Durbin-Watson d-statistic for the first model is 1.89, for the second model 1.87. Both d-statistics lie within the range of acceptance and therefore do not indicate serial correlation (at 0.01 level of significance). Therefore I can conclude that there's no evidence of serial correlation.

<sup>19</sup> I applied two methods in order to check for the presence of multicollinearity in the observed sample. The absence can be supported by looking at the pairwise

*Table 4*  
**Estimated Coefficients and t-Statistics (in parentheses)**  
**of the Cross Sectional Regression**

OLS-regression of the Premiums in the presence of heteroscedasticity of an unknown form on the variables *debt capacity*, *capex*, *employees*, *monitoring*, *MBO*, *P/E*, *price*, *taxshield* and *contested* for 73 European LBOs between 1997–2002.

explanatory variable	expected sign	Complete Model	Restricted Model
Const.		0.53 (5.58)***	0.52 (7.20)***
debt capacity	–	–0.00 (–0.44)	
capex	+	–0.02 (–1.31)	
employees	–	–0.01 (–1.18)	
monitoring	+	0.29 (2.45)**	0.31 (2.88)***
MBO	+	0.02 (0.43)	
P/E	–	0.04 (0.73)	
price	–	–0.32 (–3.76)***	–0.32 (–3.92)***
taxshield	+	0.00 (0.11)	
law	+	–0.14 (–3.14)***	–0.13 (–3.76)***
contested	+	0.20 (2.27)**	0.18 (2.21)**
N		73	73
Adjusted R <sup>2</sup>		0.53	0.55
F-statistic		9.00	23.27
p-value (F-statistic)		0.00000	0.00000

\*significant at the 0.10 level, \*\*significant at the 0.05 level, \*\*\*significant at the 0.01 level

Additionally, I computed a restricted model where I only included the significant variables of the complete model.<sup>20</sup> The results of both models are shown in table 4.

correlation matrix of the explanatory variables. There are no high pair-wise correlations among the independent variables. The highest correlation coefficient (–0.47) is observed between the variables *law* and *mbo*. Secondly, I adopted Klien's rule of thumb. I regressed each explanatory variable on the remaining independent variables. The highest R<sup>2</sup> of such a regression is 0.44, far below the R<sup>2</sup> of the overall regression 0.59. These two findings indicate that there is no evidence of multicollinearity in the sample.

As predicted, the poor stock price performance in the past is one reason why PE-firms are willing to pay more for the target company. In both regression models the variable *price* has a highly significant negative coefficient (at the 0.01 level). This devaluation may have different reasons:

Due to information asymmetries between the management and the investors – possibly because of bad analyst coverage – or simply illiquidity of the market the stock does not reflect its intrinsic value.

The hypothesis that closer monitoring mitigates the agency conflicts between management and shareholders in European LBOs is supported by the fact that the coefficient on the variable *monitoring* is significant at the 0.05 – and 0.01 – level and positive in both regressions. The idea behind is that, as a result of a high free float, management is only insufficiently controlled by its shareholders (free rider-problem). Therefore, PE-firms pay more for companies with scattered shareholdings and thus a greater potential for efficiency improvements due to a more sophisticated and closer monitoring.

The variable *law* is highly significant at the 0.01 – level with a negative sign. That means that the premium paid in common law countries is significantly higher than in civil law countries. This finding contradicts the implications from La Porta et al. (2002), but support the thesis that Continental European capital markets are less developed than the UK market and that restructuring measures such as discharge of labour are better enforceable in the UK.<sup>21</sup>

Not surprisingly, premiums are higher in transactions where contested bidding takes place. In both regression models the variable *contested* is significant at the 5% level. Competing bidders have to set their offer prices close to their estimation of the true value in order to be successful.

Finally, the regression results show insignificant coefficients for the variables *capex*, *debt capacity*, *employees*, *MBO*, *P/E* and *taxshield*. The descriptive statistics have shown that the P/E ratio of LBO targets is lower than their industry peer group. Surprisingly, the variable *P/E*

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<sup>20</sup> The Wald-Coefficient test shows that all insignificant coefficients are jointly equal to zero (with a probability of 65%) and therefore a restricted model is needed.

<sup>21</sup> These results have to be watched very carefully because the only common law country is the UK. The premiums in the US, another common law country, are equal to the European premiums.



cannot serve as an explanation for differences in premiums when applying the multivariate analysis.<sup>22</sup> In Kaplan's (1989) as well as in this study, no evidence for wealth transfers from employees to shareholders can be found, indicating that the explanatory power of such an effect is only theoretical. The hypothesis that the incumbent management has better knowledge of the company's prospects cannot be confirmed. The coefficient for *capex* is also insignificant suggesting that comparatively high investment expenditures cannot explain higher tender offers. Furthermore, the debt capacity as well as the amount of tax liabilities prior to the going private-transaction both fail to explain the high premiums observed in leveraged buyouts.

