

PUBLIC-TO-PRIVATE TRANSACTIONS

- A CROSS COUNTRY COMPARISON

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We analyze the pre-transaction characteristics of firms going private in the UK, France, Germany and the Nordic region from 2002-2006. We find that a firm's propensity to go private is an increasing function of leverage, ownership and control, undervaluation and cash flows. A previously suggested explanation for the higher leverage in firms going private is the expropriation of pre-transaction debt holders. The theory is however rejected in this paper, as we find no sign of losses for these debt-holders. Additionally, we study if the incentives to go private vary across countries, depending on market conditions, taxes and corporate governance. Support is found for that, on a country level, a higher degree of corporate governance, and in turn efficiency of the takeover-market, increase the probability of going private.

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1. INTRODUCTION

The most common type of large-scale companies are investor held, of which many are traded in the public markets (Hansmann 1996). A stock exchange listing allows firms to raise funds in public capital markets, increase the share liquidity for investors and founders and entrepreneurs to diversify their wealth. Another key advantage is the ability to use stock incentive plans to attract and retain employees. This is however not the only type of firm, and not always the best. During the last 25 years the act of acquiring and taking a listed company private through a Public-to-Private (P2P) transaction has become increasingly important¹. Central questions to answer are why this phenomenon has become so important and if it is of equal significance around the world. Not many studies have examined this phenomenon, but three recent and relevant papers have however been written on the topic. Renneboog and Simons (2005) present the recent developments and historic waves of the going private market as well as investigates the motives for P2P and Leverage Buy Out (LBO) transactions through literature studies, for the United States (US), the United Kingdom (UK) and Continental Europe. Another study related to the topic, which investigates the decision to go public by testing why firms go private is made by Bharath and Dittmar (2006). The study is made on P2P transactions in the US from 1980-2004. The third recent study, by Thompsen and Vinten (2006), investigates delisting from European Stock Exchanges 1995-2005, with particular focus on corporate governance² on a country level.

We add to the study by Renneboog and Simmons by performing a statistical investigation, rather than a literature study, on the P2P topic for the UK and Continental Europe (France and Germany). We further expand the results by Bharath and Dittmar for the US by performing a similar study in Europe. To these two studies we also add a cross country dimension. The reason for this comparison is that there may be different incentives for companies to go private across different regions, depending on market conditions, taxes and corporate governance. Finally, we add to the study by Thomsen and Vinten by looking at firm level evidence.

¹ See Section 2 Background for statistical evidence

² In our paper, corporate governance is defined as rules and regulations covering e.g. corporate control and investor protection. For more reasoning around this subject see Laporta et al (1996).

The purpose of this study is to investigate which firm specific characteristics explain why companies go private and whether they are in fact the same across countries. The study is performed by examination of the pre-transaction characteristics of companies going private in comparison to companies remaining public across European regions. We have chosen to examine four specific regions as they each have different law origins and therefore somewhat different market conditions and corporate governance systems. The studied regions are the UK, France, Germany and the Nordic region. The regions are first investigated together with emphasis on the driving forces for going private. Comparison is made both to the whole population of firms remaining listed as well as to a matched sample, where size and valuation are controlled for. Finally, we examine whether the same forces are of equal importance across the four regions.

Our hypotheses are, in short, that firms going private have less available information, have less access to capital, are less leveraged, have lower liquidity, have higher ownership concentration, are more undervalued, have higher cash flows and a less efficient management, pre-transaction, compared to the companies that remain listed³. Across countries we expect a higher number of P2P transactions in the countries with better corporate governance. Hence, we expect more transactions in the UK than in France and Germany. Ownership concentration is additionally expected to be of less importance in more functioning markets, with higher corporate governance. We also believe that the tax benefit should be of greater importance in the countries with higher corporate tax rates, in this sample France and Germany.

In this study, we find that the companies being bought out in general have higher cash flows, steadier return to shareholders, higher return on assets (in all countries except the UK), higher leverage, higher ownership concentration, and are more undervalued, pre-transaction. The high debt levels and the high return on assets for the firms going private are particularly interesting as they contradict our expectations. That firms going private have higher pre-transaction leverage than firms remaining public, is also confirmed by Thomsen and Vinten (2006) for Europe and by Bharath and Dittmar (2006) for the US. Thomsen and Vinten state that “this is more consistent with expropriation of existing

³ See section 3 Theoretical Predictions and Hypotheses for the motivations for these hypothesis

debtors than with efficiency gains of post-transaction leveraging”. The wealth transfer from pre-transaction debt-holders to the new investors, as a motive for the higher pre-transaction leverage in going private firms, is however rejected in our paper. The rejection is based on the fact that neither returns nor ratings for bonds decrease post-transaction.

Comparing results across countries, the differences are quite small. The most relevant variables are the same in the different studied regions. There are however differences, for example liquidity considerations are of strong significance in the US but not in Europe. Within Europe, cash flows are more important in France, and leverage more important in the UK, than in the other studied region. This leads to the conclusion that the same variables are not of equal importance across the studied regions. The finding can also be seen through the varied significance of the country dummies. Even more interestingly, the coefficients for the dummies indicate that the propensity to go private vary in accordance with the degree of corporate governance. In addition, the number of P2P transactions is the highest in the UK where the corporate governance is the strongest. Following the pattern of corporate governance, the UK also has a more active takeover market, where companies that are doing less good in the form of low return on assets, are taken private.

The paper proceeds as follows, a background to the public-to-private markets in Europe is given in section 2 and in section 3 the theories on the determinants of why firms are going private are presented. Data and sample collection is described in section 4 and the methods used in section 5. In sections 6 and 7 results from the tests are described and analyzed, first over all regions together and then comparing between the regions. Conclusions are then drawn in section 8, where suggestions for further research are also presented.

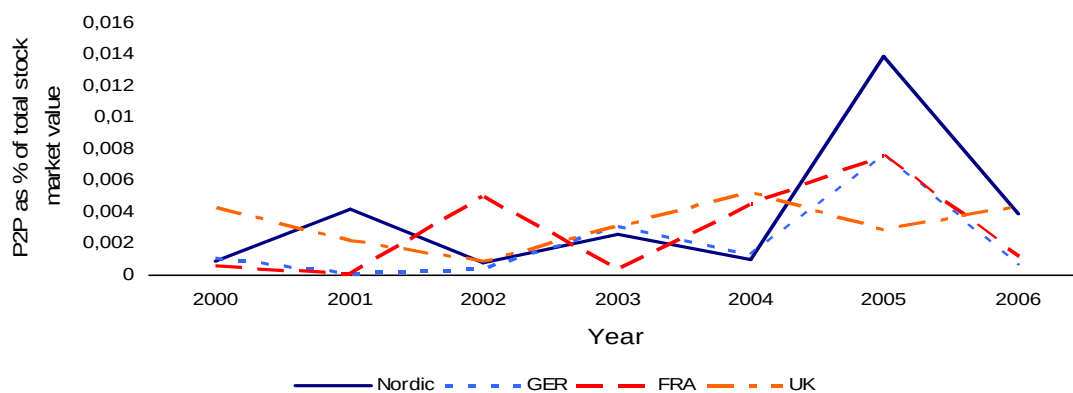
2. BACKGROUND

The decision to go public was considered a natural step in a firm’s growth process until the 1980’s when the US experienced a major wave of going private transactions amongst large and mature firms. This resulted in that the US share of the world market capitalization shrunk from 53.3% to 29.9% (Zingales 1995). Many questions arose

regarding this phenomenon, such as whether this was a temporary phenomenon or if going private transactions would become an important transaction type in the financial sectors. Kaplan (1991) studied what happened after firms went private and found that around 50% of large LBOs became public again within 7 years and that 7% of these went private again later on. Hence, he concluded that “taking firms private is neither short-lived, nor permanent”.

The number of P2P transactions within Europe has steadily increased since the 1980's. Looking at deal value, it is evident that the importance of the P2P transactions has grown at a much faster pace since 1995 and reached an all time high in 2005. The value in 2005, \$170 billion, was actually more than twice the value in 2000. This makes understanding the reasoning behind this transaction type very relevant today.

Chart 1.2.1 P2P Trend Since 2000⁴



Source: M&A Monitor & Datastream

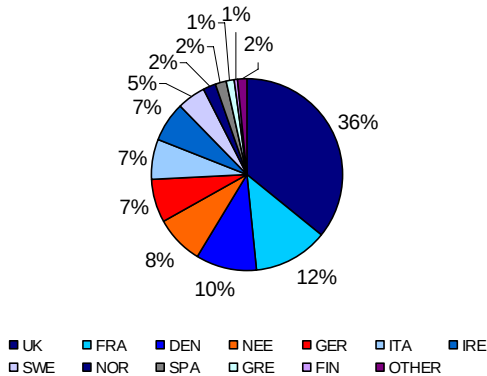
The value of P2P transactions in relation to the value of the country's total market value (chart 1.2.1) shows that the sharp increase seen in 2005 is particularly evident in the Nordic region, possibly due to some very large transactions involving companies such as TDC and ISS. Comparing the geographical split by market size (chart 1.2.2) with the split by number of transactions (chart 1.2.3) for all public-to-private transactions from 2000 to 2006, we can see that there have been fewer but, on average, much larger transactions in the Nordic region than in the UK, Germany and France. This is especially clear in

⁴ As a proxy for the total market size in \$MM the following Indices are used; Nordic: the sum of OMX Stockholm, OMX Helsinki, OMX Kobenhagen and the OSLO all share index; Germany: DAX all share index; France: CAC all share index; UK: FTSE all share index

For 2006 the market value and the number of P2P-transactions only represents the value of the transactions completed before September 1st, and hence should not be compared directly to the other years

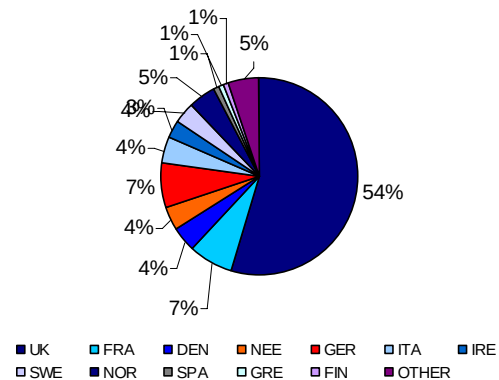
Denmark. Additionally, it is evident that the UK is dominating this market and represents 54% of the number of P2P transactions made during this time period. This is not surprising given that the UK has the largest exchange (table A.1). The P2P transactions are in addition smaller in the UK than in the other studied regions (chart 1.2.2 -1.2.3).

Chart 1.2.2 Geographical Split of P2P by Market Value 2000-2006



Source: M&A Monitor

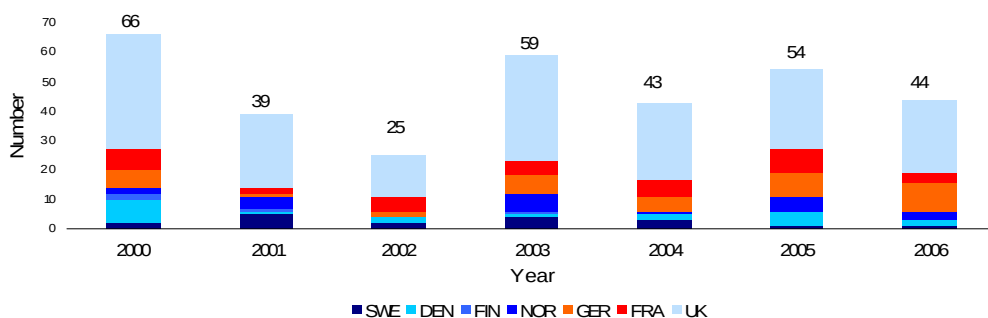
Chart 1.2.3 Geographical Split of P2P by Number of Transactions 2000-2006



Source: M&A Monitor

The number of transactions is the same in France and Germany but the French transactions are larger. These two countries' main exchanges also have a similar market value of their P2P transactions in relation to their total market value.

Chart 1.2.4 Number of P2P transactions over time



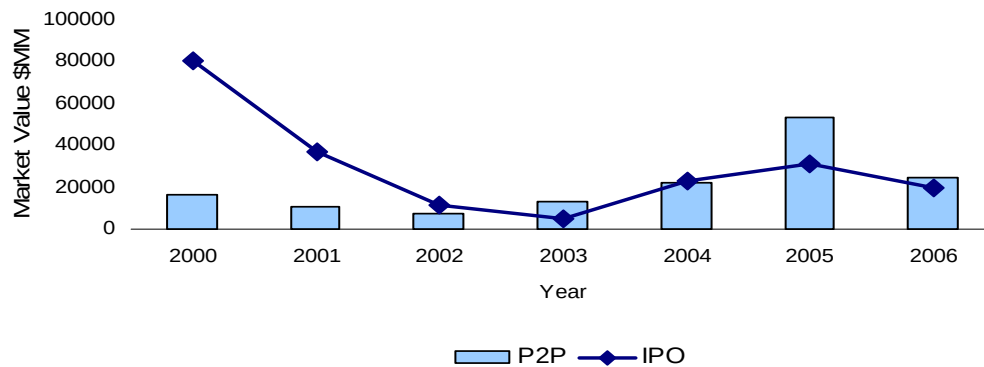
Source: M&A Monitor

The P2P activity has varied quite substantially over the studied time period with a dip in 2001-2002, hence coinciding with the downturn of the stock market in general during that period (chart 1.2.4). The activity has however been increasing from 25 transactions in

2002 to 66 transactions in 2006, when adjusting for the fact that not the entire year has passed when these statistics are computed.

We also look at the relationship between P2Ps and Initial-Public-Offerings (IPOs), to see how the P2P transactions covariate with the activity of the equity markets. Are the European markets currently like the US markets in the 1980s when the number of IPOs was not sufficient to cover for the firms being taken private, or have the markets stabilized regarding their size?

Chart 1.2.5 Market Value of P2P vs IPO

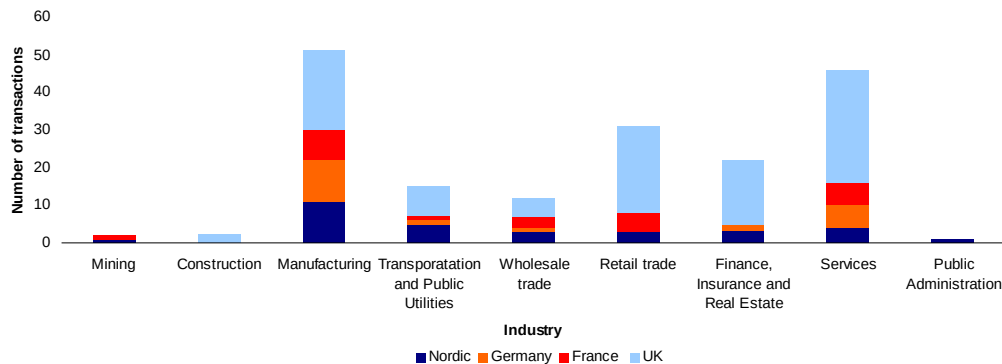


Source: M&A Monitor and Zephyr

From chart 1.2.5 we can see that the IPO activity was much higher, both in absolute terms and in relation to the P2Ps, in the beginning of the century. In 2005 and 2006 the value of P2P transactions has however even become greater than that of the IPO's.

