"Private Equity waves discovered"

- An analysis of the target value premium in Continental Europe -

Master Thesis

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Introduction

The Netherlands is not the only country under siege of foreign financial investors. The pan-European trend in mergers and acquisitions, where public companies are taken private has developed substantially over the past two decades. With growing markets in Public-to-Private transactions there are growing concerns. The public debate on this topic is fierce, with the increased pressure from private equity and hedgefunds, on Dutch 'crown jewel' companies such as; Stork and ABN AMRO and the selling of Hema, VNU, NXP Semiconductors too private equity. Private equity is a strong alternative in acquisitions or divestment strategies of companies comparing to the 'old' normal strategic firms of choice. The answer 'why' private equity is interested in acquiring public quoted firms is hidden in the premium paid for such a firm. This thesis will focus on the possible link between; in research literature identified determinants, a wave factor and the target premium paid in a Public-to-Private transaction.

The public quoted corporation is often believed to have important advantages over its privately held counterpart; the listing allows firms to raise funds in the public capital markets, increase share liquidity for investors, allows founders and entrepreneurs to diversify their wealth and facilitate the use of options in remuneration packages (Renneboog and Simons, 2005).

The favorable public conditions first changed when during the 1980s in the U.S., due to poor stock market conditions, low return and an increasing interest in the junk bond market. This set off the first Public-to-Private wave in search of higher returns and leveraging possibilities. An absolute record for many years and speaking to the imagination of both investors and filmmakers was the transaction of RJR Nabisco in 1989. This firm bought by the U.S boutique Kohlberg, Kravis and Roberts (KKR) for a stunning $25 billion was following delisted and taken private. A new era of "*Barbarians at the gate"* had begun. During the 1980s the Public-to-Private trend was spreading from the U.S. and latter into Continental Europe. In 1985 the first European Public-to-Private transaction was a fact with the takeover of Haden for 60 million pounds. The Public-to-Private transactions were no longer restricted to smaller firms as they took on larger deals as well. Executives, financiers and investors regarded the private firm as a strong alternative to the public corporation. Some of them even predicted the *"eclipse of the public corporation"* (Jensen, 1989).

Due to the impact of takeovers and its effects on both social as financial structure of a firm, the amount of academic literature on this topic is enormous. Lots of research is written on the characteristics of takeovers and the determinants of the target value premium. Most of these researches focus on the U.S. market over the last century, demonstrating that takeovers create shareholder value, with most of the gains accruing to the target company shareholders (Bruner, 2003).

When exploring the target value premium paid, researchers agree that not only cost reduction and synergetic effects are factors which drive the Public-to-Private transactions, but there are other sources which can create value to both the target shareholders as the future owners. Lowenstein (1985) argues this value creation is due to tax savings and under leveraging. Kaplan (1989) agrees on the tax deductibility of interest payments creating possible value to the acquirer.

Jensen (1989), Renneboog and Simons (2005) took a more 'agency-problem' perspective and claims that: *"many of the benefits in going private and leveraged buy-out transactions, seems to be due to the control function of debt"*. This is a more agency point of view, whereas the wealth gains of going private are largely influenced by the realignment of ownership and control. In all cases the corporate restructuring effects are the main source of value creation in a Public-to-Private transaction.

Another phenomenon widely examined, is the tendency of Public-to-Private transactions to come in waves. There are different explanations for this phenomenon. Mitchell and Mulherin (1996) report an industry-specific transaction wave that occurs as a common response to regulatory, technological and economic shocks. Mulherin and Boone (2000), Andrade and Stafford (2002) and Harford (2005) agree and contribute by linking this theory to the credit market. An alternative explanation for the clustering of takeover activity is driven by more behavioral point-of-view, including theories like: hubris (Roll, 1986), herding (Scharfstein and Stein, 1990) and free-cash flow driven acquisitions (Jensen, 1986). Smit and Van der Berg (2007) propose a combination of the Industrial-, Information- shock theory as the start of a wave together with behavioral aspects as herding and hubris motivating the clustering leading into private equity waves.

This research paper will contribute in acknowledging the different strategic motives of taking companies private and gives insight into the different value drivers of the target premium. The selected transaction variables are inline with previous research. We differ between Agency related variables such as Free Cash Flow and Undervaluation and the Financial structure (leverage). Renneboog and Simons (2005) tested several hypotheses based on the different motives in the UK market but did not include the factor that Public-to-Private transactions tend to come in waves. With the method of Harford (2005) we hope to link the value drivers to a certain period of the private equity wave in Continental Europe, which is not further researched as to our knowledge. This paper will focus on Public-to-Private transactions with a Continental European private equity buy side. The sample period in this study is between 1998 and 2009 with minimum deal value of Ten USD Million. Hence the main research question is the following:

> *"What is the influence of the selected transaction variables on the target value premium paid by private equity investors in Public-to-Private transactions?"*

Based on the various past researches a viable advice to the business practitioner could be, to be realistic about the future benefits of acquisitions and structure deals more carefully and particularly avoid overpaying. If researchers would agree on the fact that during a top wave period a Public-to-Private transaction premium is significantly higher without a structured cause, this view could be incorporated in the valuation of target companies. A better understanding of the underlying determinants and wave factors will lead to a more 'strategic' and 'realistic' based offer.

So *Caveat emptor* - buyer beware (Marshall, 1817)

The structure of this thesis is as follow: The first chapter will give an overview of the research literature on Public-to-Private transactions. It will present a theoretical framework based on previous research and some new views on the private equity market. The second chapter will elaborate on why Public-to-Private transactions tend to come in waves where the third chapter will focus on the Public-to-Private market characteristics. After this literature based research we will introduce four main hypothesis possibly influencing the target value premium. Chapter five will focus on the research design, variables, and methodology. Chapter six will focus on the empirical results and data analysis. This is followed by a discussion and conclusion of the findings and reflecting the results in chapter seven. This thesis will conclude with a retrospect in the form of an informal discussion of the events and their impact on the research variables.