## V. Conclusion

In this study the reasons why Private Equity-Firms take European companies private via leveraged buyout are investigated.

The average premium paid in my European sample is 36.21% and therefore comparable to the US evidence (e.g. 36,1% in Lehn/Poulsen 1989). In the UK the average premium is roughly 44% whereas the average premium in Continental Europe is 18.2%. These numbers are opposed to the implicit prediction by LaPorta et al. (2002) that premiums in Continental Europe should be higher because of less shareholder protection, but they support the thesis that Continental European capital markets are less developed than the UK market and that restructuring measures such as discharge of labour are better enforceable in the UK. Thus, Private Equity Investors are willing to pay more for UK targets. The results of the multivariate regression strengthen the fact that premiums in the UK are higher than in the Continental European countries.

Further results from the multivariate regression strongly indicate that acquirers mainly look for companies whose stock performed badly in the two years before the buyout when they analyse target firms. The reasons for this bad performance of the company's stock could be intransparency of the company's operations, e.g. through insufficient analyst coverage, or illiquidity of the market. There is strong evidence for another reason for this underperformance. The market values European LBO candidates at a discount of its potential value because of agency problems between the management and possible investors. The Free Rider problem which is

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<sup>22</sup> Even if the variable *price* is excluded the *P/E* variable shows no significant outcome.

the origin of these agency problems is especially severe for companies with scattered shareholdings. This paper identifies this phenomenon as a further source of value creation for PE firms. I also find strong evidence for the fact that competitive bidding leads to significantly higher offer prices in LBO transactions. This finding could lead to the conclusion that LBOs should be organized as auctions because this maximises the wealth of the pre-LBO shareholders.

The findings mentioned above are new in the Leveraged Buyout literature and therefore they broaden the evidence of previous American studies. An implication of the study could be finding a profitable strategy to invest in companies with scattered shareholdings and significant under-performance in the past in order to realize abnormal returns.

## Annex

### LBO – Sample from 1997 to 2002

Corporation	Country	Successful Offer Date	Deal Value Mill. €	Private Equity House
Wellman	UK	16.12.1997	151.3	Alchemy Partners
Betterware	UK	22.12.1997	180.7	Natwest
JLI Group	UK	06.01.1998	83.7	Phildrew Ventures
B.Elliot	UK	16.02.1998	122.1	Morgen Grenfell
Watmoughs	UK	23.02.1998	1026.4	Investcorp
Brunner Mond	UK	24.03.1998	304.3	Citicorp Venture
Tunstall Group	UK	19.05.1998	92.1	Intermediate Capital Group
Thorn	UK	30.06.1998	1447.6	Nomura
Willis Corroon	UK	22.07.1998	1517.3	KKR
Concentric	UK	06.08.1998	176.3	Natwest
UPF Group	UK	04.09.1998	106.4	Phildrew Ventures
Ushers of Trowbridge	UK	21.12.1998	231.9	Alchemy Partners
Hall Engineering	UK	01.04.1999	208.3	Candover
Hozelock	UK	08.01.1999	129.3	CVC Capital Partners
Westminster Health Care	UK	22.03.1999	325.2	Goldman
Honsel AG	D	24.03.1999	160	Carlyle
Avonside	UK	09.04.1999	37.2	Alchemy Partners
Tracker Network	UK	30.04.1999	61.7	Apax
KTM Sportmotorcycle AG	AU	05.05.1999	163	BC Partners
Hillsdown Holding	UK	14.05.1999	1370.1	Hicks, Muse, Tate