Another observation is that the IPO transactions are much smaller than the P2P transactions in general. For an example, there have been 344 IPO transactions with a total value of \$19 710MM so far in 2006 compared to 44 P2P transactions with a total value of \$24 980MM in the countries investigated. Hence, even though firms taken private might be small, they are not nearly as small as the firms entering the exchanges. Underlying data for this is found in table A.2 to A.5.

Chart 1.2.6 Public-to-Private Transactions by Industry



Source: M&A Monitor and Datastream

Finally, we can see that the majority of the public-to-private transactions have taken place in the manufacturing and service sectors and that the sectors in which these type of transactions take place varies across countries (chart 1.2.6). For example, there are more transactions in the service sector in the UK and relative to their total number of transactions; Germany has the most transactions in the manufacturing sector. Additionally, some sectors, such as mining, construction and public administration are only represented in one or two regions.

3. THEORETICAL PREDICTIONS AND HYPOTHESES

In this section we will present theories concerning the determinants of the going private decision. The theories discussed are; information availability, access to capital, tax benefits, liquidity, ownership and control, undervaluation, free cash flow and managerial inefficiency. We expect these variables to be of different importance across countries as the underlying market conditions vary across the studied regions. Hypotheses regarding how these considerations vary across countries are presented for the variables where this pattern is expected to be most important.

3.1 Information Availability

3.1.1 Adverse Selection

In general, the management is more informed of the true value of the firm than other stakeholders. The stakeholders are aware of this information asymmetry and hence only

willing to pay the average price in a group of seemingly identical firms if the firm is not able to signal its true quality. Leland and Pyle (1977) show that entrepreneurs can signal the quality of their projects by investing more of their wealth into these projects but at the cost of imperfect diversification. If firms do not signal their true value the investor, unable to differentiate between the firms, will pay all firms the average price, making selling shares to the public market profitable for low performance firms only (the adverse selection). The cost of signaling the true value to the stakeholders, and hence avoid the adverse selection problem, is a larger obstacle for small, young firms with low visibility. Therefore, a dominance of small and young firms with low analyst coverage is expected to be seen amongst the public-to-private transactions and in particular in Management Buyout transactions (MBO).

3.1.2 Duplicative Monitoring

The share ownership in public companies is more dispersed than in private companies, implying that while the costs of monitoring may be incurred by a small group, the benefits accrue to all shareholders, creating a potential free-rider problem. This may strongly reduce, or even eliminate, the incentive for any single or a small group of shareholders to monitor the firm, resulting in the share price not accurately reflecting all available information. If the externally created amount of public information is low, it is more costly to monitor the firm. Consequently, as the cost of duplicative monitoring increases, which happens when analyst coverage is low, a firm is more likely to go private (Chemmanur and Fulghieri 1999). In addition, the cost of duplicative monitoring may be reduced by regulation and disclosure rules and may hence vary across countries.

3.1.3 Empirical Hypothesis for Information Considerations

In summary, the theories above suggest that a firm is more likely to go private if information is costly or difficult to obtain for outsiders. The variables, their proxies and expected signs are summarized below. Expected sign indicates if we expect the P2P firms to have a higher (Pos.) or lower (Neg.) pre-transaction value for the variable in consideration, compared to the listed firms. Similar tables are presented at the end of each theory section.

Variable	Proxy (ies)	Expected Sign
Size	Sales, Assets and Market Value	Neg.
Age	Number of Years from IPO until Announcement	Neg.
Information Availability	Analyst Coverage	Neg.

3.2 Access to Capital

3.2.1 Cost of Capital

“One important motivation for going public [or in this case private] is to minimize the cost of capital for the firm and thus maximize the value of the company” (Bharath and Dittmar 2006). Modigliani and Miller (1963) and Scott (1976) suggest that the lower the cost of capital in public markets in relation to the private ones, the more firms will go public. In reverse, the statement implies that when the cost of capital for a firm increases on the public markets in relation to the private ones, a firm is more likely to go private. This cost, in addition, depends on the information availability on the market, as well as the firm’s future investment prospects.

3.2.2 Overcoming Financial Constraints

A firm without large investment opportunities or high growth prospects is not in the same need of the public market in the form of equity and bonds (Bharath and Dittmar 2006). A signal of a low investment need can be low capital expenditures in relation to its size or a payout to the shareholders. Hence, firms with low capex-to-sales that pay dividends are more likely to go private, according to this theory.

3.2.3 Empirical Hypothesis for Access to Capital

Interpreting these theories in the private to public context, firms are more likely to go private if they have relatively high cost of capital on the public markets, in the form of low visibility and future external capital needs. As the financial markets in Europe are well integrated we expect no differences between the investigated regions.

Variable	Proxy(ies)	Expected Sign
Cost of Capital	All variables in "Information Considerations"	Pos.
Investment Prospect	Capex/Sales	Neg.
Dividend	Dividend Dummy	Pos.

3.3 Tax Benefit

3.3.1 Tax Benefit versus Wealth Transfer

A vast majority of the firms involved in P2P transactions are substantially leveraged when taken private (Renneboog and Simons 2005). Given the tax-deductibility of the interest on the new loans a substantial tax shield can be obtained, increasing the pre-transaction value of the firm. The fiscal regime and the marginal tax rate a company is subject to should in addition to its pre-transaction capital structure have an important effect on the choice of going private. Kaplan (1989) estimates the tax benefit in MBOs at the time a firm goes private, to have a lower bound of 21% and an upper bound of 143% of the premium paid to the pre-buyout shareholders in the US between 1980 and 1986. The necessity of going private in order to undertake this restructuring can however be questioned. The tax benefit is expected to be of larger significance in countries with higher tax rates, as the higher tax rates increase the potential size of the tax shield. The Nordic region has the lowest combined corporate tax rate (27.5%), followed by the UK (30%), France (34.4%) and Germany (38.9%) (table A.6). In general, we hence expect the tax benefit to be of larger importance in France and Germany than in the other two studied regions.

The tax benefit can however be dampened by the fact that when leveraging up a firm with already high leverage, the new owners can sometimes expropriate value from the current debt holders. The theory is supported by Warga and Welch (1993) who find that existing bonds loose 6% of their value when an LBO is announced. However, these bond losses are only weakly related to shareholder gains, according to the same paper.

3.3.2 Empirical Hypothesis for Tax Benefit

Interpreting these theories in the private to public context, there is a tradeoff between the upside potential from a capital restructuring if the firm has low leverage pre-transaction and the value that can be expropriated from current debt holders if the pre-transaction leverage is high. It is difficult to predict which of these benefits is the most important. From the tax benefit aspect, more public-to-private transactions are expected in countries with higher tax rates, such as Germany and France.

Variable	Proxy(ies)	Expected Sign
Leverage	Net Debt/ Total Assets	Neg. or Pos.
Marginal Tax Rates	Statutory tax Rate	Pos.

3.4 Liquidity

3.4.1 Liquidity versus Control Benefit

Bolton and Von Thadden (1998) discuss the tradeoff between the liquidity benefit obtained through dispersed corporate ownership and the benefits from efficient management control, achieved by some degree of ownership concentration. When a firm decides to set up a controlling block, it reduces the number of tradable shares outstanding and therefore it effectively reduces the firm's liquidity. This leads to the conclusion that firms with already low liquidity have less downside from going private. This is further strengthened by Bharath and Dittmar (2006) who states that "if the benefit of liquidity, which is an increasing function of the traded volume, deteriorates, a firm is more likely to go private".

3.4.2 Empirical Hypothesis for Liquidity

Low liquidity makes a firm more suitable to go private as it does not manage to extract all benefits of being public. The size of the total markets differ very much across countries as well as the liquidity indicating that the liquidity consideration is likely to be of different importance across regions.

Variable	Proxy(ies)	Expected Sign
Liquidity	Volume/Total Shares Outstanding	Neg.

3.5 Ownership and Control

3.5.1 Control versus Liquidity

The relationship between control and liquidity presented in the liquidity section above by Bolton and Von Thadden (1998) can also be interpreted in the context of control. Hence, a firm with more concentrated ownership is expected to be better suited to go private. The fact that managers give control issues considerable weight, in relation to liquidity is also hypothesized in a mathematical model developed by Boot et al (2006).

3.5.2 *Investor Recognition*

Merton (1987) has developed an extension to CAPM that relaxes the assumption of efficient information for all investors. In the model, expected returns decrease with the size of the investor base, or “degree of investor recognition”. Bharath and Dittmar (2006) conclude from this that “the benefit of being public is diminished for firms with lower diffuse ownership”. In summary, firms with more concentrated ownership structures are more likely to go private as it might be more expensive for a firm that is closely held to get public funding as they have to spend more resources to be recognized by investors.

3.5.3 *Corporate Governance and Ownership Concentration*

Another interesting consideration is how corporate governance affects the ownership structure of a firm and its decision to go private. LaPorta et al (1996 and 1999) investigate the protection of corporate shareholders and creditors, the quality of the law enforcement and the ownership structures in many countries. Their findings show that amongst the investigated regions, UK has the best investor protection, France the worst and Germany and the Scandinavian countries fall somewhere in the middle (table A.7). Bolton and Von Thadden (1998) discuss the fact that in strong governance countries, like the UK, investor control is exerted through the threat of takeovers, whereas in Continental Europe control is, if at all, exerted by the largest stakeholders. That countries with less investor protection have higher ownership concentration was also concluded by LaPorta et al (1996). They state that “when investors have relatively few legal rights, then managers can be induced to return the money to these investors if one, or a very small number of investors, own the majority of shares”.

This is in line with the pecuniary benefits theory, which implies that the smaller stake of the firm the managers own, the more non-pecuniary (private) benefits they take out to maximize their utility. The diverged ownership implies that they do not have to pay for the full cost they incur, only a fraction related to their ownership stake (Jensen and Meckling 1976). Going private might align the managers’ interests with that of the shareholders’ and thereby increase the firm’s value. Under this theory, firms with low managerial holdings in low corporate governance countries should be those targeted for P2Ps.

The relationship between corporate governance and the choice of public versus private is in addition investigated by Boot et al (2006). They hypothesize that investors demand excessively high returns and firms prefer private ownership when public governance is extremely lax/stringent and permits considerable/little managerial autonomy, defined as the manager's ability to make decisions with which investors disagree. Thomsen and Vinten (2006), in turn, expect a negative relationship between corporate governance and going private transactions. They state that new regulation is incorporated to improve the functioning of the stock markets and if a country has more of this "good" regulation, fewer firms should be interested in going private.

3.5.4 Empirical Hypothesis for Ownership and Control

The majority of theories expect a positive relationship between ownership concentration and the probability of going private. More public-to-private transactions are also expected in countries with weaker corporate governance.

Variable	Proxy(ies)	Expected Sign
Ownership Concentration	Closely Held Shares, Employee Held Shares, Government Held Shares, Pension Fund Held Shares, Investment Company Held Shares	Pos.
Corporate Governance	Literature studies	Neg.

3.6 Undervaluation

Due to the existence of asymmetric information insiders and outsiders might have different perceptions of the true value of a firm. Even though a premium to the current share price is offered in a buyout, it is often claimed that this premium is not sufficient to compensate for the full information asymmetry. The asymmetric information explanation for the increase in the share price, after announcement of a P2P transaction, can be derived from the reasoning used in a stock repurchase, where the buyback can be seen as a signaling effect of the firm's true value (Dann 1981). A P2P transaction can be seen as an extreme form of a share repurchase, indicating that a firm has the strongest incentives to go private when they believe the firm is the most undervalued. Baker and Wurgler (2002) find strong evidence for the occurrence of buybacks (issue of shares) when the equity value is low (high). That is, the firm engages in market timing. This indicates that share repurchases, and P2P transactions are undertaken after price decreases. Another theory that concludes that a firm is more likely to be taken private after a decline in the

stock price is Zingales (1995). He develops a model where the decision to go public depends on the value-maximizing strategy made by the initial owner on the premises that he will eventually want to sell his company. The model concludes that, when the potential buyer is expected to reduce the value of cash flow rights, publicly traded companies should be taken private.

3.6.1 Empirical Hypothesis for Undervaluation

In conclusion, firms that are undervalued or have seen a decrease in the share price prior to announcement are to a larger extent expected to go private.

Variable	Proxy(ies)	Expected Sign
Undervaluation	Market to Book value of Equity, Tobins q and Total Return to Shareholders (TRS)	Neg.

3.7 Free Cash Flow

There is usually a conflict between managers and shareholders regarding the optimal size of the firm as well as how much cash to maintain and how much to distribute. The manager, if being an empire builder, may have an incentive to invest the cash in projects with negative Net Present Values (NPV) as he receives more benefits from running a larger corporation. The shareholders would however benefit more if this money was distributed. This problem is especially severe in firms with large free cash flows and could possibly be solved by a public-buyout of the firm, according to Jensen (1986). Lehn and Poulsen (1989) find a significant relationship between a firm's undistributed cash flow and its decision to go private. The fact that buyouts generate large benefits to the firms' owners by eliminating the agency costs prevailing in the firms prior to going private is also supported by Travlos and Cornett (1993). A steady cash flow could also be represented by a high cash balance or high funds from operations and low dividends.

3.7.1 Empirical Hypothesis for Free Cash Flow

In summary, firms that have more cash at hand and that do not seem to distribute this excess cash to its shareholders are expected to have a higher propensity to go private.

Variable	Proxy(ies)	Expected Sign
Free Cash Flow	Free Cash Flow, Funds from Operations or Cash in relation to Assets	Pos.
Dividends	Dividend Dummy	Neg.

3.8 Managerial Inefficiency

It is not only hard to monitor management when ownership is dispersed but it can also be difficult to get enough support amongst shareholders to implement actions against management. A sign of poor management could be low return on assets (ROA) and return on capital employed (ROCE) according to Palepu (1986), as well as high fixed assets in relation to total assets. This problem is not as large in the private market where ownership is usually more concentrated.

3.8.1 Empirical Hypothesis for Managerial Inefficiency

Less well managed firms are expected to gain more from being taken private and low returns could be a sign of suboptimal management. A high proportion of fixed assets is generally connected to more mature industries, but could also indicate overinvestment.