1. Literature Overview

1.1 Introduction

This chapter develops a theoretical framework around the target value premium paid. After a short introduction it will continues with a paragraph in which the definition of target value premium is presented. Besides definitions, paragraph 1.2 also discusses the question whether and how Public-to-Private transactions (PTPs) create value. A vast amount of studies have tried to determine the factors and motives in play with the Public-to-Private transactions, these will be discussed in paragraph 1.3. The function of a theoretical framework is to describe the relationships between the transaction variables and the target value premium. This chapter will focus on the agency- and financial structure variables. Whereas the next chapter will focus on the transaction 'wave'.

1.2 Target premium in Public-to-Private transactions

Due to many empirical studies on takeover activity, individual theories, definitions, explanations and subcategories of merger and acquisition processes are defined. The Public-to-Private transaction is a distinct form of an acquisition and therefore there will be a brief introduction of the key definitions used in this thesis.

Public-to-Private transactions

When a listed company is acquired and subsequently delisted by a financial investor, the transaction is referred as a Public-to-Private transaction[1]. Virtually all such transactions are financed by borrowing substantially beyond the industry average; hence they are called leveraged buyouts (LBOs). Throughout this paper, the terms LBO and Public-to-Private transaction (PTPs) are interchangeably because, in the empirical U.S. and UK literature, LBOs are usually confined to going-private transactions.

Private Equity

This thesis focuses on Public-to-Private transactions with a private equity investor on the buy-side. This is the case for more than 89 percent[2] of the PTP deals in Continental Europe. In contrast to corporate 'strategic' investors, private equity investors are mainly motivated by the chance to obtain financial success in a relative short time frame (Thomsen and Pedersen, 2000; Kaplan and Schoar, 2005).

[1] The European Private Equity and venture Capital Association (EVCA) defines Public-to-Private Transactions as follows: 'A transaction involving an offer for the entire share capital of a listed target company by a new company – Newco – and the subsequent re-registration of that listed target company as a private company. The shareholders of Newco usually comprise members of the target company's management and private equity providers. Additional financing for the offer is normally provided by other debt providers.

[2] Thompson SDC Mergers and Acquisition statistic for PTP deals with financial buy-side

The financial sponsors provide equity to the target firm in order to initiate broad and widespread reorganization processes, tight financial and operational controls with the objective of increasing the target's competitiveness and value. To put it in other words a private equity firm wants to maximize its *shareholder* value, whereas a public firm wants to maximize its corporate *enterprise* value. Because financial 'restructuring' motives are the main source of the target value premium this makes it an ideal candidate to check the pré-takeover characteristics regarding to the target value premium paid. Grimpe and Hussinger (2007) have researched the differences between corporate and private equity investors in acquiring technological firms. Their findings indicate that private equity acquirers generally seem to pay a larger premium for a target. They give two different explanations; the higher amount of debt used by financial buyers and the abundance of wealth of private equity funds over the last years.

Figure 1.1 is a graphical presentation of the value creation in an acquisition process. It shows the rationale why the acquirer pays a premium. It highlights the potential value to an acquirer in addition to the current market value[3] of the target firm.

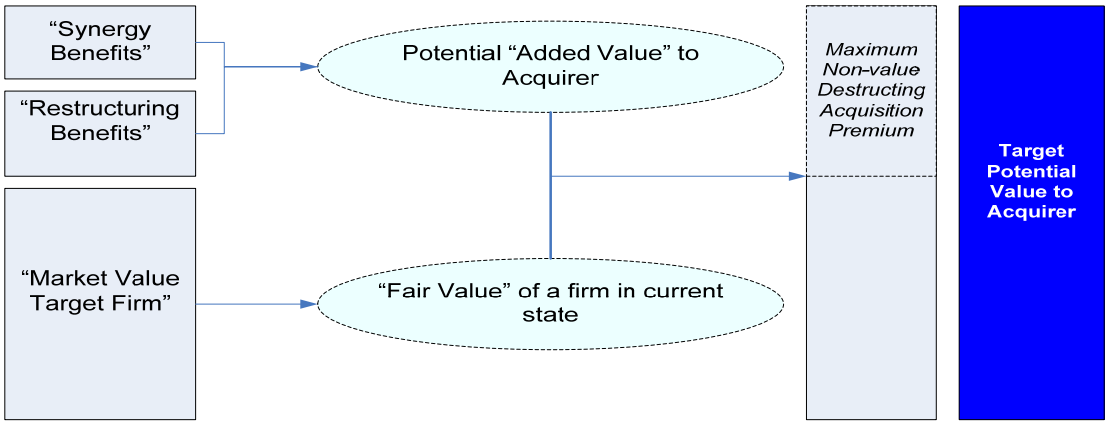


Figure 1.1: Overview of sources of acquisition value (based Braeley & Myers)

This overview shows the two main potential sources of added value to an acquiring firm. Assuming efficient markets, the target firm in the current state would be correctly priced. The total value of the target firm to the acquirer would therefore be equal to the sum of (1) the current Market Value, (2) the amount of potential restructuring benefits (increasing performance of target firm), (3) the amount of the total synergies that might exist between target and acquirer

- *The price that will be paid upon acquisition could rationally never be higher than the total potential value to the acquirer as this would lead to a negative present value (value destruction). The maximum acceptable premium would be the total sum of expected restructuring and synergy benefits, which has been shown as 'maximum non-value destructing acquisition premium'*

[3] Market value = outstanding number of shares times share price

Target premium

Premiums play a significant role in the acquisition process. A premium payment is a statement of the acquiring management on the potential value the acquired firm would add to the target firm. A premium is 'an overpayment' of the market value that consumes the expected synergies and restructuring benefits over the current performance that would need to be achieved in order to sustain an acquired firm's value. Hence the premium is an important statement of the acquiring company on the value of the target. Research indicates that premium payment also affects future acquirer's shareholder return and performance. There is evidence that a premium inversely affects the return of the acquiring shareholders for up to four years following the acquisition date (Sirower, 1994).