Corporation	Country	Successful Offer Date	Deal Value Mill. €	Private Equity House
Greycoat Plc	UK	21.05.1999	797	Mercury Private Equity
Denby Group	UK	26.05.1999	74.7	Phildrew Ventures
Salehurst	UK	26.05.1999	34.4	Natwest
Symonds	UK	27.05.1999	59.7	Natwest
Adscene	UK	29.06.1999	141.4	3i
Friedrich Grohe	D	16.07.1999	1134	BC Partners
Eldon	S	10.08.1999	355.4	EQT Partners
Wyko Group	UK	24.08.1999	203.4	Royal Bank Dev. Capital
Clondalkin Group	IRL	08.09.1999	540	Candover
Rep	F	15.09.1999	67.1	ABN Amro
Norcros	UK	06.10.1999	285.0	Natwest
Saunatec Oy	FIN	09.11.1999	21.9	Sponsor Capital
Wardle Storeys	UK	17.11.1999	201.3	Alchemy Partners
Gautier France	F	18.11.1999	91.5	Axa
Monark Stiga	S	19.11.1999	151.3	UBS Capital
Lambert Fenchurch	UK	22.11.1999	389.8	DLJ Phoenix Private Equity
Epwin Group	UK	25.11.1999	98.9	ABN Amro
United Biscuits	UK	14.12.1999	2984.1	Hicks, Muse, Tate
Michel Thierry	F	31.12.1999	251.5	Paribas
CPL Aromas	UK	14.01.2000	37.7	Intermediate Capital Group
Autodis Finelist	UK	11.02.2000	482.4	Butler Capital Partners
Wassall	UK	11.02.2000	1121.4	KKR
Marie Brizard	F	30.03.2000	175.3	Duke Street Capital
Hogg Robinson	UK	10.05.2000	640.8	Schroders Ventures
Knürr	D	11.05.2000	76.7	3i
Kiekert AG	D	07.06.2000	613.6	Schroders Ventures
De Dietrich	F	03.07.2000	457.3	ABN Amro
Wolstenholme Rink	UK	25.07.2000	103.1	Rutland Fund Management
Vulcanic	F	23.08.2000	40.6	Axa
Wickes	UK	01.09.2000	538.6	Duke Street Capital
Powell Duffryn	UK	03.11.2000	884.2	Nikko Principal Investment
Peter Black Holdings	UK	15.11.2000	477.2	3i
Flender AG	D	29.11.2000	474.6	Citicorp Venture
Fives-Lille	F	04.12.2000	220	Industri Kapital
Brooks Service Group	UK	05.12.2000	49.9	Alchemy Partners
Koninklijke Ahrend	NL	05.12.2000	333.5	HAL Investments
Perkins Foods	UK	18.12.2000	399.9	ABN Amro

Corporation	Country	Successful Offer Date	Deal Value Mill. €	Private Equity House
Fairview Holdings	UK	21.12.2000	597.3	3i
Bourne End Properties	UK	22.12.2000	71.7	Merril Lynch
Anglian Group	UK	12.03.2001	314	Alchemy Partners
Perstorp	S	22.03.2001	767.4	Industri Kapital
WT Foods	UK	11.06.2001	207.9	Bridgepoint Capital
Britax	UK	04.07.2001	872.9	Royal Bank Private Equity
Oasis	UK	13.07.2001	97.6	PPM Ventures
Vest-Wood A/S	DK	12.03.2002	215.9	Axcel Private Equity
Labeyrie Group	F	15.03.2002	193	Industri Kapital
Gardena	D	21.03.2002	298.0	Industri Kapital
Jefferson Smurfit	IRL	02.05.2002	3700	Madison Dearborn Partners
Kunick	UK	23.05.2002	223	Electra Partners Europe
FCX International	UK	29.05.2002	91.9	Alchemy Partners
Cr�atifis	F	04.06.2002	67	Alcyon Finance
Brake Brothers	UK	25.06.2002	669.8	CD&R
Edscha	D	12.12.2002	250.0	Carlyle

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## Summary

### Why Private Equity Investors Buy Dear or Cheap in European Leveraged Buyout Transactions

In this study the reasons why Private Equity-Firms take European companies private via leveraged buyout are examined. The data set comprises 73 LBOs from 1996 to 2002 in Europe. Findings from the multivariate regression strongly indicate that acquirers mainly look for target firms that experienced a poorly performing share price before the announcement of the acquisition. Furthermore, PE-Firms pay significantly more for companies with a scattered shareholding structure and a therefore weak monitoring of the management. Premiums in the UK where the common law is applied are significantly higher than in Continental Europe where civil law prevails. These findings are new in the context of the Leveraged Buyout literature and therefore broaden the empirical evidence found in the American markets of the 1980s. (JEL G34)

## Zusammenfassung

### Welchen Preis zahlen Private-Equity-Investoren in europäischen Leveraged-Buyout-Transaktionen?

Die vorliegende Studie untersucht die Motive von Private-Equity-Investoren bei der Übernahme und dem anschließenden Going Private europäischer Unternehmen. Der Datensatz umfasst 73 europäische Leveraged-Buyout-Transaktionen von 1997 bis 2002. Die Ergebnisse der empirischen Untersuchung zeigen, dass Private-Equity-Investoren insbesondere Übernahmekandidaten auswählen, die vor der Ankündigung der Übernahme eine vergleichsweise schlechte Kursentwicklung aufzuweisen haben. Außerdem zahlen Private-Equity-Investoren eine signifikant höhere Prämie für Unternehmen mit einer atomistischen Anteilseignerstruktur

und somit mit einer schlechteren Kontrollmöglichkeit des Managements. Die Prämien in Großbritannien, wo das englische Common Law angewendet wird, sind signifikant höher als im kontinentaleuropäischen Rechtsraum mit dem römischen Recht als Basis. Diese Resultate stellen eine Erweiterung der empirischen Evidenz in der Going-Private-Literatur dar, in der bislang hauptsächlich der amerikanische Kapitalmarkt der 80er-Jahre untersucht wurde.