Variable	Proxy(ies)	Expected Sign
Managerial efficiency	ROA, ROCE	Neg.
	FA/A	Pos.

4. DATA AND SAMPLE SELECTION

4.1 Sample of Going Private Firms

To create the sample for going private firms we use the database M&A monitor, which contains all public Merger and Acquisition (M&A) transactions in Europe from 2000 and onwards. We choose to look at all public buyouts, a transaction where a controlling stake (above 50%) is gained through a bid in the publicly traded stock markets. In addition, the sample is limited to Management Buy Outs (MBO⁵) and Management Buy Ins (MBI⁶) as these are the types of transactions where the target normally goes private afterwards. We look specifically at four regions in Europe: The Nordic Region (Sweden, Norway, Finland and Denmark); Germany; France and the UK. The time period we investigate is 2002-01-01 until 2006-09-15. 225 firms fulfill these criteria and on these firms financial, price and ownership data is gathered through DataStream. The variables that are gathered

⁵ an MBO is a transaction in which certain members of the existing senior management of a business unit, acting either independently or (more typically) in conjunction with third party equity/debt providers, acquire control of the business they manage from its previous owners, normally using a Newco vehicle.

⁶ an MBI is a transaction in which a business unit is acquired in a transaction initiated by one or more private equity houses, with third party debt funding, and where the business unit is to be managed primarily by a new outside senior management team, acting in conjunction with the private equity houses.

through DataStream and M&A Monitor are listed in table A.8. All data is taken from the end of year prior to the announcement. If data from this time is not available for a variable it is taken up to 2 years prior to, or 1 year after announcement. In addition, SIC codes are completed from Alacra databases when not available through DataStream. All numbers reported are in USD or in percent/fractions.

All firms with a lower market value than USD 5 million according to DataStream are excluded. Firms with incomplete financial data, for the studied variables, are also excluded. After these adjustments we end up with 182 companies, 31 from the Nordic region, 21 from Germany, 24 from France and 106 from the UK. These going private companies are compared both to a random sample and to a matched sample. The selection methods for these samples are presented in the following section.

4.2 Random Sample

To create the random sample the constituent lists for the major lists in the 4 regions are used. The lists used are: OMX Stockholm, Helsinki and Copenhagen All Share indexes, as well as Oslo Exchange All Share for the Nordic Region; DAX All Share for Germany; CAC All Share for France; and FTSE All Share as well as FTSE AIM All Share for the UK. These lists include the shares constituting the indexes on 2006-09-15. Data is then taken from DataStream for all the companies at the date 2003-12-31. Companies without complete data for all variables, as well as companies included in the going private sample, are dropped. The random sample constitutes of 2373 firms. 544 of these companies are from the Nordic region, 482 from Germany, 419 from France and 927 from the UK.

4.3 Matching Sample

The matching sample is created using the companies in the random sample. Before starting the matching process, we tested several possible selection criteria out of combinations of sales, assets, market-to-book value and SIC codes and came up with sales and market-to-book value as our preferred metrics. Then, the procedure for matching is laid out as follows. (1) Only companies from the same region are matched, meaning that if one of the 182 companies in our going private sample is from the Nordic

region it could only be matched with a Nordic company. (2) Sales is used to create a range of companies in the range of $\pm 10\%$ to compare with. (3) A second criterion, market-to-book, is used to choose which of the companies in the range selected above to proceed with. (4) If any two or more companies have the same best match, the one with the most similar market-to-book ratio is used. (5) Then, data is gathered on the matching companies using the same date as their private counterparts. If data is not available the firm is dropped. (6) In case the first match does not work in one of the steps above, the second best company is used. In the end we find matches for all of our 182 companies.

5. METHOD

In order to investigate how the companies that are taken private differ from companies remaining public, a series of tests are made.

We are interested in three differences. First, if there is a difference between the public and private firms looking at the studied variables, second if there is a difference between countries for the different samples, and finally if the differences between the going private and remaining public companies are the same across the regions. The latter is statistically only possible to test on the matched sample. In addition to looking at these descriptive statistics, logistic regressions on the propensity to go private are performed. In these regressions bootstrapping is used to overcome the problem with small samples and some variables are dropped due to high correlations. A more detailed statistical description of the different tests is presented in Appendix D.

6. ALL COUNTRIES

In the following sections the results associated with different areas of the theories on why companies are taken private are presented. Here the differences are discussed on the basis of looking at all regions investigated together. We base our conclusions primarily on odds ratios and median tests, and secondly on means. Data to back this up is found in table B.1, C.1 and C.2 in the appendix.

6.1 Summary of Descriptive Statistics

The variables of most significance are presented in table 6.1.1. Looking at the size variables, sales, assets and market value (reported in table B.1), the medians of the P2P transactions and the random sample are relatively similar. There is however an economically significant difference in the average size of the firms, where the going private firms tend to be much smaller than the ones remaining public. In comparison to the random sample the firms going private are also older. Age comparisons with the random sample is however a bit uncertain, as we choose to calculate the age in 2003, in the middle of the time period when our firms went private, even though the companies are still trading today. When doing the same comparison with the matching sample the difference is small and insignificant, making it impossible to draw conclusions on age differences between the going private companies and companies of similar size that remain listed.

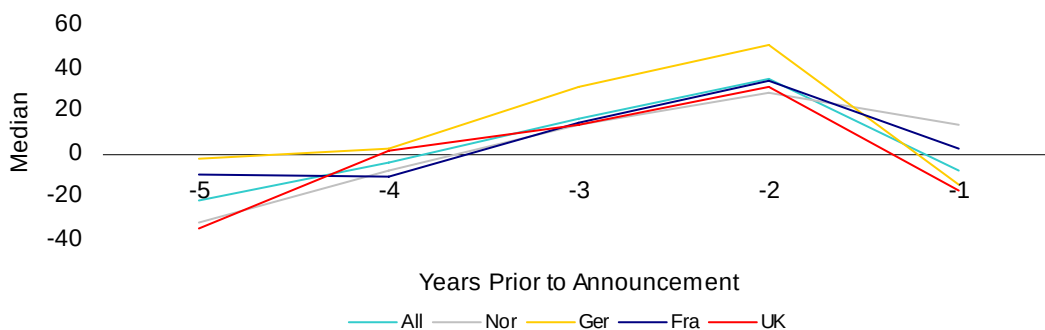
In addition, the average company going private has less analyst coverage than both matching and random companies. The difference is not huge, and not clearly statistically significant, but it is however an overweight of low coverage firms that are going private. Regarding the financial constraints, a lower investment need for companies going private is rejected as the capex-to-sales ratio is higher for these firms. This is true when comparing across both samples and the difference is relatively large. Furthermore, going private firms are unusually frequent dividend payers when looking at the mean in relation to both samples.

TABLE 6.1.1- SUMMARY STATISTICS FOR THE MOST IMPORTANT VARIABLES

		All Regions - Random			All Regions - Matching		
		mean	median	std.dev	mean	median	std.dev
Sales	Private	664617.7	127561.0	1672934.0	667733.2	127856.0	1677016.0
	Public	2515591.0	130580.0	11400000.0	671811.9	131483.5	1699670.0
	<i>Diff</i>	<i>-1850973.0</i> **	<i>-3019.0</i>	<i>845461.6</i>	<i>-4078.7</i>	<i>-3627.5</i>	<i>101408.1</i>
Market Value	Private	441072.2	70210.0	1111863.0	443020.3	70180.0	1114617.0
	Public	1926382.0	97910.0	9662510.0	547247.9	106345.0	1355766.0
	<i>Diff</i>	<i>-1485310.0</i> **	<i>-27700.0</i>	<i>714765.4</i>	<i>-104227.6</i>	<i>-36165.0</i> *	<i>1302980.0</i>
Age	Private	13.0	9.0	10.2	13.1	9.0	10.1
	Public	11.4	7.0	10.3	14.3	9.5	11.8
	<i>Diff</i>	<i>1.6</i> **	<i>2.0</i> ***	<i>0.8</i>	<i>-1.2</i>	<i>-0.5</i>	<i>14.3</i>
Capex/Sales	Private	27.1	4.3	168.2	27.2	4.3	168.7
	Public	13.3	2.8	135.0	18.5	3.1	77.2
	<i>Diff</i>	<i>13.8</i> *	<i>1.5</i> ***	<i>10.6</i>	<i>8.8</i>	<i>1.2</i>	<i>110.1</i>
Dividend Dummy	Private	0.7	1.0	0.5	0.7	1.0	0.5
	Public	0.5	1.0	0.5	0.6	1.0	0.5
	<i>Diff</i>	<i>0.1</i> ***	<i>0.0</i> ***	<i>0.0</i>	<i>0.1</i> *	<i>0.0</i>	<i>0.7</i>
ND/A (%)	Private	14.6	16.5	32.5	14.7	16.7	32.5
	Public	5.1	8.0	34.6	6.6	9.9	30.5
	<i>Diff</i>	<i>9.5</i> ***	<i>8.5</i> ***	<i>2.6</i>	<i>8.1</i> ***	<i>6.8</i> **	<i>40.6</i>
D/A (%)	Private	27.0	23.5	1.7	14.9	16.8	32.4
	Public	22.0	18.4	0.5	6.8	9.9	30.4
	<i>Diff</i>	<i>22.3</i> ***	<i>5.0</i> **	<i>0.4</i>	<i>8.1</i> ***	<i>6.9</i> **	<i>3.0</i>
Volume/TSO	Private	0.51	0.29	0.87	0.51	0.29	0.88
	Public	1.22	0.21	38.04	0.53	0.33	0.60
	<i>Diff</i>	<i>-0.72</i>	<i>0.08</i> **	<i>2.81</i>	<i>-0.02</i>	<i>0.0</i>	<i>1.01</i>
Closely H.S. (%)	Private	36.8	35.0	29.0	36.8	35.0	29.0
	Public	32.7	29.4	28.4	33.3	32.3	24.3
	<i>Diff</i>	<i>4.1</i> **	<i>5.6</i>	<i>2.2</i>	<i>3.5</i> *	<i>2.7</i>	<i>33.8</i>
Tobins q	Private	1.6	1.2	6.7	1.5	1.2	6.7
	Public	6.2	1.4	173.9	1.2	1.2	3.9
	<i>Diff</i>	<i>-4.7</i>	<i>-0.2</i> ***	<i>12.9</i>	<i>0.3</i>	<i>0.1</i>	<i>9.2</i>
TRS T-1	Private	25.6	27.2	46.8	25.3	26.5	47.0
	Public	64.4	34.8	224.7	27.5	18.0	83.0
	<i>Diff</i>	<i>-38.8</i> **	<i>-7.7</i> **	<i>16.7</i>	<i>-2.2</i>	<i>8.5</i>	<i>89.1</i>
FFO/A (%)	Private	8.5	8.4	10.6	8.6	8.4	10.5
	Public	1.0	6.0	30.0	4.9	6.7	12.4
	<i>Diff</i>	<i>7.4</i> ***	<i>2.4</i> ***	<i>2.2</i>	<i>3.8</i> ***	<i>1.7</i> ***	<i>12.7</i>
ROA (%)	Private	2.3	4.3	27.1	2.6	4.3	27.1
	Public	-2.3	3.0	52.8	0.8	3.5	12.7
	<i>Diff</i>	<i>4.6</i>	<i>1.3</i> ***	<i>3.9</i>	<i>1.8</i>	<i>0.8</i> *	<i>27.3</i>
FA/A (%)	Private	38.8	31.7	30.8	39.0	32.4	30.8
	Public	23.9	16.3	23.9	28.9	21.4	26.7
	<i>Diff</i>	<i>14.9</i> ***	<i>15.4</i> ***	<i>1.9</i>	<i>10.1</i> ***	<i>11.0</i> ***	<i>37.9</i>

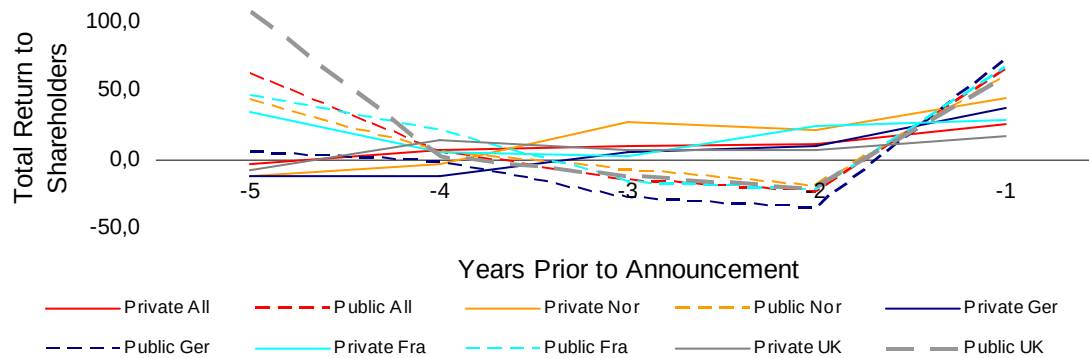
From the statistics it can also be seen that leverage is significantly higher in the going private firms than in the ones remaining public (random and matching sample), both when looking at mean and median and when using debt-to-assets and net debt-to-assets as preferred metrics. It can also be seen that the liquidity is not substantially different across samples. Additionally, firms that go private tend to have more closely held shares than firms that remain public, regardless of measurement. This is however only statistically significant for means and the difference decrease when comparison is made to more similar firms. Moreover, the going private sample have significantly less employee held shares than the random sample but insignificantly more employee held shares than the matched sample. The firms in the private sample also seem to have more investment company held shares than the random sample.

Chart 6.1.1 Average difference in Total Return to Shareholders between P2P and public companies



Going private companies have a lower market-to-book and tobins q ratios than the random companies. We also compare the stock returns in the 5 years preceding the announcement. The going private companies have a very distinct pattern compared with the random companies. The going private companies underperform 5 years before buyout in relation to the random companies, and then this relationship improves until the last year, when total return to shareholders was lower than for the random companies (chart 6.1.1).

Chart 6.1.2 Total Returns to Shareholders development over time



Especially interesting is that the P2P firms seem to have much steadier returns than the other firms (chart 6.1.2). The most distinct trend in this pattern is however the sharp decrease in relative performance between $t-2$ and $t-1$. Thus we create a new variable measuring this decline, which we use for the regression later on. No clear pattern is found in the total return to shareholders when comparison is made to the matched sample.

We can also see that free cash flow-to-assets generally is larger in those companies that are about to go private. It should be noted that the difference is very large when comparing with the matching companies, indicating that the firms that are taken private are unusually good at producing cash flows. In line with these results, firms that go private generally have significantly higher funds from operations-to-assets than the ones that remain public, both when looking at means and medians and when comparing to the matched and random sample. Finally, firms going private yield significantly higher return on assets and return on capital employed than companies remaining public. They also generally have substantially higher fixed assets-to-assets.