Most of the research on the question whether Public-to-Private transactions create value, focuses on the U.S. with U.S. samples covering mostly the 1980s and 1990s. However there has been a new and strong economically important PTP market developing from the late 1990s in the UK (Renneboog, Simons and Wright, 2005) and latter in Continental Europe, there is virtually no systematic research into the sources of the target shareholder wealth gains. There are several studies focusing on the amount of target value premium paid in a Public-to-Private transaction. DeAngelo (1984) reports an average premium of 56.3 percent in an all U.S. study. Between 1998 and 2000 the average premium in the UK was 44.9 percent, with some that even exceeding the hundred percent (Jensen, 2003). Renneboog and Simons (2005) found an overall premium payment of around 45 percent in their cross-sectional research into the different PTP studies. Continental Europe[4] and the reason 'why' these target value premium vary is still a blind spot on the radar of academic researchers.

This thesis will use a premium analysis method (further explained in chapter 5 research design), mainly because the two main data sources[5] are using premium analysis as their method to measure the target value premium. The anticipation window of 20 working days (4 weeks) is chosen; inline with Thomson SDC and Mergermarket calculations. The analysis of the premium payment gives insight in 'why' acquisition of a firm creates value. After calculating the target premium, this thesis will investigate the link between in research defined 'agency'-, 'leveraging'- or 'wave'-factors and the size of the premium payment.

[4] In this thesis 'Continental Europe' is constructed by the European Union excluding the United Kingdom
[5] Thomson SDC Database and Mergermarket.com are using both the premium analyzing method with different event periods. In this thesis is therefore an event period of 30 working days chosen

1.3 Strategic motives and determinants of target premium

Strategic motives are the basis or better said the determinants constructing the size of the premium. The acquirer often believes in the value creation aspect of a merger, but KPMG research suggests that 53%[6] of the acquisitions made, is actually value destructing and could go sour. This paragraph focuses on the importance of the implementation of an acquisition strategy and the organizational integration.

1.3.1 Strategic motives

The success of a takeover is based on the ability of the acquiring firm to complete the transaction at a certain price and fully appropriate the potential benefits. Researchers have investigated the different premium value drivers and potential acquisition integration strategies. According to Haunschild (1994) the payment of certain acquisition premiums are an interesting and important area of research. There is variation in the size of premiums which can influence future return. There are cases documented of firms paying such a large amount of premium causing their own bankruptcy. The need for acquisitions and the likelihood of value creation is considered the source of the target value premium paid.

Haspeslagh and Jemison (1990) introduced a framework of managing acquisitions which creates value through corporate renewal. Figure 1.2 gives an overview of the dynamics and the optimal post merger integration process to incorporate the possible wealth sources.

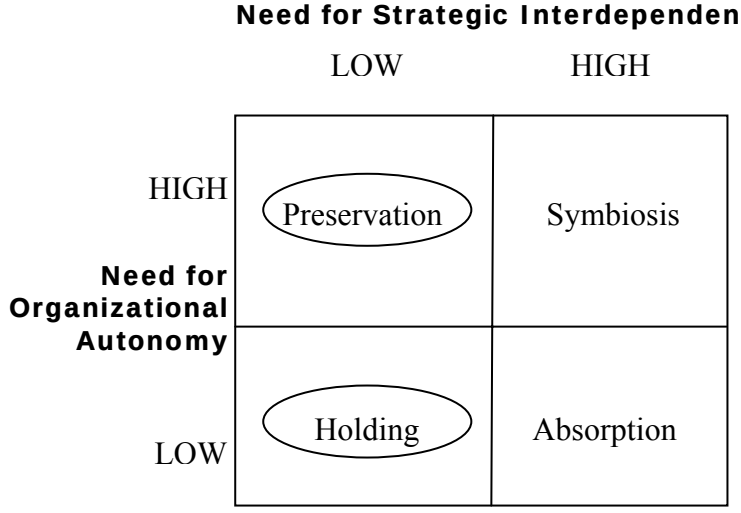


Figure 1.2: Acquisition Integration Approaches of Haspeslagh and Jemison (1990)

[6] KPMG Advisory research "Merger and Acquisition: More often wrong than right?" , 2002

The Acquisition Integration Approaches model of Philippe Haspeslagh and David Jemison provides a valuable insight and guidance in Mergers and Acquisitions on choosing the optimal integration approach. In all acquisition integration is an important aspect to gain the full benefits of the target company. This is only possible when the company is well managed and integrated. In contemporary Mergers and Acquisitions literature, the main parole often was: "Make them like us". Relatively simple criteria were used to choose an approach, such as size and quality of the target firm. Haspeslagh and Jemison (1990) have stated an integration approach, where two (additional) criteria are considered:

- The need for strategic interdependence
- The need for organizational autonomy

The goal in any acquisition is to create value when two organizations are combined. There are four types of value creation in Hasperslagh and Jemisons' view:

1. *Resource sharing:* Value is created by combining the companies at operating level;
2. *Functional skills transfer*: Value is created by moving certain people or sharing information, knowledge and expertise;
3. *Transfer of general management skills:* Value is created through improved insight, coordination or control;
4. *Combination benefits:* Value is created by leveraging cash resources, by borrowing capacity, by increased purchasing power or by greater market power;

The last two types of value creation are dominate present in Public-to-Private deals. Private equity financiers create value through strong management control, improved insight and financial restructuring. This is inline with the view of Renneboog and Simons (2005) in their UK research report. Resource sharing and functional skill transfer are good examples of synergy benefits but are not in the research scope of this thesis.

Organizational Autonomy & Independence

One of the major dimensions in Public-to-Private transactions is Organizational Autonomy. Haspeslagh and Jemison (1990) warn managers not lose sight of the fact that the strategic task of an acquisition is to create value. Furthermore they must not grant autonomy too quickly, although obviously people are important and should be treated fairly and with dignity. This warning could be seen as an example of 'agency'-effects like herding were managers acquirer companies to increase their control-span instead of having shareholders interest at heart.