6.2 Logistic Regression

The results from the logistic regression which measures the odds ratios, and hence how the probability of going private is affected by various changes in the variables, are presented in table 6.2.1.

The odds ratio for the sales variable indicates that the probability of going private is relatively independent from firm size. However, the odds ratio for age from the regression is very significant and indicates that older companies are less likely to be taken

private, both when comparing to the firms on the constituent list and with firms of equal size and valuation. Analyst coverage is excluded from our base model as it has a very strong positive correlation with size, implying that smaller firms are in general less covered. As size is not of great significance in the likelihood of going private, neither is analyst coverage. There does however seem to be a statistically significant positive relationship between the propensity to go private and the degree of closely held shares.

Table 6.2.1 Results from logistic regression - All Regions

	Random	Matching
sales	1.000 **	1.000
age	0.980 **	0.978 **
chs	1.010 **	1.009 **
eh	0.997	1.004
ich	0.990	0.996
capexsales	1.002	1.001
div_d	0.638 **	0.868
liquidity	0.997	1.161
tq	0.991 **	0.969
trs1_2	0.988 ***	1.000
nda	1.007 **	1.015 ***
roa	0.996	0.996
ffoa	1.022 ***	93.553 **
nordic_d	0.143 ***	0.756
ger_d	0.097 ***	0.742
fra_d	0.112 ***	0.699
No. Of obs.	2030	308
Wald Chi2	226.47	15.28
Prob>Chi	0	0.504
Pseudo R2	0.219	0.068

*10%, **5% and ***1% significance

From the logistic regression it can also be seen that neither the capex-to-sales ratio nor the liquidity variable, affect the propensity to go private. There is however a slight tendency for liquidity to increase the propensity to go private in relation to firms of similar size and market-to-book. This is nevertheless insignificant and the results vary substantially across countries, making the finding unreliable. On the other hand, the propensity to go private tends to increase when a firm pays less regular dividends, compared to both samples.

The market-to-book ratio is not included in the regression as it measures the same thing as tobins q, except tobins q considers the total value of the firm, both equity and debt

whereas market-to-book only considers the equity value. The regression for tobins q shows that an increase in the variable significantly decreases the probability of going private. Regressing the variable for change in total return to shareholders between one and two years prior to announcement with the random sample, there is also significantly less probability of going private if the last year's return improves instead of declines. Another variable that is included and statistically significant in the model is leverage, measured as net debt-to-assets. From the regression it can be seen that increased leverage does in fact lead to an increased propensity to go private.

The free cash flow-to-assets variable is excluded from the regression as it tests the same thing as, and is strongly correlated to, funds from operations-to-assets. This is also the case for cash-to-assets, which in addition does not have a statistically significant difference between public and P2P companies. We consider funds from operations-to-assets to be a better measure due to its higher significance and explanatory power. From the regression, it can be seen that a firm with a higher cash flow is more likely to be involved in a P2P transaction. This is statistically significant in comparison to both samples. A very interesting finding is that the odds ratio is very large when comparing to firms of similar size. This holds true also when excluding variables that are correlated such as return on assets, tobins q and the dividend dummy.

6.3 Analysis of the Full Sample

6.3.1 Information Availability

Even though small firms are much less covered by analysts than large firms, hence having much lower visibility as predicted by Leland and Pyle (1977), we find no strong support for the expectation that the lower visibility will make this type of firms more likely to go private, to overcome the information asymmetry, than is larger firms. The average firm going private is however much smaller than the average firm on a constituent list, making it almost impossible to fully rule out the information considerations in a firms suitability of going private.

6.3.2 *Access to Capital*

Access to capital can, as earlier mentioned, both depend on the cost of capital and on the firm's capital need. The public cost of capital, in turn, is dependent on the visibility of the firm as measured by the information consideration variables. It can however neither be ruled out, nor statistically verified, that information availability matters in the probability of being public or private. Consequently, the importance of the cost of capital on public versus private markets, suggested by Scott (1976) is uncertain. Additionally, a low investment need does not make a firm more suitable to go private. The support for the access to capital theory is hence mixed; leading to the conclusion that access to capital is not one of the most important factors considered when going private.

6.3.3 *Tax Benefit*

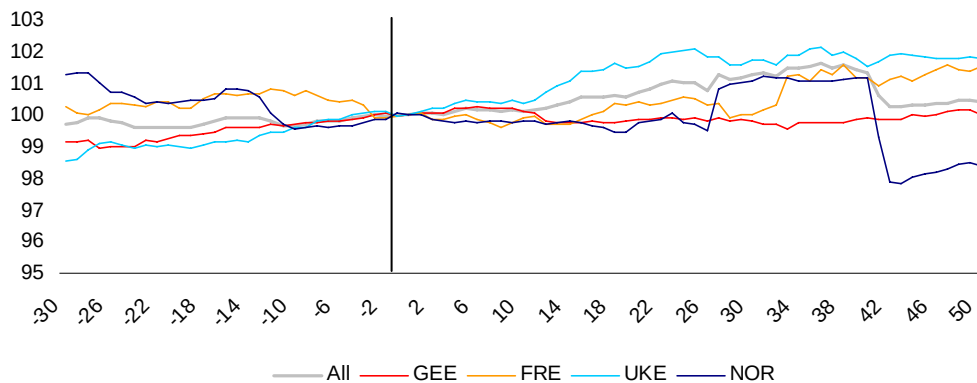
The tax benefit, expected from the increased leverage does, in contradiction to what is suggested by Kaplan (1989), not seem to matter for the likelihood of going private. An increased leverage does in fact lead to a higher probability of going private and firms going private have higher leverage regardless of choice of measure. This is in line with the theory where expropriation of pre-transaction debt holders is in focus.

As we find these results particularly interesting, we further conduct an investigation on our P2P sample to find out whether the wealth transfer from old bond holders actually took place and its magnitude. In order to investigate this, a sample of bonds belonging to the studied P2P companies that were trading over the time of announcement is created. The bond sample consists of 31 bonds from 13 companies. From these 31 bonds, price data in the form of total return is accessed through DataStream. We also gather credit ratings when possible from Reuters. This is available for 13 of the bonds.

If a wealth transfer is to happen the prices and ratings of the bonds should decrease around announcement. Looking at chart 6.3.3.1 it can be seen that there is no clear such pattern. The ISS transaction in Denmark is however an outstanding exception, where the bond price indexes declined by more than 20%, 50 days after announcement. Lack of debt covenants on the old debt made this wealth transfer possible, according to Fredrik Lundgren at Goldman Sachs Private Equity. This large exception affects the Nordic bond price data substantially as shown in chart 6.3.3.1. Looking at the ratings the same unclear

pattern is seen; the rating is unchanged for 3 of the bonds; improves for 4 and decreases for 4. This, to conclude, indicates that there is no general evidence that wealth transfer can explain the unusually high degree of leverage in the P2P transactions, in the studied European regions.

Chart 6.3.3.1 Bond Prices indexed by announcement day (Days)



We believe another possible explanation for the pattern seen in leverage could be that firms with higher pre-buyout leverage in general are less risky and more stable firms more suited for leveraging up. The gains from leveraging up can still be very large in these more highly leveraged firms as they on average, pre-transaction, still only have a net debt-to-assets ratio (debt-to-asset ratio) of less than 15% (27%). Additionally, the P2P transactions usually take place in industries with rather stable cash flows, such as manufacturing, as seen in chart 1.2.6. Another explanation for the high debt levels in the firms going private could be that these firms have been private previously and have high debt levels remaining from previous transactions. Looking at our sample from 2000 to 2006 no firm went private more than once; indicating that even though some firms might be taken private several times during their lives this is not very common and occurs with substantial time gaps in between. In conclusion, the higher stability of the firms going private, in the form of more stable cash flows and returns, is the most reasonable explanation for why the going private firms carry such high leverage.

Additionally, the marginal tax rate of the company's home country does not clearly affect the number of P2P transactions in a given studied nation. This indicates that tax considerations are not one of the most important factors for going private transactions across countries.

6.3.4 *Liquidity*

The theory that firms with low liquidity to a lesser extent can extract the benefit of public ownership and hence have less to lose from going private does not find strong support in this paper.

6.3.5 *Ownership and Control*

In line with the majority of the theories presented in the ownership and control section, an increase in ownership concentration does lead to a slight increase in the propensity to go private. The importance of control in the decision to go public or not, is additionally strengthened by a survey of CFOs by Brau and Fawcett (2006) concluding that “CFOs, particularly those in older firms, give maintenance of decision-making control as the primary reason for going private”. Our finding is based on closely held shares as it is the only, to us available, variable covering various types of ownership. We do not believe that the earlier discussed tradeoff between liquidity and control (Bolton and Von Thadden 1998) is a sufficient reason behind the positive link between ownership consideration and the propensity to go private. It could for an example also be because the higher ownership concentration leads to more expensive public funding, as the firm has to spend more resources to be recognized by investors and hence makes it more profitable for these firms to go private. Additionally, it is possible that ownership concentration captures other factors than the above mentioned. Another explanation might be that it is easier to take a firm with higher ownership concentration private, both for an outsider and an insider, as there are fewer parts to negotiate conditions with and hence easier to gain a controlling stake.

Furthermore, we find a negative relationship between ownership concentration and corporate governance, as the Nordic region and the UK have lowest ownership concentration in the going private firms and higher quality of corporate governance while Germany and France have lower quality of corporate governance and higher ownership concentration in P2P firms. These findings are in line with the findings of both LaPorta (1996) and Thomsen and Vinten (2006).

The effect of corporate governance on the probability of going private can unfortunately only be analyzed on a country level, due to the nature of our data. The relationship is

tested through the country dummies. These show that the probability of going private is positively related to a country's degree of corporate governance, when ownership concentration, amongst other things, is controlled for. The finding contradicts the results and the hypothesis brought forward by Thomsen and Vinten (2006), that fewer firms should be interested in going private the more corporate governance, by them referred to as "good" regulation. We believe an explanation for this phenomenon is that the higher degree of corporate governance leads to more efficient markets in general and therefore also more efficient takeover markets. In a more efficient takeover market more firms are expected to be taken private in order to reduce the inefficiencies that arise from time to time for individual firms.

6.3.6 Undervaluation

Taken together, the results on market-to-book, tobins q and shareholder performance confirm the undervaluation hypothesis, that firms which have lower market valuation in relation to their book valuation is more likely to go private. This is in line with the findings by Kaestner and Liu (1996), who found undervaluation to be one of the underlying reasons for Management-Buy-Outs through a study of abnormal trading prior to announcement of going private. The fact that firms tend to go private when they are most undervalued, hence when it costs the least to take them off the exchange, is also verified by the declining return to shareholders in the year prior to announcement compared to two years prior to announcement. This variable does in fact seem to be the most important variables in the going private decision as it has the highest explanatory power when regressed individually and is significant across all countries.

6.3.7 Free Cash Flow

The funds from operations-to-assets ratio is larger for firms going private. This supports the hypothesis that firms go private to ease agency problems such as empire building as well as to realign incentives for management. Firms where these problems are substantial are firms with large cash flows which also have the most to gain from undertaking the ownership restructuring and realignment process.

6.3.8 Managerial Inefficiency

The higher returns for going private firms indicate that the theory of managerial inefficiency is not correct. It does hence not appear like there is more to gain from taking firms with lower returns private. The fixed assets-to-assets variable does however have the expected sign, indicating overinvestment and inefficiencies. Another explanation for the sign of the fixed assets-to-assets is that companies with a higher ratio of fixed assets are easier to leverage up as there is not as much capital destruction in case of default. This explanation additionally corresponds better to the higher returns of these firms, and all these variables together indicate that the going private firms are a rather stable kind of firm.

7. REGION BY REGION

In this section we will discuss region specific characteristics and how these relate to those of other regions.

Table 7.1 Regressions for the different countries

	<u>Nordic</u>		<u>Germany</u>		<u>France</u>		<u>U.K.</u>	
	Random	Matching	Random	Matching	Random	Matching	Random	Matching
sales	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1
age	1.073 **	1.030	0.997	1.089	1.030	0.957	0.965 **	0.972 **
chs	0.997	1.016	1.010	1.014	0.992	0.986	1.006	1.009
eh	0.997	0.991	0.981	0.983	0.995	1.043	1.016	1.01
ich	1.020	0.978	1.047	0.878	0.985	1.051	0.989	0.999
capexsales	1.002	1.001	0.922	0.840	0.995	1.022	0.998	1.005
div_d	0.846	0.937	0.984	0.351	0.800	0.985	0.547	0.806
liquidity	1.380	0.912	1.235	0.001	0.285	0.257	0.995	1.153
tq	0.991	0.939	0.976	0.784	0.964	1.581	0.996	1.081
nda	1.011	1.013	0.996	1.034	1.008	1.025	1.017 ***	1.016 **
roa	1.031	1.004	1.014	1.076	1.050	1.296	0.964 ***	0.971 **
ffoa	1.022	574.613	1.029	2.507	1.035	0.000	1.027	1982.21 **
trs1_2	0.989 ***	1.000	0.992 **	1.005	0.987 **	1.009	0.985 ***	1
No. Of obs.	564	54	489	33	430	37	547	184
Wald Chi2	14.78	0.91	10.46	0.01	27.68	0	44.91	19.08
Prob>Chi	0.321	1.000	0.656	1.000	0.010	1.000	0.000	0.1207
Pseudo R2	0.1389	0.1154	0.1587	0.3804	0.1513	0.2767	0.3167	0.1147

*10%, **5% and ***1% significance

From the data found in table B.2-B.3 and table C.1-C.2 it can be seen that the characteristics, their sign and importance vary across countries. To confirm this we tried

to optimize a model with regards to Chi2 and explanatory power for the Nordic region and found that the model could be statistically improved. We did however not pursue this path further to avoid data mining and problems when comparing across countries. In discussing how the regions differentiate themselves from one another we will hence use the same model as for the full sample. The most discussed variables statistics are presented in table 7.1 and 7.2.