The Preferred Mergers and Acquisitions models

Depending on the score on the above two factors (see figure 1.2), the preferred Acquisition Integration Approaches are:

1 **Absorption**; Management should both be courageous and careful to carry out this vision;
2 **Preservation**; Management focus is to keep the source of the acquired benefits intact, "nurturing" (commonly used in strong cash flow industries);
3 **Symbiosis**; Management must ensure simultaneous boundary preservation and boundary permeability in a gradual process. This is a rather new strategy which many small private equity houses adopt. This buy-and-build strategy is to buy small firms and put them together in a symbiotic way.
4 **Holding**; No intention of integrating and value is created only by financial transfers, risk-sharing or general management capability. One of the most used models in private equity transactions and PTP deals because of the short investment horizon.

The track record of successful M&A transactions is poor, in particular when shareholder value is the reference key. There are many potential causes of failure but a necessary condition for success in creating value is the post-deal implementation. When reviewing PTP deals the same dynamics are at play, Kaplan and Schoar (2005) even report an average return in PTP deals to the acquirer less than the S&P500.

"The key differences between acquisition success and failure lie in understanding and better managing the processes by which acquisitions/ decisions are made and by which they are integrated" – Haspeslagh and Jemison (1990)

Hasperslagh and Jemison state that the integration process should reflect the acquisition type. Renneboog and Simons (2005) have reviewed in their paper various academic researches on Public-to-Private transactions and their processes. They have divided the process into four strands in which research is concentrated. This thesis will focus on the first two strands: 'The intent' why such event takes place in Continental Europe and what 'the impact' is on the target value premium. We will focus on the processes and determinants by which acquisitions decisions are made.

KPMG Corporate Finance operates as a financial advisor advises on valuation, financing and acquisition (targets) topics. The process after the closure of a deal, the duration and return is more the working field of a strategy consultant like McKinsey, Bain and BCG. Renneboog and Simons formulate in their UK PTP study eight main hypotheses (figure 1.3) all composing of restructuring benefits. These determinants are seen as the main source of wealth gains which may motivate the acquisition and the premium in going-private transactions.

This thesis will investigate the hypothesis for a Continental Europe setting. The tested determinants are: Leverage (tax) benefits, reduction of agency costs (due to incentive realignment and control concentration or free cash flow reduction), wealth transfers from stakeholder to shareholders, transaction costs reduction, takeover defenses, and corporate undervaluation.

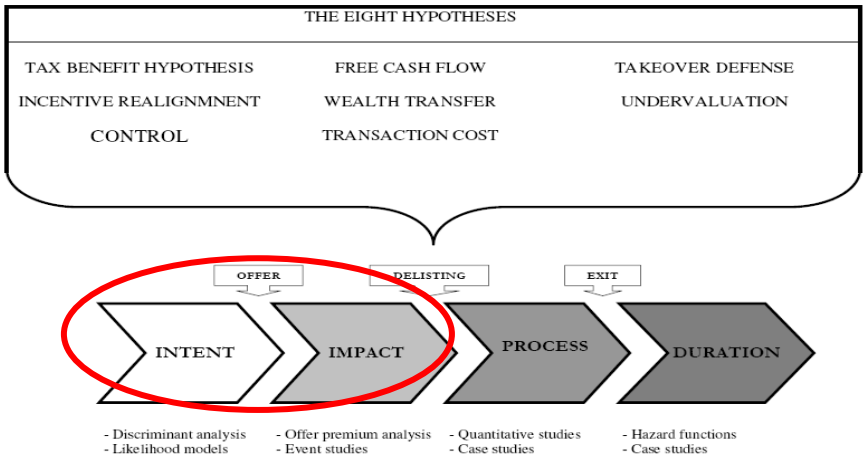


Fig 1.3: Theoretical framework on Public-to-Private literature (Renneboog and Simons, 2005)
This picture shows the main determinants of strategic motives behind the wealth gains in a Public-to-Private transaction

In chapter Two we will introduce a new possible source of wealth gain to target shareholder being private equity waves. An important part of the literature on Public-to-Private transactions focuses on the fact that PTPs has the tendency to come in waves; the so called 'private equity waves'. This thesis will try to link the value drivers and wave periods to the target value premium and try to explain *why* target premiums may vary, in relating to the phase of the wave they are in.

1.3.2 Synergy effects

Expected synergies are important drivers of the wealth creation in mergers and acquisition processes. Synergy is often defined as the fact that the combined forces of two independent companies result in higher performance than the companies would achieve independently (Ansoff and McDonnel, 1990). Often there is a difference made between horizontal and vertical integration in a transaction. A horizontal transaction is a transaction where two companies in the same line of business are combined. Synergies can be achieved through 'economies of scale'. These economies of scale can be gained through the use of market power and cutting certain corporate costs. Takeovers will reduce for example salary costs at the top of the organization and removes the less performing managers from the organization, which will improve the total performance (Frederikslust et al., 2000). A transaction is called vertical if a company expands either forward, in the direction of the consumer, or backwards in the direction of the supplier within its own business-cycle. Vertical integration leads to synergy and cost efficiencies, improved integration, distribution and communication leading to lower transaction costs.

Slusky and Caves (1991) proposed that bidders pay a higher premium in a transaction when there is a particular good fit between the two companies, in other words when the acquisition is synergistic. Haunschield (1994) founds no direct evidence of a link between synergistic characteristics and higher premiums. In the valuation of a target company synergy advantages play a huge role. Although there might be a lot of identifiable synergies when looking at a potential transaction, these synergies sometimes proof hard to be realized in practice. Possible reasons for this failure could be cultural differences, communicational problems, managerial overconfidence or hubris.

According to Grimpe and Hussinger (2007), the motives behind mergers or acquisitions differ; in contrast to corporate investors which search for synergetic opportunities, private equity investors are mainly motivated by the chance to obtain financial success in a relatively short time frame, so these synergetic effects are limited.