Table 7.2 Difference Statistics for Most Important Variables Across Countries

		<u>Nordic region</u>		<u>Germany</u>		<u>France</u>		<u>UK</u>	
		mean	median	mean	median	mean	median	mean	median
Sales	Private	886890	247959	1069082	305201	1117179	155368	422367	96748
	Diff. Rand.	-354290	122797	-2418524	136323	-2565375	-17492	-1808230 *	1881
	Diff. Match	-2505	11707	7812	24029	-16112	-4419	-4170	-680
Age	Private	12.8	11.0	11.0	6.0	10.4	7.5	14.2	9.0
	Diff. Rand.	2.7 **	3.0	1.2	1.0	0.7	0.5	0.5	1.0 ***
	Diff. Match	2.1	3.0	4.4 **	1.0 **	-1.8	-1.0	-3.1 **	-5.0 **
Analyst Coverage	Private	4.4	3.0	2.8	0.0	4.3	1.0	3.3	1.5
	Diff. Rand.	0.3	2.0 *	-2.0	-1.0	-2.3	-1.0	-0.8 *	0.5
	Diff. Match	-0.5	1.0	-4.4 ***	-2.0 ***	-0.6	-1.0	0.5 *	0.5
Capex/Sales	Private	94.5	3.8	3.7	2.8	8.1	4.0	16.5	4.8
	Diff. Rand.	78.1 **	0.9	-1.5	0.4	0.8	1.1	-2.0	2.0 ***
	Diff. Match	58.3 *	0.0	-0.4	0.1	-11.1	0.0	0.6	1.8 *
ND/A (%)	Private	20.5	29.2	2.2	3.3	6.5	10.7	17.4	17.8
	Diff. Rand.	13.2 **	18.3	-5.1	-5.4	-1.8	-1.0	16.2 ***	13.6 ***
	Diff. Match	7.0	14.3	11.2	9.6	3.2	-4.9	9.0 **	10.1 **
Volume/TSO	Private	0.50	0.29	0.14	0.02	0.22	0.13	0.65	0.43
	Diff. Rand.	0.13	0.09	0.01	-0.05 **	-0.18	-0.05	-2.02	-0.01
	Diff. Match	-0.1	-0.1	-0.1	-0.1 ***	0.0	0.0	0.0	0.0
Closely H.S (%)	Private	28.9	19.9	46.5	65.1	45.0	56.0	35.5	32.2
	Diff. Rand.	-0.2	-6.3	8.4	27.0	0.8	5.1	14.3 ***	15.3 ***
	Diff. Match	7.7 *	7.5	16.1 **	40.1 **	-5.5	3.4	2.1	-0.9
MtBV	Private	1.8	1.7	2.2	1.4	2.2	2.0	2.8	1.1
	Diff. Rand.	-0.3	0.2	0.0	0.1	-1.3	0.3	-1.7	-0.8 ***
	Diff. Match	0.0	0.1	0.1	0.2	0.3 **	0.0 *	1.2 *	0.0
FFO/A (%)	Private	9.2	9.2	7.8	10.2	11.2	11.3	8.0	7.5
	Diff. Rand.	5.3 *	2.2	5.4 *	5.2 *	6.2 **	5.3	11.2 ***	1.5 ***
	Diff. Match	0.4	0.9	7.3 **	5.2 *	5.1 **	3.6	3.7 ***	2.5 ***
ROA (%)	Private	4.7	5.4	10.2	3.8	7.8	5.9	-0.9	3.9
	Diff. Rand.	5.4	1.5	12.2 ***	-200.2	7.3 ***	3.0 **	3.6	0.8
	Diff. Match	0.2	-0.1	11.5	1.7	7.7 ***	2.7 **	-1.0	1.2
FA/A (%)	Private	38.4	29.9	19.7	21.1	26.8	20.5	45.8	43.3
	Diff. Rand.	10.5 **	9.0	-3.1	2.6	8.8 **	7.9 *	20.9 ***	28.3 ***
	Diff. Match	5.2	-4.7	1.2	5.6	5.6	3.6	14.4 ***	19.9 ***

*10%, **5% and ***1% significance

7.1 The Nordic Region

As earlier mentioned the Nordic region has larger, older and consequently more analysts covered companies going private than the other regions during the investigated period, making information considerations an even less important force for going private than for the other regions. This may be because of less information asymmetry problems in this region. Another possible explanation may be that the Nordic financial markets were recently deregulated. The former market structure involved extreme versions of dual class shares and thus could enable more entrenched management, which could lead to information asymmetries even in large, well covered companies. This would hence make size a very poor measure of visibility and information considerations.

The financial leverage for firms going private in the Nordic is substantially higher than in Germany, France and the UK, both in absolute terms and in relation to the leverage of the public firms in each region. The sign of the difference in leverage is in the same direction as in the full sample, making the same reasoning applicable here.

The Nordic companies that go private have a lower degree of closely held shares than those that go private in other countries. It is the only region where firms going private have lower ownership concentration than firms on the constituent list. This could be in part because of the fewer employee held shares. Pension fund holdings in the Nordic are significantly higher than in other countries, both for public and going private firms. When regressing the different considerations separately, pension fund holdings is the only variable that is statistically significant amongst the control consideration variables. The high pension fund holdings could be caused by the Nordic demographics, where pension savings is becoming increasingly important as the number of people in the working force in relation to retired people will strongly decrease in the near future. We do however believe that the Nordic region is not the only region in our sample with this type of demographic problem and therefore find it more reasonable that the differences are more dependent on the structure of the governmental pension systems. This is especially likely as part of the Nordic region has undergone a substantial pension reform not yet undertaken by other European countries. Additionally, these results indicate that the role of control in Nordic buyouts is not as prevalent as expected from theory and from the

analysis of the full sample. Control also seems to be a substantially less important consideration in the decision between public and private in the Nordic region than it is in the UK and Germany. This result may however be obscured by the frequent use of pyramid holdings and the earlier mentioned dual class share system.

In conclusion, the Nordic region differentiates itself from the other regions in particular in that leverage is a more important characteristic and ownership and control a less important, in the decision to take a firm private.

7.2 Germany

Germany is the only region that has statistically significant older companies going private compared with those of similar size that remain public. Additionally, the firms going private have lower analyst coverage, both in absolute terms and in relation to the public firms, compared to the other regions. The results from age and analyst coverage are contradictory making it hard to formulate any conclusive statement of how information availability affects the propensity to go private, just as for the full sample.

Germany has the lowest capex-to-sales ratio amongst the going private firms in absolute terms and is further the only country where the propensity to go private appear to be economically affected by this ratio. Firms with lower capex-to-sales are more likely to go private. This is different from what is seen in the full sample and indicates that firms going private in Germany have lower investment need and thus less need of money from the public markets.

Germany is one of the countries with lowest liquidity amongst the firms going private, as well as in general. Firms that go private have significantly lower liquidity than public firms. Further, liquidity has a negative relation to the propensity to go private among similarly sized firms and a positive relation among all firms. These variables in total indicate that firms that go private are indeed gaining less from remaining on an exchange. Additionally, Germany has amongst the highest degrees of closely held shares for going private companies, as expected due to their low corporate governance. The regression also supports that, just as for the full sample, ownership concentration decreases the benefits of being public. Germany has the largest difference in funds from operations-to-

assets between going private and public companies in the matched sample, where the companies going private have more than twice the amount of funds from operations-to-assets compared to matching and random companies. This indicates that free cash flows are more important for the going private decision in Germany than in other countries.

In conclusion, the specific characteristics for Germany are the low investment need and the low liquidity for P2P companies. This together indicates that the firms going private in Germany to a lesser extent are able to use the benefits of the public capital markets. Germany also has one of the highest degrees of ownership concentration, which is negatively related to the probability of going private, in line with theory. Furthermore, resolving cash related agency problems is an unusually important aspect.

7.3 France

France has the lowest absolute age for firms going private. The impact of age on the probability of going private is however uncertain, in line with the results of the full sample. The liquidity is very low in France and it is further the only country where the probability of going private is negatively related to liquidity for both samples. This is economically but not statistically significant. That lower liquidity is increasing the gains from going private is in accordance with Bolton and von Thadden (1998). France further has a high degree of ownership concentration manifested by closely held shares and employee held shares. It does however not seem to be a large difference in concentration between going private and public companies in France. The higher general ownership concentration is expected due to the lower degree of corporate governance discussed earlier.

French companies going private are less leverage than public firms, indicating that tax benefits may be a more important consideration in France than in the other regions or that the stable firms are not more leveraged than other firms. This is interesting as the result is opposite those of the full sample but in line with the theories presented on tax benefits. Additionally, France has one of the highest corporate tax rates making potential tax benefits larger than in other countries.

The return on assets is higher in France for companies going private than in the other regions. Additionally, the difference between going private and public companies is larger than in other countries, studying the median. This indicates that companies going private in France have no sign of the management inefficiency hypothesis as a basis for going private. The French companies going private are relatively more profitable than companies going private in other regions, indicating that French companies are more productive, not less.

In conclusion, in France less liquid companies are taken private and ownership concentration is higher for P2P companies, compared to both samples. This follows the expected pattern from the low corporate governance in France. Additionally, it is particularly evident in France that the firms going private are actually more productive, not less, than the ones remaining public.

7.4 The United Kingdom

The absolute size of the companies going private is smaller in the UK than in the other regions. The UK is also the only region where the propensity to go private is statistically significantly larger for smaller firms, when comparing to both samples. In addition, looking at medians, the UK is the only region where the companies going private are younger than the companies remaining public. However, the analyst coverage is, on average, greater for firms going private, especially when comparing to matching companies. The size and age variables indicate that the information availability is important for the P2P decision in the UK. The higher amount of analyst coverage compared to public firms does however point in the opposite direction from expected. This may however be because a certain amount of analyst coverage is needed in order to analyze the company. Something speaking in favor of this is that the analyst coverage for companies going private in the UK is not larger than for P2P companies in other regions. Thus it seems like information considerations, with lower information availability for the firms going private, could matter in the UK.

Furthermore, the UK has the highest liquidity both for going private and public firms. This is expected as the UK has the most developed and active financial markets. Opposite to what is expected, liquidity increases the propensity to go private amongst similar sized

and valued firms. The largest difference in capex-to-sales between going private and public companies is found in the UK for both samples, where private firms have a higher ratio. When looking at the regressions, no clear connection is however found between capex-to-sales and the decision to go private. This is in accordance with the results of the full sample, but not with expectations.

Public companies in the UK, on average, have less leverage than those from other countries. However, the firms going private have higher leverage than firms remaining public, and companies with more leverage are significantly more likely to go private. Hence, the same reasoning regarding leverage as for the full sample can be applied. The UK has a significantly higher degree of Investment Company held shares, perhaps reinforced by the financial markets in London. More Investment Company holdings have a negative relationship to going private. This may be as Investment Companies are active holders and can alleviate e.g. incentive mis-alignment problems.

A lower market-to-book ratio, both for private firms in absolute terms and in relation to public companies, is found in the UK comparing to other countries. This indicates that the buyout decision in the UK might be more dependent of undervaluation and companies going private may do so because of mis-valuation by the market to a larger extent. This may seem strange as UK should have less mis-valuations due to the country's more efficient market. Taking undervalued companies private can nevertheless also be interpreted in the context of more efficient capital markets, where the UK is characterized by takeover threats as a means of corporate governance, as suggested by Bolton and Von Thadden (1998).

Further, the UK is the only country where the propensity to go private significantly decreases with return-on-assets. This is also in accordance with the above results of a more efficient takeover market. There seem to be actors buying companies with underperforming management, thus alleviating the problems with entrenchment in a way not happening in the other regions investigated. The UK has the highest proportion of fixed assets-to-assets in the P2P sample as well as the largest difference between going private and public companies. This can be interpreted as above, that high fixed assets-to-asset is a sign of overinvestment. It may also be interpreted in the way that doing a

leveraged buyout is less risky when there is a higher proportion of fixed assets that can be used as collateral for the new loans.

In conclusion, the information consideration theory fits quite well with the evidence for the UK. Bharath and Dittmar (2006) find similar results in the US, indicating that these two markets to a large extent use P2P transactions to overcome informational inefficiencies. That the UK has more active markets is also seen through the higher liquidity. Another interesting finding is that investment companies hold larger stakes in UK companies than those of the other investigated regions. These holdings do however decrease the probability of going private. It seems like the efficient market is also manifested in an active takeover market, where companies that are taken private have low returns and few active holders, such as investment companies. That these markets are unusually efficient is also supported by the fact that firms taken off the exchanges are rather undervalued.

8. CONCLUSIONS

The large market for taking companies private is a relatively new phenomenon in Europe and has thus not been studied extensively. Furthermore, even today, the number of transactions in individual countries, except for the UK, is rather low. However, as the going private markets in Europe have grown substantially and become very important in the last decade, this is today a very relevant topic and a few recent studies have emerged. Prior research has mainly been focused on the US and to some extent the UK.

In this paper, we investigate which firm specific characteristics explain why companies go private and whether they are in fact the same across countries. The study is performed by examination of the pre-transaction characteristics of companies going private in comparison to companies remaining public across four European regions. The characteristics are analyzed both for the full sample and for the separate regions, with the aim of detecting the driving forces for going private.

The results for Europe are remarkably similar to those that are found in the US with regard to how the variables affect the propensity to go private. In addition, leverage, ownership and control, undervaluation and cash flows are the variables that are of largest

importance for this decision. Interestingly, the findings concerning leverage, control, undervaluation and cash flows are persistent, not only when comparison is made to the average public firm in the studied markets, but also when comparing to firms of similar size and valuation (the matching sample). The relative weight of the different variables is however not the same across countries. Other studied considerations such as liquidity, access to capital, managerial inefficiencies and information availability are not of large importance for the decision of going private; partly contradicting the US findings, where for example liquidity is of strong significance.

A remarkable finding both in the US and in Europe is that the debt levels are higher in firms going private than in firms remaining public. An explanation brought forward is that value is expropriated from old debt holders to the new investors. By looking at performance for bonds still traded even after the firms go private we can see that this is not the case, as the bonds do not lose value or drop in ratings.

Companies taken private are more stable than other companies. This is seen by the combination of the higher cash flow, the higher proportion of fixed assets and the more stable total returns to shareholders that are prevalent in going private firms. This explains why these firms are able to carry more debt pre-transaction. This “stability” is likely to be one of the most important aspects of a firm’s suitability for being taken private.

Undervaluation is a very important consideration for taking a company private. Timing of the buyout is particularly vital. This is in line with expectations as these types of transactions usually involve contact with management or more informed investors.

Another finding is that a firm is more likely to go private if it has a high ownership concentration, hence supporting that a high degree of ownership concentration reduces the benefits of being public and that it might be easier to negotiate with the pre-transaction investors, due to their smaller number. Ownership concentration in turn is negatively related to the level of corporate governance, in the form of laws and regulations as well as market development.

The same variables are not of equal importance across countries. For an example, cash flows are more important in France, and leverage more important in the UK, than in the other studied regions. This can also be seen by the fact that the optimal model for each

country does not look the same. Additionally, some of the less significant variables do not point in the same direction across countries, for an example more employee held shares increase the propensity to go private in the UK while it decreases the propensity to go private in all other countries.

Finally, the differences across countries are linked to the corporate governance and market efficiency levels in the regions. The importance of corporate governance is revealed through the country dummies, from which it can be seen that the propensity to go private vary in accordance with the degree of corporate governance. In addition, the number of P2P transactions is the highest in the UK where the corporate governance is the strongest. The UK does in particular differentiate itself from the other studied regions. Firms that go private in the UK have lower return on assets in absolute numbers than firms going private in all other studied regions. The UK is more interestingly the only studied region where lower returns increases the propensity to go private and information availability does matter, indicating that the takeover market in the UK is more efficient at spotting and restructuring firms with inefficiencies than the other studied regions are. It can also be concluded that the firms involved in P2P transactions in France and Germany are more similar than in the other two studied regions, consistent with the fact that these two countries have the similar legal origin. Summarizing, a country's degree of corporate governance, which has previously been found to affect the domestic market efficiency positively, does also affect the underlying forces to why firms go private.

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Tommi Unkuri, Morgan Stanley Investment Banking Division

APPENDIX A: GENERAL TABLES

Table A.1 Market Value Exchanges \$MM

	SWE	DEN	FIN	NOR	Nordic	GER	FRA	UK
2000	558 225	148 845	578 997	76 290	1 362 358	1 365 727	1 646 542	2 930 011
2001	473 161	124 790	447 883	90 741	1 136 575	1 158 471	1 339 401	2 577 814
2002	306 757	94 865	355 597	68 653	825 872	675 837	919 910	1 992 710
2003	381 611	135 624	401 448	103 644	1 022 327	907 683	1 122 942	2 377 106
2004	414 709	166 957	417 631	142 501	1 141 799	971 625	1 304 783	2 619 689
2005	564 083	227 523	517 540	215 819	1 524 964	1 243 415	1 775 842	3 291 694
2006	629 831	237 931	550 344	249 193	1 667 299	1 385 821	2 032 701	3 479 161
number	299	190	117	201	807	673	494	1865

Source: Datastream

Table A.2 Market Value P2P \$MM

	SWE	DEN	FIN	NOR	Nordic	GER	FRA	UK
2000	217	843	35	147	1 242	1 449	980	12 507
2001	2 420	92	1 060	1 174	4 747	103	123	5 612
2002	415	258	0	0	673	298	4 569	1 736
2003	894	691	175	937	2 697	2 794	466	7 272
2004	406	731	0	7	1 143	1 247	5 907	13 942
2005	346	20 049	0	772	21 167	9 408	13 454	9 584
2006	5 454	121	0	882	6 457	809	2 494	15 220

Source: M&A Monitor

Table A.3 Number of P2P transactions in a given year

	SWE	DEN	FIN	NOR	Nordic	GER	FRA	UK
2000	2	8	2	2	14	6	7	39
2001	5	1	1	4	11	1	2	25
2002	2	2	0	0	4	2	5	14
2003	4	1	1	6	12	6	5	36
2004	3	2	0	1	6	5	6	26
2005	1	5	0	5	11	8	8	27
2006	1	2	0	3	6	10	3	25
TOTAL	18	21	4	21	64	38	36	192

Source: M&A Monitor

Table A.4 Market Value IPO \$MM

	SWE	DEN	FIN	NOR	Nordic	GER	FRA	UK
2000	11 481	448	699	4 590	17 219	30 004	11 209	21 978
2001	367	198	0	4 215	4 780	3 888	7 237	21 040
2002	1 323	0	0	3	1 326	287	2 441	7 398
2003	0	9	0	0	9	0	2	5 016
2004	32	188	105	884	1 209	3 231	2 125	16 630
2005	158	44	56	1 002	1 260	1 490	10 454	17 656
2006	196	269	71	511	1 048	3 284	1 681	13 697

Source: Zephyr

Table A.5 Number of IPO transactions in a given year

	SWE	DEN	FIN	NOR	Nordic	GER	FRA	UK
2000	24	6	12	8	50	137	109	297
2001	7	4	4	5	20	25	42	130
2002	10	0	1	4	15	9	13	100
2003	2	3	0	4	9	1	4	97
2004	23	5	2	24	54	7	14	244
2005	35	4	4	37	80	34	40	340
2006	13	9	4	14	40	54	51	199
TOTAL	114	31	27	96	268	267	273	1407

Source: Zephyr

Table A.6 Statutory Tax Rates

Country	Central Government Corporate	Adjusted Central Government	Sub-Central Government	Combined Corporate
Sweden	28.0%	28.0%		28.0%
Finland	26.0%	26.0%		26.0%
Norway	28.0%	28.0%		28.0%
Denmark	28.0%	28.0%		28.0%
Nordic (average)	27.5%	27.5%		27.5%
France	34.4%	34.4%		34.4%
Germany	26.4%	21.9%	17.1%	38.9%
UK	30.0%	30.0%		30.0%

Source: OECD

Table A.7 Control of Medium-Sized Traded Firms

Country	Widely Held	Family	State	Widely Held Financial	Widely Held Corporation	Miscellaneous
Sweden	0.6	0.4	0	0	0	0
Finland	0.2	0.2	0.2	0.1	0.1	0.2
Norway	0.2	0.4	0.2	0.1	0	0.1
Denmark	0.3	0.4	0.2	0	0	0.1
Nordic (average)	0.33	0.35	0.15	0.05	0.03	0.1
France	0	0.5	0.2	0.2	0	0.1
Germany	0.1	0.4	0.2	0.2	0.1	0
UK	0.6	0.4	0	0	0	0

Source: LaPorta et al (1999)

Note:

1. The number presented is the mean of each variable using 20% as the criterion for control for 10 firms with a market cap above \$500MM in each country in December 1995

Table A.8 Definition of variables

Name	Short name	Definition	Source
Age	Age	Year - Year(Listed). For pairs both firms use same Year variable	
Analyst coverage	Analyst coverage	Number of recommendations	IBES
Announcement Date		Date of announcement of deal	M&A Monitor
Assets	Assets	Total assets	Worldscope
Bidder		Bidding entity	M&A Monitor
Book Value of Equity	Bv	Common shareholders' investment in a company	Worldscope
Capex		Funds used to acquire fixed assets other than acquisitions	Worldscope
Capex-to-sales (%)	Capex/Sales (%)	Capex / Sales *100	
Cash		Cash, bank balances, short-term loans and deposits, and investments shown under current assets	Worldscope
CashDividendsPaid	CDP	Total common and preferred dividends paid to shareholders of the company	Worldscope
Cash-to-assets (%)	Cash/A	Cash / Assets *100	
Closely held shares (%)	CHS	Closely Held Shares / Total Shares Outstanding *100	
Closely Held Shares (no. Of)		Shares held by insiders. It includes but is not restricted to: Shares held by officers, directors and their immediate families, Shares held in trust, Shares of the company held by any other corporation, Shares held by pension/benefit plans.	
Country		Country of target company	M&A Monitor
Debt		Net Debt + Cash	
Debt-to-assets (%)	D/A	Debt / Assets *100	
Dividend dummy	Div_D	=1 if dividend is paid out during last rolling 12 months	DataStream
Employee Held Shares (%)	EH	Percentage of total shares in issue held by employees, or by those with a substantial position in a company that provides significant voting power at an AGM	DataStream
Fixed Assets		Gross Property, Plant and Equipment less accumulated reserves for depreciation, depletion and amortization	Worldscope
Fixed assets-to-assets	FA/A	Fixed Assets / Assets	
France Dummy	FRA_D	=1 for French companies	
Free Cash Flow-to-Assets (%)	FCF/A	(FFO - Capex - CDP) / Assets *100	
Funds from Operations	FFO	Sum of net income and all non-cash charges or credits. It is the cash flow of the company	Worldscope
Funds from operations-to-assets (%)	FFO/A	FFO / Assets *100	
Germany Dummy	GER_D	=1 for German companies	
Government Held Shares (%)	GH	Percentage of total shares in issue held by a government or government institution	DataStream
Investment Company Held shares (%)	ICH	Percentage of total shares in issue held as long term strategic holdings by investment banks or institutions seeking a long term return	DataStream
Liquidity	Volume/TSO	Total Shares Outstanding / Volume	
Listed		First dataae from which Datastream holds data (1 day before listing)	DataStream
Market value	MV	Share price multiplied by the number of ordinary shares in issue	DataStream
Market-to-book	MtBV	Market Value / Book Value of Equity	
Net debt		Total debt (all interest bearing and capitalized lease obligations) less Cash & equivalents (Cash & Short Term Investments)	Worldscope
Net debt-to-assets (%)		Net Debt / Assets *100	
Nordic Dummy	Nordic_D	=1 for nordic companies	
Pension Fund Held Shares (%)	PH	Percentage of total shares in issue held by pension funds or endowment funds	DataStream
Public to Private Dummy	P2P_D	=1 if the company is engaged in a P2P transaction	
Return on Assets (%)	RoA	(Net Income before Preferred Dividends + ((Interest Expense on Debt-Interest Capitalized) * (1-Tax Rate))) / (Last Year's Total Assets - Last Year's Customer Liabilities on Acceptances) * 100	Worldscope
Return on Capital Employed (%)	ROCE	(Net Income before Preferred Dividends + ((Interest Expense on Debt - Interest Capitalized) * (1-Tax Rate))) / (Last Year's Total Capital + Last Year's Short Term Debt & Current Portion of Long Term Debt) * 100	Worldscope
Sales	Sales	Gross sales and other operating revenue less discounts, returns and allowances	Worldscope
SIC Code	SIC	Assigned according to the type of business in which a company is engaged	Worldscope
Target		Target company	M&A Monitor
Tobins q	Tobins q	(Market Value of equity + Book value of Debt) / (Book Value of Equity+ Book value of debt)	
Total return to shareholders year -1	Trs_1	Return over the year before announcement if dividends are reinvested	DataStream
Total return to shareholders year -2	Trs_2	Return over the 2nd year before announcement if dividends are reinvested	DataStream
Total return to shareholders year -3	Trs_3	Return over the 3rd year before announcement if dividends are reinvested	DataStream
Total return to shareholders year -4	Trs_4	Return over the 4th year before announcement if dividends are reinvested	DataStream
Total return to shareholders year -5	Trs_5	Return over the 5th year before announcement if dividends are reinvested	DataStream
Total Shares Outstanding	TSO	Number of shares outstanding at the company's year end. It is the difference between issued shares and treasury shares	Worldscope
Trs year -1 minus Trs -2	Trs1_2	Trs_1 - Trs_2	
United Kingdom Dummy	UK_D	=1 for British companies	
Volume traded		Number of shares traded during the twelve months ending one month before announcement.	DataStream

APPENDIX B: DESCRIPTIVE STATISTICS

Table B.1 All Regions

INFORMATION CONSIDERATIONS		All Regions - Random			All Regions - Matching		
		mean	median	std.dev	mean	median	std.dev
Sales	Private	664617.7	127561.0	1672934.0	667733.2	127856.0	1677016.0
	Public	2515591.0	130580.0	11400000.0	671811.9	131483.5	1699670.0
	Diff	-1850973.0 **	-3019.0	845461.6	-4078.7	-3627.5	101408.1
Assets	Private	865077.4	147865.0	2393634.0	869604.6	148281.0	2399452.0
	Public	7693764.0	141808.0	59000000.0	1409736.0	151717.5	5848354.0
	Diff	-6828687.0 *	6057.0	4365452.0	-540131.0 *	-3436.5	5658508.0
Market Value	Private	441072.2	70210.0	1111863.0	443020.3	70180.0	1114617.0
	Public	1926382.0	97910.0	9662510.0	547247.9	106345.0	1355766.0
	Diff	-1485310.0 **	-27700.0	714765.4	-104227.6	-36165.0 *	1302980.0
Age	Private	13.0	9.0	10.2	13.1	9.0	10.1
	Public	11.4	7.0	10.3	14.3	9.5	11.8
	Diff	1.6 **	2.0 ***	0.8	-1.2	-0.5	14.3
Analyst Coverage	Private	3.5	1.0	4.9	3.5	1.0	4.9
	Public	4.7	1.0	7.5	3.9	2.0	5.5
	Diff	-1.1 **	0.0	0.6	-0.4	-1.0	5.0
ACCESS TO CAPITAL							
Capex/Sales	Private	27.1	4.3	168.2	27.2	4.3	168.7
	Public	13.3	2.8	135.0	18.5	3.1	77.2
	Diff	13.8 *	1.5 ***	10.6	8.8	1.2	110.1
Dividend Dummy	Private	0.7	1.0	0.5	0.7	1.0	0.5
	Public	0.5	1.0	0.5	0.6	1.0	0.5
	Diff	0.1 ***	0.0 ***	0.0	0.1 *	0.0	0.7
TAX BENEFIT							
ND/A (%)	Private	14.6	16.5	32.5	14.7	16.7	32.5
	Public	5.1	8.0	34.6	6.6	9.9	30.5
	Diff	9.5 ***	8.5 ***	2.6	8.1 ***	6.8 **	40.6
D/A (%)	Private	27.0	23.5	1.7	14.9	16.8	32.4
	Public	22.0	18.4	0.5	6.8	9.9	30.4
	Diff	22.3 ***	5.0 **	0.4	8.1 ***	6.9 **	3.0
PANEL D - LIQUIDITY							
Volume/TSO	Private	0.51	0.29	0.87	0.51	0.29	0.88
	Public	1.22	0.21	38.04	0.53	0.33	0.60
	Diff	-0.72	0.08 **	2.81	-0.02	0.0	1.01
OWNERSHIP AND CONTROL							
Closely H.S. (%)	Private	36.8	35.0	29.0	36.8	35.0	29.0
	Public	32.7	29.4	28.4	33.3	32.3	24.3
	Diff	4.1 **	5.6	2.2	3.5 *	2.7	33.8
Employee H.S. (%)	Private	16.9	7.0	22.4	16.9	7.0	22.4
	Public	20.6	10.0	24.2	14.7	6.0	20.0
	Diff	-3.7 **	-3.0 *	2.0	2.3	1.0	26.4
Government H.S. (%)	Private	0.7	0.0	6.3	0.7	0.0	6.3
	Public	0.4	0.0	4.0	0.2	0.0	1.7
	Diff	0.3	0.0	0.3	0.5	0.0	6.6