Private equity investors supply equity to the target firm in order to initiate often a broad and widespread reorganization. The objective is to increase the target's competitiveness and value. Private equity owners want to restructure the target company and sell it within a relatively short time period. Besides another goal, often the deal characteristics also differ. PTP deals are financed with a much higher level of debt than would be the case when a strategic corporate buyer is involved. In any case, the acquirer's engagement in the target is limited in time and geared towards a successful exit, e.g. in the form of an initial public offering (IPO) in the stock market, a trade sale to a corporate investor or a secondary buy-out to another private equity firm (Brav and Gompers, 1997). This view concurs with the overview given by Renneboog and Simon (2005) into the wealth gains of target shareholders where they focus on the restructuring benefits.

Besides the short investment horizon, the private character of private equity companies makes it difficult to investigate for synergetic effects. Kaplan (2007) is emphasizing the changed focus from the primary goal of taking out cost initially and streamlining the business to value added through better management of growth opportunities. This view can be seen incorporated into the portfolio of different private equity firms. The increased focus on operational engineering and finding new sources of profitable growth can be seen as the start of the 'buy-and-build'-strategy many private equity firms have adopted. Buy-and-Build is the combination of investment focus (for instance health-companies) together with an option game theory approach. In a buy-and-build strategy, the investor acts as an industry consolidator, with the aim of transforming several smaller companies into an efficient large scale network. The initial platform acquisition generates the option for further acquisitions. Additional value is created through the consolidation of synergistic acquisitions as operations become integrated, cost efficiencies are realized, and market share increases.

Financial buyers have several exit strategies available, including sale to a strategic buyer a secondary buyout to a larger financial buyer, or an initial public offering. According to Smit (2001) a buy-and-build strategy unlocks value in several ways. First, there is often an increased *financial leverage* effect. The acquirer in PTP transactions typically uses a significant amount of debt to finance in the acquisitions. Besides creating valuable tax shields, the result of a highly levered financial structure is a managerial incentive to improve efficiency and cash flow.

Second, there are synergistic benefits, including those attributable to increases in size. A buy-and-build strategy unlocks synergistic value through economies of scale and scope, the increased size of the consolidated firm is likely to result in increased market power. As the firm becomes larger and more mature, the private equity investor is likely to have more attractive exit opportunities. The value added through consolidation ultimately equals the amount of the future (exit) value of the consolidated firm. In a positive case this will exceed the sum of the cost of the individual acquisitions and the cost of any organic growth in the component firms. This effect and on return on investments is difficult to measure because private equity firms are not keen on giving financial information. Synergetic effects and buy-and-build transactions are therefore beyond the scope of this research.

1.3.3 The leverage effect

According to the Center for Management Buyout Research (CMBOR) the average deal structure in buyout transactions in Continental Europe contain 53% of senior debt and approximately 36% of equity, whereas the rest is junior debt and mezzanine. Debt financing is an integral part of going private transactions, according to Lowenstein (1985) and Kaplan (1989) this is due to tax savings and the tax deductibility of interest payments creating value. Most of the PTP transactions take place with a substantial increase in leverage; this restructuring of the financial structure creates a 'tax shield' depending on the fiscal regime and the marginal tax rates which a company is subjected to. Kaplan (1989) estimates the average tax befits of U.S. PTPs between 21% and 72% of the premium paid to shareholders in the first half of the 1980s.

The tax benefits hypothesis of Renneboog and Simons (2005) summarizes: *"Wealth gains from going private are largely the result of tax benefits associated with the financial structure underlying the transaction".*

Breayley and Myers (2003) agree on the tax deductibility, they argue that there is an optimal debt to equity ratio minimizing cost of capital to a firm and therefore maximizing 'shareholders wealth'. In their theory, PTPs only creates value if a company before the transaction is under levered compared to the optimum and putting in additional leverage is still able lowering the total cost of capital. PTP transactions in this view are financial restructurings by putting large amount of debt and leveraging the equity part.

Figure 1.4 presents a simplified example, at entry a large part of debt is put in the firm and repayment of debt starts as soon as possible. Because the smaller debt part at exit it leverages the larger equity part of the firm and result in a higher return on equity for investors. This simplified process shows that growing cash flows (but even with stable cash flows profitable) due to restructuring benefits creating value for the shareholders.

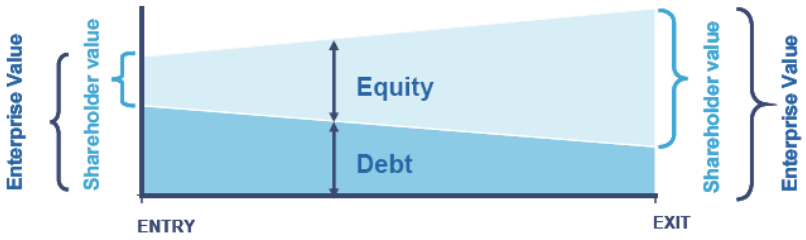
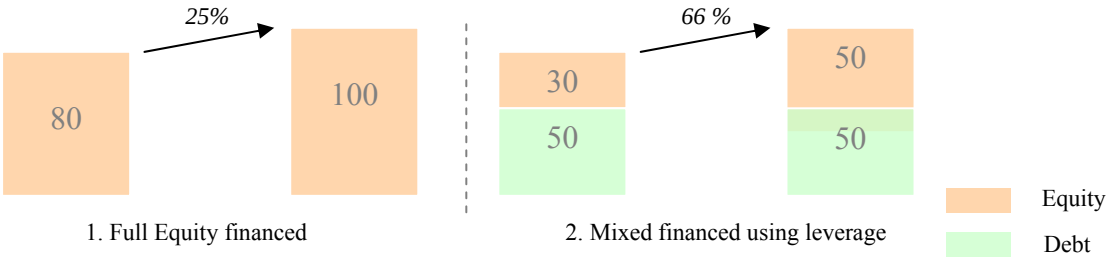