Pension Fund H.S. (%)	Private	1.4	0.0	2.9	1.4	0.0	2.9
	Public	1.3	0.0	3.3	1.2	0.0	3.5
	Diff	0.0	0.0	0.3	0.2	0.0	4.4
Investment Company H.S. (%)	Private	15.1	10.0	17.4	15.1	10.0	17.5
	Public	9.2	1.0	13.6	16.5	10.0	18.2
	Diff	5.9 ***	9.0 ***	1.1	-1.4	0.0	18.4
UNDervaluation							
MtBV	Private	2.5	1.4	7.7	2.5	1.4	7.7
	Public	3.3	1.6	59.0	1.7	1.2	1.5
	Diff	-0.8	-0.2 **	4.4	0.8 *	0.1 **	6.9
Tobins q	Private	1.6	1.2	6.7	1.5	1.2	6.7
	Public	6.2	1.4	173.9	1.2	1.2	3.9
	Diff	-4.7	-0.2 ***	12.9	0.3	0.1	9.2
Total Return to Shareholders Year-1	Private	25.6	27.2	46.8	25.3	26.5	47.0
	Public	64.4	34.8	224.7	27.5	18.0	83.0
	Diff	-38.8 **	-7.7 **	16.7	-2.2	8.5	89.1
Total Return to Shareholders Year-2	Private	11.5	10.0	51.2	11.2	10.1	51.2
	Public	-23.3	-25.1	41.6	18.6	0.0	157.5
	Diff	34.8 ***	35.1 ***	3.3	-7.4	10.2	162.2
Total Return to Shareholders Year-3	Private	9.6	0.4	60.2	7.6	0.4	59.9
	Public	-15.5	-15.8	45.5	7.2	0.2	65.9
	Diff	25.1 ***	16.2 ***	3.7	0.3	0.2	74.1
Total Return to Shareholders Year-4	Private	6.9	-5.0	58.0	8.3	-5.0	61.2
	Public	5.9	-1.3	65.4	8.2	-1.2	63.9
	Diff	1.1	-3.6	5.3	0.1	-3.7	75.2
Total Return to Shareholders Year-5	Private	-3.3	-3.6	50.5	-2.0	-3.6	53.6
	Public	62.5	18.0	285.6	16.2	-1.1	69.0
	Diff	-65.8 ***	-21.6 ***	23.5	-18.2 ***	-2.5 ***	75.1
FREE CASH FLOW							
FCF/A (%)	Private	-0.4	1.1	12.7	-0.3	1.2	12.7
	Public	-5.0	1.0	30.4	-2.6	0.6	13.7
	Diff	4.6 **	0.1	2.3	2.3 **	0.6 *	14.6
FFO/A (%)	Private	8.5	8.4	10.6	8.6	8.4	10.5
	Public	1.0	6.0	30.0	4.9	6.7	12.4
	Diff	7.4 ***	2.4 ***	2.2	3.8 ***	1.7 ***	12.7
Cash/A (%)	Private	12.3	6.1	15.5	12.3	6.0	15.5
	Public	16.9	10.0	19.7	14.1	7.5	17.5
	Diff	-4.6 ***	-3.9 ***	1.5	-1.9	-1.5	21.8
MANAGERIAL INEFFICIENCY							
ROA (%)	Private	2.3	4.3	27.1	2.6	4.3	27.1
	Public	-2.3	3.0	52.8	0.8	3.5	12.7
	Diff	4.6	1.3 ***	3.9	1.8	0.8 *	27.3
ROCE (%)	Private	4.2	6.5	35.7	4.5	6.5	35.6
	Public	-30.9	4.5	1150.2	1.5	5.2	19.2
	Diff	35.2	2.0 ***	85.0	3.0	1.3 *	37.5
FA/A (%)	Private	38.8	31.7	30.8	39.0	32.4	30.8
	Public	23.9	16.3	23.9	28.9	21.4	26.7
	Diff	14.9 ***	15.4 ***	1.9	10.1 ***	11.0 ***	37.9

Table B.2 Descriptive statistics for the Random Sample

PANEL B.2.A - INFORMATION AVAILABILITY, ACCESS TO CAPITAL, TAX BENEFIT

		Nordic region		Germany		France		UK	
		mean	median	mean	median	mean	median	mean	median
Sales	Private	886889.6	247959.0	1069082.0	305201.0	1117179.0	155368.0	422366.5	96747.5
	Public	1241180.0	125162.5	3487607.0	168878.5	3682554.0	172860.0	2230596.0	94867.0
	Diff	-354290.2	122796.5	-2418524.0	136322.5	-2565375.0	-17492.0	-1808230.0	* 1880.5
Assets	Private	1241699.0	290900.0	1175126.0	196581.0	1687292.0	95320.5	515119.9	137884.5
	Public	1986625.0	152319.5	10100000.0	152882.0	11800000.0	188020.0	7967861.0	110723.0
	Diff	-744925.3	138580.5	-8894099.0	43699.0	-10100000.0	-92699.5	-7452741.0	27161.5
Market Value	Private	693256.5	101790.0	500092.4	63310.0	800503.3	100715.0	277591.8	54920.0
	Public	1011225.0	107085.0	1629766.0	64070.0	2533858.0	106250.0	2343083.0	127320.0
	Diff	-317968.2	-5295.0	-1129674.0	-760.0	-1733355.0	-5535.0	-2065491.0	** -72400.0 ***
Age	Private	12.8	11.0	11.0	6.0	10.4	7.5	14.2	9.0
	Public	10.1	8.0	9.9	5.0	9.7	7.0	13.7	8.0
	Diff	2.7	** 3.0	1.2	1.0	0.7	0.5	0.5	1.0 ***
Analyst Coverage	Private	4.4	3.0	2.8	0.0	4.3	1.0	3.3	1.5
	Public	4.0	1.0	4.9	1.0	6.5	2.0	4.1	1.0
	Diff	0.3	2.0 *	-2.0	-1.0	-2.3	-1.0	-0.8	* 0.5
Capex/Sales	Private	94.5	3.8	3.7	2.8	8.1	4.0	16.5	4.8
	Public	16.5	2.9	5.3	2.4	7.3	2.9	18.5	2.8
	Diff	78.1	** 0.9	-1.5	0.4	0.8	1.1	-2.0	2.0 ***
Dividend Dummy	Private	0.6	1.0	0.6	1.0	0.8	1.0	0.7	1.0
	Public	0.6	1.0	0.4	0.0	0.6	1.0	0.5	1.0
	Diff	0.1	0.0	0.2	* 1.0 ***	0.1	0.0	0.1	** 0.0
ND/A (%)	Private	20.5	29.2	2.2	3.3	6.5	10.7	17.4	17.8
	Public	7.3	10.9	7.2	8.6	8.2	11.7	1.2	4.2
	Diff	13.2	** 18.3	-5.1	-5.4	-1.8	-1.0	16.2	*** 13.6 ***
D/A (%)	Private	34.5	34.7	17.9	11.1	25.3	22.5	27.0	22.5
	Public	24.0	22.0	23.9	20.1	23.0	22.7	19.4	12.9
	Diff	24.5	*** 12.6 **	23.6	-9.0	23.1	-0.2	20.2	*** 9.6 ***

PANEL B.2.B - LIQUIDITY, OWNERSHIP AND CONTROL, MANAGERIAL INEFFICIENCY

		<u>Nordic region</u>		<u>Germany</u>		<u>France</u>		<u>UK</u>	
		mean	median	mean	median	mean	median	mean	median
Volume/TSO	Private	0.50	0.29	0.14	0.02	0.22	0.13	0.65	0.43
	Public	0.37	0.20	0.13	0.08	0.40	0.18	2.66	0.44
	Diff	0.13	0.09	0.01	-0.05 **	-0.18	-0.05	-2.02	-0.01
Closely Held Shares (%)	Private	28.9	19.9	46.5	65.1	45.0	56.0	35.5	32.2
	Public	29.0	26.2	38.1	38.2	44.2	50.9	21.2	16.9
	Diff	-0.2	-6.3	8.4	27.0	0.8	5.1	14.3 ***	15.3 ***
Employee H.S	Private	14.8	1.0	26.1	10.0	27.4	24.0	13.9	7.0
	Public	15.3	6.0	28.4	21.5	29.5	20.0	15.7	7.0
	Diff	-0.5	-5.0	-2.2	-11.5	-2.1	4.0	-1.8	0.0
Government H.S	Private	1.4	0.0	0.0	0.0	3.7	0.0	0.0	0.0
	Public	0.8	0.0	0.3	0.0	0.5	0.0	0.1	0.0
	Diff	0.5	0.0	-0.3	0.0	3.2 **	0.0	-0.1	0.0
Pension Fund H.S	Private	4.6	1.5	0.0	0.0	0.0	0.0	0.9	0.0
	Public	3.0	0.0	0.0	0.0	0.0	0.0	1.6	1.0
	Diff	1.6 *	1.5	0.0	0.0 ***	0.0	0.0	-0.7 ***	-1.0 ***
Investment Company H.S	Private	6.6	0.0	1.8	0.0	1.3	0.0	22.7	19.5
	Public	4.8	1.0	0.9	0.0	2.1	0.0	19.3	17.0
	Diff	1.8	-1.0	0.8	0.0	-0.8	0.0	3.4 **	2.5
ROA (%)	Private	4.7	5.4	10.2	3.8	7.8	5.9	-0.9	3.9
	Public	-0.7	3.9	-2.1	204.0	0.5	3.0	-4.5	3.1
	Diff	5.4	1.5	12.2 ***	-200.2	7.3 ***	3.0 **	3.6	0.8
ROCE (%)	Private	7.3	7.7	13.0	6.8	12.4	8.1	0.2	4.9
	Public	-103.2	5.9	-7.0	3.1	-8.7	4.7	-11.0	4.4
	Diff	110.6	1.8	20.0	3.6 *	21.0	3.4 ***	11.3	0.4
FA/A (%)	Private	38.4	29.9	19.7	21.1	26.8	20.5	45.8	43.3
	Public	27.8	21.0	22.9	18.6	18.0	12.5	24.8	15.0
	Diff	10.5 **	9.0	-3.1	2.6	8.8 **	7.9 *	20.9 ***	28.3 ***

PANEL B.2.C - UNDERVALUATION, FREE CASH FLOW

		Nordic region		Germany		France		UK	
		mean	median	mean	median	mean	median	mean	median
MtBV	Private	1.8	1.7	2.2	1.4	2.2	2.0	2.8	1.1
	Public	2.1	1.5	2.2	1.3	3.5	1.6	4.5	1.9
	Diff	-0.3	0.2	0.0	0.1	-1.3	0.3	-1.7	-0.8 ***
Tobins q	Private	0.0	1.4	4.2	1.3	1.2	1.5	1.5	1.1
	Public	0.8	1.3	1.6	1.2	18.5	1.4	6.2	1.7
	Diff	-0.8	0.1	2.6 **	0.1	-17.3	0.1	-4.7	-0.6 ***
Total Return to Shareholders Year-1	Private	44.1	50.7	37.2	29.4	28.9	28.8	16.5	18.7
	Public	61.2	37.4	72.3	43.2	66.8	26.6	61.0	35.4
	Diff	-17.1	13.4	-35.1	-13.9	-37.9	2.2	-44.5 ***	-16.7 ***
Total Return to Shareholders Year-2	Private	21.8	12.3	9.2	10.3	23.7	12.1	6.5	8.0
	Public	-18.9	-16.0	-34.9	-40.1	-21.8	-22.4	-20.5	-22.9
	Diff	40.7 ***	28.3 ***	44.0 ***	50.4 ***	45.5 ***	34.5 ***	26.9 ***	30.9 ***
Total Return to Shareholders Year-3	Private	27.4	6.1	4.6	-1.6	1.9	-1.4	7.2	-0.4
	Public	-8.5	-7.4	-28.7	-32.6	-17.0	-16.4	-11.6	-14.5
	Diff	35.9 ***	13.5 *	33.3 ***	30.9 *	18.9 **	14.9	18.8 ***	14.1 ***
Total Return to Shareholders Year-4	Private	-2.9	-6.9	-11.9	-5.4	4.9	-6.1	14.4	0.3
	Public	5.5	0.4	-2.6	-7.8	21.3	4.3	2.8	-1.0
	Diff	-8.4	-7.2	-9.4	2.4	-16.5	-10.4	11.6 **	1.2
Total Return to Shareholders Year-5	Private	-12.0	-10.9	-12.7	-8.3	35.0	9.1	-8.4	-3.9
	Public	42.5	20.8	5.4	-6.6	46.6	18.6	107.4	30.6
	Diff	-54.5 ***	-31.7 ***	-18.0	-1.8	-11.7	-9.5	-115.8 ***	-34.5 ***
FCF/A (%)	Private	-2.4	2.2	2.3	3.8	3.3	2.6	-1.0	0.5
	Public	-2.9	1.0	-3.1	1.0	-0.4	1.0	-9.3	0.0
	Diff	0.5	1.2	5.3 *	2.8	3.7 *	1.6	8.3 **	0.5
FFO/A (%)	Private	9.2	9.2	7.8	10.2	11.2	11.3	8.0	7.5
	Public	4.0	7.0	2.4	5.0	5.0	6.0	-3.2	6.0
	Diff	5.3 *	2.2	5.4 *	5.2 *	6.2 **	5.3	11.2 ***	1.5 ***
Cash/A (%)	Private	14.0	10.2	15.8	6.7	18.8	13.2	9.6	4.5
	Public	16.6	9.0	16.7	9.0	14.7	11.0	18.2	10.0
	Diff	-2.6	1.2	-0.9	-2.3	4.1 *	2.2	-8.6 ***	-5.5 ***

Table B.3 Descriptive statistics for the Matching Sample

PANEL B.3.A - INFORMATION AVAILABILITY, ACCESS TO CAPITAL, TAX BENEFIT

		Nordic region		Germany		France		UK	
		mean	median	mean	median	mean	median	mean	median
Sales	Private	886889.6	247959.0	1069082.0	305201.0	1117179.0	155368.0	422366.5	96747.5
	Public	889394.2	236252.0	1061271.0	281172.0	1133291.0	159786.5	426536.6	97427.0
	Diff	-2504.5	11707.0	7811.9	24029.0	-16112.2	-4418.5	-4170.1	-679.5
Assets	Private	1241699.0	290900.0	1175126.0	196581.0	1687292.0	95320.5	515119.9	137884.5
	Public	886039.3	180046.0	1116318.0	226968.0	1349428.0	213075.5	1634676.0	139558.5
	Diff	355660.0	110854.0	58807.3	-30387.0	337864.1	-117755.0	-1119557.0 *	-1674.0
Market Value	Private	693256.5	101790.0	500092.4	63310.0	800503.3	100715.0	277591.8	54920.0
	Public	455180.3	161110.0	670121.4	85090.0	687463.8	104675.0	518083.5	94335.0
	Diff	238076.1	-59320.0	-170029.0 *	-21780.0	113039.6	-3960.0	-240491.7 **	-39415.0
Age	Private	12.8	11.0	11.0	6.0	10.4	7.5	14.2	9.0
	Public	10.7	8.0	6.7	5.0	12.2	8.5	17.3	14.0
	Diff	2.1	3.0	4.4 **	1.0 **	-1.8	-1.0	-3.1 **	-5.0 **
Analyst Coverage	Private	4.4	3.0	2.8	0.0	4.3	1.0	3.3	1.5
	Public	4.9	2.0	7.2	2.0	4.8	2.0	2.8	1.0
	Diff	-0.5	1.0	-4.4 ***	-2.0 ***	-0.6	-1.0	0.5 *	0.5
Capex/Sales	Private	94.5	3.8	3.7	2.8	8.1	4.0	16.5	4.8
	Public	36.2	3.8	4.1	2.7	19.2	4.0	16.0	3.0
	Diff	58.3 *	0.0	-0.4	0.1	-11.1	0.0	0.6	1.8 *
Dividend Dummy	Private	0.6	1.0	0.6	1.0	0.8	1.0	0.7	1.0
	Public	0.5	1.0	0.3	0.0	0.6	1.0	0.6	1.0
	Diff	0.1	0.0	0.2 *	1.0	0.2	0.0	0.0	0.0
ND/A (%)	Private	20.5	29.2	2.2	3.3	6.5	10.7	17.4	17.8
	Public	13.5	14.9	-9.0	-6.3	3.2	15.6	8.5	7.7
	Diff	7.0	14.3	11.2	9.6	3.2	-4.9	9.0 **	10.1 **
D/A (%)	Private	20.6	29.2	2.3	3.3	6.7	10.9	17.5	17.9
	Public	13.6	15.0	-8.8	-6.1	3.4	15.7	8.6	7.8
	Diff	7.0	14.3	11.1	9.4	3.2	-4.8	8.9 **	10.1 **

PANEL B.3.B - LIQUIDITY, OWNERSHIP AND CONTROL, MANAGERIAL INEFFICIENCY

		Nordic region		Germany		France		UK	
		mean	median	mean	median	mean	median	mean	median
Volume/TSO	Private	0.50	0.29	0.14	0.02	0.22	0.13	0.65	0.43
	Public	0.65	0.38	0.24	0.13	0.26	0.12	0.61	0.41
	Diff	-0.1	-0.1	-0.1	-0.1 ***	0.0	0.0	0.0	0.0
Closely Held Shares (%)	Private	28.9	19.9	46.5	65.1	45.0	56.0	35.5	32.2
	Public	21.1	12.4	30.4	25.0	50.5	52.6	33.5	33.1
	Diff	7.7 *	7.5	16.1 **	40.1 **	-5.5	3.4	2.1	-0.9
Employee H.S	Private	14.8	1.0	26.1	10.0	27.4	24.0	13.9	7.0
	Public	16.9	12.0	28.4	21.0	16.6	6.0	11.3	4.0
	Diff	-2.0	-11.0	-2.3	-11.0	10.8 *	18.0	2.6	3.0
Government H.S	Private	1.4	0.0	0.0	0.0	3.7	0.0	0.0	0.0
	Public	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0
	Diff	0.6	0.0	0.0	0.0	3.7	0.0	-0.1	0.0
Pension Fund H.S	Private	4.6	1.5	0.0	0.0	0.0	0.0	0.9	0.0
	Public	3.0	0.5	0.0	0.0	0.0	0.0	1.1	0.0
	Diff	1.6	1.0 *	0.0	0.0	0.0	0.0	-0.2	0.0
Investment Company H.S	Private	6.6	0.0	1.8	0.0	1.3	0.0	22.7	19.5
	Public	10.6	3.5	5.8	0.0	2.4	0.0	22.9	19.0
	Diff	-4.1	-3.5	-4.0	0.0	-1.2	0.0	-0.2	0.5
ROA (%)	Private	4.7	5.4	10.2	3.8	7.8	5.9	-0.7	4.0
	Public	4.5	5.5	-1.3	2.1	0.1	3.2	0.3	2.8
	Diff	0.2	-0.1	11.5	1.7	7.7 ***	2.7 **	-1.0	1.2
ROCE (%)	Private	7.3	7.7	13.0	6.8	12.4	8.1	0.2	4.9
	Public	6.3	7.3	-3.4	2.3	1.6	5.0	1.0	4.3
	Diff	1.0	0.4	16.5	4.5	10.8 ***	3.1 ***	-0.8	0.5
FA/A (%)	Private	38.4	29.9	19.7	21.1	26.8	20.5	45.8	43.3
	Public	33.2	34.6	18.6	15.5	21.2	16.8	31.4	23.4
	Diff	5.2	-4.7	1.2	5.6	5.6	3.6	14.4 ***	19.9 ***

PANEL B.3.C - UNDERVALUATION, FREE CASH FLOW

		<u>Nordic region</u>		<u>Germany</u>		<u>France</u>		<u>UK</u>	
		mean	median	mean	median	mean	median	mean	median
MtBV	Private	1.8	1.7	2.2	1.4	2.2	2.0	2.8	1.1
	Public	1.8	1.6	2.1	1.2	1.9	1.9	1.6	1.1
	<i>Diff</i>	0.0	0.1	0.1	0.2	0.3 **	0.0 *	1.2 *	0.0
Tobins q	Private	0.0	1.4	4.2	1.3	1.2	1.5	1.5	1.1
	Public	1.8	1.5	-0.1	1.1	1.5	1.5	1.3	1.1
	<i>Diff</i>	-1.8	-0.1	4.3	0.2	-0.2	0.0	0.3	0.0
Total Return to Shareholders Year-1	Private	44.1	50.7	37.2	29.4	29.1	28.8	16.4	18.7
	Public	33.3	33.9	57.2	23.2	30.2	22.9	19.2	11.6
	<i>Diff</i>	10.8	16.9	-20.1	6.2	-1.1	5.8	-2.8	7.0
Total Return to Shareholders Year-2	Private	18.5	12.3	9.2	10.3	24.5	12.1	6.7	8.0
	Public	16.3	16.6	13.5	-11.8	-1.4	-0.5	24.6	-0.1
	<i>Diff</i>	2.2	-4.4	-4.3	22.1	25.8 *	12.6 *	-17.9	8.1
Total Return to Shareholders Year-3	Private	30.4	6.1	4.6	-1.6	-3.1	-1.4	3.2	-0.4
	Public	32.8	11.3	-4.1	-14.1	-8.6	-10.4	5.1	0.5
	<i>Diff</i>	-2.5	-5.2	8.7	12.5	5.5	8.9	-2.0	-0.8
Total Return to Shareholders Year-4	Private	-2.6	-6.9	-16.5	-5.4	2.5	-6.1	17.4	0.3
	Public	33.5	13.9	-39.2	-47.3	8.3	10.7	7.7	-1.6
	<i>Diff</i>	-36.1 **	-20.7 **	22.7 *	41.9	-5.7	-16.7	9.7	1.9
Total Return to Shareholders Year-5	Private	-12.7	-10.9	-15.8	-8.3	42.7	9.1	-7.6	-3.9
	Public	24.0	7.0	-17.8	-20.4	37.0	11.6	14.1	0.1
	<i>Diff</i>	-36.7 ***	-17.9 ***	2.0	12.1	5.7	-2.6	-21.7 ***	-3.9 **
FCF/A (%)	Private	-2.4	2.2	2.3	3.8	3.3	2.6	-1.0	0.5
	Public	-2.2	1.1	-4.7	3.2	-2.1	2.1	-2.4	0.2
	<i>Diff</i>	-0.2	1.1	7.0 **	0.6	5.3 **	0.5	1.4	0.3
FFO/A (%)	Private	9.2	9.2	7.8	10.2	11.2	11.3	8.0	7.5
	Public	8.8	8.3	0.5	5.0	6.1	7.6	4.3	5.0
	<i>Diff</i>	0.4	0.9	7.3 **	5.2 *	5.1 **	3.6	3.7 ***	2.5 ***
Cash/A (%)	Private	14.0	10.2	15.8	6.7	18.8	13.2	9.6	4.5
	Public	11.5	9.2	25.3	17.1	19.6	10.8	11.4	5.4
	<i>Diff</i>	2.4	0.9	-9.6 *	-10.4 *	-0.8	2.5	-1.8	-1.0

APPENDIX C: LOGISTIC REGRESSIONS

Table C.1 Results from logistic regression P2P versus random sample (odds ratios)

	All Regions	Nordic	Germany	France	UK
sales	1.000 **	1.000	1.000	1.000	1.000
age	0.980 **	1.073 **	0.997	1.030	0.965 **
chs	1.010 **	0.997	1.010	0.992	1.006
eh	0.997	0.997	0.981	0.995	1.016
ich	0.990	1.020	1.047	0.985	0.989
capexsales	1.002	1.002	0.922	0.995	0.998
div_d	0.638 **	0.846	0.984	0.800	0.547
liquidity	0.997	1.380	1.235	0.285	0.995
tq	0.991 **	0.991	0.976	0.964	0.996
nda	1.007 **	1.011	0.996	1.008	1.017 ***
roa	0.996	1.031	1.014	1.050	0.964 ***
ffoa	1.022 ***	1.022	1.029	1.035	1.027
trs1_2	0.988 ***	0.989 ***	0.992 **	0.987 **	0.985 ***
nordic_d	0.143 ***				
ger_d	0.097 ***				
fra_d	0.112 ***				
No. Of obs.	2030	564	489	430	547
Wald Chi2	226.47	14.78	10.46	27.68	44.91
Prob>Chi	0.000	0.321	0.656	0.010	0.000
Pseudo R2	0.2187	0.1389	0.1587	0.1513	0.3167

*10%, **5% and ***1% significance

Table C.2 Results from logistic regression P2P versus matching pairs (odds ratios)

	All Regions	Nordic	Germany	France	UK
sales	1.000	1.000	1.000	1.000	1
age	0.978 **	1.030	1.089	0.957	0.972 **
chs	1.009 **	1.016	1.014	0.986	1.009
eh	1.004	0.991	0.983	1.043	1.01
ich	0.996	0.978	0.878	1.051	0.999
capexsales	1.001	1.001	0.840	1.022	1.005
div_d	0.868	0.937	0.351	0.985	0.806
liquidity	1.161	0.912	0.001	0.257	1.153
tq	0.969	0.939	0.784	1.581	1.081
nda	1.015 ***	1.013	1.034	1.025	1.016 **
roa	0.996	1.004	1.076	1.296	0.971 **
ffoa	93.553 **	574.613	2.507	0.000	1982.21 **
trs1_2	1.000	1.000	1.005	1.009	1
nordic_d	0.756				
ger_d	0.742				
fra_d	0.699				
No. Of obs.	308	54	33	37	184
Wald Chi2	15.28	0.91	0.01	0	19.08
Prob>Chi	0.504	1.000	1.000	1.000	0.1207
Pseudo R2	0.0676	0.1154	0.3804	0.2767	0.1147

*10%, **5% and ***1% significance

Students t-test

A simple way to validate differences is to perform t-tests, a test invented in 1908 by William “Student” Gosset. This test is one of the most commonly used ways to verify differences in the averages between two sets of data. For the paired data the test is done on a new dataset created by taking the differences between the variables pair by pair. For the random sample this is not possible as one cannot pair the samples, and the test is performed by subtracting one mean from another. The t-statistic follows a slightly skewed version of the normal distribution. The t statistic is defined as:

$$t_{obs} = \frac{\bar{X}_n - \mu}{S_n / \sqrt{n}}, \text{ where } \bar{X}_n \text{ is the observed mean and } S_n \text{ the observed standard deviation}$$

With the help of this statistic, testing can be done to see whether one mean is larger, smaller or just different from the other. In this paper we limit ourselves to looking at the one-sided tests, as we are interested in the sign and significance of the deviations. The mean does however have relatively low reliability as it can be distorted by a few extreme observations. Additionally, the t-test relies on normality, which is not found in most of our data. This problem is especially severe in small samples such as the ones used in this paper.

Median testing

The median is not affected by extreme observations or small sample size in the way that the average is. This also translates to median testing, which is quite insensitive to extreme observations as well as non-normality as the tests contain very few assumptions. These tests are harder to get significant results from, but statistically significant results are very convincing. As earlier mentioned, many of our variables are far from normally distributed and the samples are relatively small, making a median test more reliable than a t-test in most occasions. The Wilcoxon Signed Rank Test is used for the paired data and the Median Test for the unmatched data.

The signed rank test was proposed by Frank Wilcoxon (1945) and can be performed when comparing paired variables, i.e. when comparison is made between P2Ps and their matched sample. The null hypothesis in this test is that the difference in median is zero. The test ranks all observations by ordering the absolute values of the differences $|Z_1| \dots |Z_n|$. Each $|Z_i|$ is given a rank of R_i , from smallest to largest. The rank is then multiplied by the sign of the difference. If the difference is zero, the rank is excluded. This yields the test statistic:

$$W = \sum_{i=1}^n I(Z_i > 0)R_i - I(Z_i < 0)R_i, \text{ where } I(\cdot) \text{ is an indicator function.}$$

The Median Test can be used on unpaired data and is an extension of the one-sample sign test. The test is performed by counting the number of observations above the median in each of the compared samples (a and b). Then one calculates the number of observations above the median if the samples are combined (a+b). This is compared to the number of observations in each sample (n and m) and with the number of observations in the combined sample (n+m). Calculation of the significance of the difference is then given by the following statistic.

$$P^* = \frac{\binom{a}{n} \binom{b}{m}}{\binom{a+b}{n+m}}$$

The test investigates whether the observed frequencies in each group deviates from the expected frequencies given the frequencies in the combined sample. If the differences in frequency are large enough, the null hypothesis of the same median can be rejected.

Regression

In addition to difference testing between groups, regression testing is also made to see which variables affect the propensity to go private. Regression alleviates the problem with distortions as e.g. covariation between different variables. All but one of the much correlated variables is dropped to avoid collinearity in the regressions and only the one with the best fit for our purposes is kept (Correlation tables available on demand). As some of our variables have relatively few data points, we further use bootstrapping on our regressions to improve our results. Bootstrapping creates new, larger, samples on which the regression is run by random sampling with replacement from the original sample.

As the P2P variable is bivariate a regular OLS regression cannot be used. A logit regression, which uses logarithms in order to tackle this problem, is used instead. In the logit model the dependent variable is a logit, a natural log of the odds. The odds and the regression are defined as:

$$Odds = \frac{p}{1-p} \text{ where } p \text{ is the probability of the event (going private)}$$

$$\text{Logit regression: } \log(odds) = \log it(p) = \ln\left(\frac{p}{1-p}\right) = a + bX + \dots$$

To increase the readability of the results, the results are presented as odds ratios. Presenting the results like this, the regression is called a logistic regression, defined as:

$$Odds = Oddsratio_a \cdot Oddsratio_b \cdot \dots = e^a \cdot e^b \cdot \dots$$

Odds ratios are quite easy to interpret. If an independent variable increases by X, the total odds increases with X times the odds ratio for the variable, e.g. if the odds ratio for a variable is 1.5, then an increase of 1 in the related variable would increase the total odds by 50%.