Fig 1.4: Simplified shareholder value creation with growing cash flows

An example with leveraging and return:



i) Full equity financed or with leveraging
ii) At entry 80 total value at exit 100 thanks to restructuring and synergies
iii) 25% return when only equity financed
iv) Return on investment even **66%** at exit at 100 thanks to leveraging with debt remaining stable

Private equity firms are willing to pay a premium for acquisitions that have room for financial leveraging. Private equity should be willing to pay more premium for an underleveraged company compared to an overleveraged company. In spite of apparent advantages of high leverage in LBOs, it is questionable whether it constitutes a true motive to go private. In a competitive market for corporate control, the predictable and obtainable tax benefits, will be appropriated mainly by pre-buyout investors leaving no tax-related incentives for the post-buyout investors, to take a company private. The fact that a publicly quoted firm focus on the minimization of the weighted average cost of capital and a privately held firm on a maximization of the return on equity leads in practice to differences in average leverage ratios of public and private firms. On average the listed firm leverage ratio is 36.5% and the delisted firm average leverage ratio is 72.5% which may explain for the premium payment (Van der Wurf, 2001).

1.3.4 Agency restructuring effects

Separation of ownership and control incites the existence of different firm stakeholders with different interests, such as managers, shareholders and creditors. In 1776 Adam Smith already stated problems could arise when control and ownership are separated and that monitoring of management is necessary. There is a difference of interest between management (agents) and the shareholders (principles) of the firm. Because both parties are self-interested, a serious conflict about the choice of the best corporate strategy could emerge. Managers pursue personal objectives different than the maximization of shareholders value and therefore engage in transactions that are not in the shareholders best interest (Morck, Shleifer and Vishny, 1990). The bigger the agency problem in a firm, the bigger the 'restructuring'-rewards and more premium the private equity investor is willing to pay. Several authors have contributed to this agency-problem topic and will be discussed.

Incentive of Realignment

The composition and individual characteristics of a firm's shareholder base can significantly influence the discipline imposed on the management, and have an effect on performance, value and investment decisions. According to Boot and Macey (2004), could the lack of control leave room for managers to engage in value destructing practices. Examples are cash flow retention, empire building and self-enrichment.

Empire building is the case where managers pursue personal objectives different from maximizing shareholder profit. KPN, ABN AMRO and Ahold were at the beginning of the millennium applaud for their many acquisitions, but punished at the stock market by their own shareholders. The need to realign incentives of managers with those of shareholders is frequently mentioned as a potentially important factor in going-private transactions. Kaplan (1989) reports the increase in equity ownership for top managers in buy-outs an indication PTP helps to realign these interests, by making management depend on corporate performance. Renneboog and Simons (2005) formulate in their hypothesis hat *"the wealth gains from going private are largely the result of a reunification of ownership and control"*

In addition to the realignment of ownership and control, Boot, Gopalan and Thakor (2006) discuss even without the existence of agency problems or asymmetric information, management and investors could still disagree on how to maximize the performance and value of the firm. This argument of Boot, Gopalan and Thakor (2006) highlights a beneficial effect of ownership concentration to entrepreneurs, which would be part of a trade-off when choosing between Public and Private ownership.

Public ownership would in this case reflect a more liquid and diffusely held ownership, and would reduce the overall cost of capital as corporate governance mechanisms would restrict the autonomy of the management. Private ownership would reflect a more rigid and concentrated type of ownership in which the entrepreneur would have more autonomy[7] as he can choose from individual contracts with investors that might impose less or different restrictions on his decision making. Choosing for Private (e.g. a more concentrated form of) ownership could therefore add to the value of the firm, as Boot, Gopalan and Thakor (2006) argue that the market would value a firm lower when it expects there will arise future disagreement between management and investors.

A recent example of this type of is agreement about how to maximize the value of a firm would be the call of Mellon HBV Alternative Strategies Ltd (Mellon) to break up the 'front end' and 'back end' operations of ASM International NV[8] (ASMI). Mellon, holding around 10% of ASMI's shares, pressed the management to dispose the 53.3% stake that ASMI holds in ASM Pacific Technology (ASMPT, referred to as 'back end activities'). According to Mellon, the dividends of the highly profitable ASMPT were used to subsidize the losses of the chip producing businesses in Europe and North America (referred to as 'front end activities'). Arthur Del Prado, ASMI's CEO, founder and major shareholder owning 7.02% of the share capital fundamentally opposed this idea. After some months of tough discussions in which Mellon even threatened to take ASMI to court, ASMI's management could finally convince Mellon of the synergies that would exist between ASMI and ASMPT in R&D and distribution channels.

The example illustrates that a high degree of less liquid ownership concentration within a firm could minimize the risk of disagreement between management and investors when their objectives are aligned. The findings of this paragraph show that shareholders can have a disciplinary effect on the management of a firm. The magnitude of this effect seems to be determined by the objectivity in evaluating the performance (or given return) of the management, which would be mainly the result of characteristics in stead of the size of shareholding as shown by recent cases. In contrast, a highly concentrated form of ownership could also mitigate potential conflicts of interest between investors and management teams.

[7] Autonomy defined as the extent to which management can make decisions without the premission of its shareholders

[8] *Source: ASM International NV (2006) : General statement of Beneficial Ownership. SEC Filing 13D, March 29th 2006*

The relation from managerial ownership to the firm's market value or performance, as predicted by the incentive of realignment is widely supported by the (older) literature, but is not undisputed in more recent work. In case of entrenchment effects it may render management – even in the wake of poor performance – immune to board restructuring and may delay corporate restructuring (Franks et al., 2001). Renneboog and Simons conclude that the incentive realignment theory does not give a complete explanation for the value creation in buyouts especially in cases of reverse LBOs or secondary buyouts and therefore is not further investigated in this thesis.

Control

The problem in "*free riding"* is first mentioned by Grossman and Hart (1980) and latter by Renneboog, Simons and Wright (2005). The monitoring actions on the course of the management are in direct relation with the shareholder structure. As the investment in monitoring by an individual shareholder becomes a public good for all shareholders, individual shareholders owning only a small equity stake may not invest in monitoring activities. Large share block holders appose a concentration of ownership involving a closer monitoring. The disciplinary effect of block holders is therefore greater than with a great dispersion of shareholders resulting. As a result of "*The expected shareholders wealth gains from PTPs are negatively related to the degree of concentration of equity claims in the hands of monitoring outside shareholders."* (Renneboog and Simons, 2005)

Different classes of ownership (the presence of institutions, individuals or families) controlling large share stakes, have different monitoring abilities and could influence potential wealth gains in PTP transactions. Another important issue applicable to the Netherlands and countries like Germany is a two-tier board structure. A Board of non-executive Directors[9] is fulfilling a supervisory task on behalf of, and appointed by the shareholders. Boot, Gopolan and Thakor (2006) argue that the market value would be lower when it expected there will be future disagreement between shareholders and management so a two-tier structure would help to resolve issues. The magnitude of this effect seems to be mainly determined by the objectivity in evaluating the performance of the management, which would be mainly the result of characteristics in stead of the size of shareholding (Vedder, 2007). There has traditionally been little evidence of institutional investor activism and wealth gains in the UK (Crespi and Renneboog, 2002). This could change when firms establish more voting policies and rights.

[9] In dutch; 'Raad van Comisarissen'

Empire Building and Free Cash Flow

The past has proven that managers have incentives to expand their firms beyond a size that maximizes shareholder wealth. Instead of returning profit to the shareholders they use profit to acquire new companies, expanding their control span and stature. Free Cash Flow can create agency problems because cash is not returned to shareholders instead is used in increasing a managers' power and resources under control and often their rewards.

The Free Cash Flow dilemma motivates managers to acquire firms even when these are not value adding. According to Jensen (1986) these investments decisions tend to be value destructive and lead to empire building. Free cash flow is cash in excess of that required to fund all of firm's projects that have positive net present values when discounted at the relevant cost of capital. In a shareholder view such a free cash flow must be paid out to shareholders if the firm is to be efficient and to maximize value for current shareholders. Payment of dividend to shareholders, reduce the resources under managers' control. Another effect of Free Cash Flow is the increased leverage possibilities when equity pays off the debt. The reduction of debt leads to a reduction of external monitoring by capital markets. Managers have the preference to finance their projects internally, avoiding this monitoring and the possibility that funds will be unavailable or available against high explicit. Accordingly to Renneboog and Simons, *"The expected wealth gains from PTPs are positively related to levels of free cash flows in the pre-transaction firm".*

The wealth gain from free cash flow is not undisputed. Some argue that the agency lowering effects may come from reducing the debt level by using the free cash level which in itself increases the potential leverage possibilities. In our view either effect will lead to an increase in potential wealth gains in a PTP transaction. This thesis will investigate the relation between free cash flow as an agency indicator in PTPs in relation with the premium paid.

Undervaluation Effect

A firm can be viewed as a portfolio of projects with future cash flows and dividends. There could be asymmetric information between management and outside shareholders about the maximum value that can be realized with the existing assets. As Fama (1970) mentioned there are three types of market efficiency; weak, semi-strong and strong. In the weak form only the historic information is reflected in the share price. In the semi-strong case all fundamental and public information are quoted. When asymmetric information exist it is possible that management, which has superior private information, perceives that the share price is undervalued in relation to the true potential of the firm. This 'insider knowledge' can only be reflected if the market is efficient in the strong Fama-way. Research literature on valuation topics focus on information sharing in the semi-strong form. Lowenstein (1985) and DeAngelo (1986) suggest that buyouts or PTPs are using pre-buyout private managerial information. Alternatively, it is possible that specialized outsiders (like institutions or private equity investors) realize a firm has substantial locked-up value. Accordingly the expected shareholder wealth gains from PTPs are positively related to the degree of undervaluation

The undervaluation determinant states that the management or a private equity specialist is able to pay higher premiums in a PTP when a firm is underperforming. The level of underperformance is reflected past performance over a one-year period prior to the PTP ending one month before the first announcement. The expected relation is negative and one of the most significant wealth drivers of Renneboog and Simons (2005) UK-PTP-research.

1.3.5 Other identified research determinants

In addition to earlier described factors, others are identified in research literature which could lead to higher premium payments in PTPs. In the evaluation of Renneboog, Simons and Wright (2005) none of these have shown a strong relationship with target value premium nevertheless we will review them below.

Takeover defense and multiple bidders

Constructions defending companies of a (hostile) takeover are related to the Agency problem discussed by Morck, Shleifer and Vishny (1988). Managers may have a preference for keeping firms independent and are tempted to engage in defensive acquisitions to secure the independence of their firms. This defensive merger motive is self-reinforcing: Because some managers feel the need to secure the independence of their firms by making defensive acquisitions, other managers are driven to protect their own firms by making defensive acquisitions themselves. Lowenstein (1985), reports that some corporations have gone private via an MBO 'as a defensive measure against a hostile shareholder or tender offer'. In short, *the expected premiums from PTP's are positively related to takeover pressure from the market for corporate control.*

In case of multiple bidders (Walking and Edminster, 1985; Jahera et al. 1985) find that the presence of multiple bidders in a transaction led to a higher premium. When there is only one bidder, an acquirer that is not closely related to the target may be able to purchase the target company below the maximum price it is willing to pay for the target. This is due to the difficulties the target firm shareholders got to estimate the maximum price of the acquirer. These difficulties can decrease the bargain position of the target shareholder and their premium. The authors state that when the acquirer is closely related to the target it is less difficult for the target shareholders to estimate the maximum price. This is why multiple bidder competition usually increases the eventually offered premium. Many of the PTPs are with management involvement and uncontested that is why the effect of multiple bidders involvement in PTP is rater low.

Transaction costs

According to DeAngelo et al. (1984) in the 1980s the high transaction costs was one of the main reasons why firms consider a Public-to-Private transaction. To maintain a stock exchange listing in the US with registration, stock listing and servicing costs about $100,000 per annum. For the UK companies with a market capitalization of around GBP 100 million, the admission fee to the London Stock Exchange (LSE) amounted to GBP 43,700 in 2003. These costs vary with the size of the corporation, type of the market and amount of transactions.

Besides admission fees Benoit (1999) report that for UK quoted firms the fees paid to stockbrokers, registers, lawyers, merchant bankers and financial PR companies, as well as the exchange fee and the auditing and, printing and distribution leading to costs even over GBP 250,000 per annum. Carney (2006) concludes that the enactment of the Sarbanes-Oxley-Act (SOX) in 2002 was the main reason for the small firms to consider a Public-to-Private transaction as the costs will exceed the benefits. The companies tend to be the smaller ones that filed to go private; for lager companies these costs were not material.

One of the reasons to become a listed company is because of the access to relative cheap capital. The share capital of a listed company is spread across various shareholders. For the smaller firms the liquidity of the listed shares can be low. In the offer documents of the Dutch company McGregor[10] (delisting 23/03/2006), Delft Instruments (delisting 10/05/2004) and Norit (delisting 16/10/2003), the access of capital on the stock exchange is considered unfavorable for their shares, since they have a small market capitalization. The liquidity of these shares is so low that the investors are not able to expand or reduce their positions without affecting the share price. Taking the company private gave the old shareholders the possibility of a profitable exit. The high burden of the listing rules and extra costs associated with satisfying the requirements of a regulated market exceed the benefits of a listing. McGregor explicitly mention as a reason in their offer document to go private.

[10] To stop the trend of 'going private' transactions at the Amsterdam Stock Exchange, Mister P. de Vries (*Vereniging van Effectenbezitters)* proposes a range of profitable fiscal rulings for small and fast growing companies. (source: *18 April 2006, Betten beursmedia news*)

Carney (2006) and Renneboog and Simons (2005) suggest that wealth gains from going private are the result of eliminating the direct and indirect cost associated with maintaining a stock exchange. It eliminates the growing regulatory costs imposed on public companies, which can amount to several million dollars annually. This could be a reason to go private for smaller firms and firms which are not frequently traded. The undervaluation because of small liquidity at the stock exchange as Kaplan (2007) suggest can lead to a flight of smaller publicly quoted firms into the arms of private equity investors.

Wealth transformation

Renneboog and Simons (2005) suggest three main mechanisms through which a firm can transfer wealth from bondholders to stockholders: (i) via an unexpected increase in risk of an investment project, (ii) through (large increase in) dividend payments, or (iii) an unexpected issue of debt of higher or equal seniority. In PTPs, the third mechanism in particular leads to substantial bondholder wealth expropriation. In the U.S. it is common that firms which are listed are also trading their own bonds. In the UK and Continental Europe this is not the case, only a few number of firms trade bonds, so therefore this factor is not tested in Renneboog and Simons (2005) research and will not be further researched as a part of this thesis.

2. Private equity waves

2.1 Introduction

The first part of this thesis will focus on transaction variables which may influence the target premium. Beside looking at the transaction variables in a Agency- or Financial-structure way, we can also consider the clustering of deal activity. One way is to look at the total number of completed transactions over a certain period and the other way is to take the aggregate value per deal. Many researchers[11] conclude that some sort of 'transaction wave' exists. However, the researchers do not agree upon the cause of these waves. Harford (2005) categorized the competing explanations into two groups: *Neoclassical* and *Behavioral theories.*

A neoclassical theoretical view, presumes that the main drivers of the waves are economic disturbances and shocks influenced by the revelation of new information (Gort et al., 1969; Harford, 2005). Capital will be reallocated as quickly and efficiently as possible. Whereas the behavioral way (Shleifer and Vishny, (2003); Rhodes-Kropf and Viswanathan, 2004) claims that market valuation drives merger waves. Managers take benefit from overvaluation of their firm in the market, and since the valuation fluctuates so does the transaction activity. Blunck and Bartholdy (2007a) and Smit (2006) disagree with the behavioral theory as empirical evidence shows that industry shocks precede the misevaluation to the wave. Besides Private Equity investors are not able to use their overvalued stock as transaction currency, since most transactions are paid in cash. Harford (2005) continuous on this point and suggests a more external cause. His results support besides the requirement of economic motivation, the requirement of low transaction costs to generate a large volume of transactions.

Smit and van den Berg (2006) combine the mentioned theories and describe in their research a pro-cyclical nature of 'private equity waves' depending not only on the uncertain evolution of the economy–where growth triggers investments– but also on the revelation of private information. Information economics and herding behavior strengthen the cyclical pattern of investment flowing in and out of private equity. This clustering can be part of what Toxvaerd (2004) calls "the Musical-chairs" in the industry, where private equity is copying behavior and the last one is out.

[11] See for examples: Kaplan (2007), Smit (2006), Shleifer and Vishny (2003), Bruner (2004), Harford (2005)

Relatively research literature focus on the U.S. M&A market, where the Continental European PTP market remains undiscovered. The upcoming Continental European M&A activity and Public-to-Private (private equity) transactions during the 1990s and 2000 are hardly reviewed. This chapter will try to give an overview of past research on the determinants of private equity-waves further it will focus on the relation of the (private equity) wave and the target value premium. This thesis will not investigate further the underlying determinants of the wave but some of them are measured in the 'agency and leverage' determinants of the Public-to-Private wave. To measure this wave we will follow closely the method presented by Harford (2005).

2.2 Industry shock theory

Several studies present evidence of significant variations in acquisitions across industries (Michell and Muleherin, 1996; Boone, 2000; Harford, 2005). To go from a wave within individual industries to a wave across the entire economy, several industries must enter a wave at the same time. Only Harford has researched and claimed this event, and thus we will focus on his arguments and evidence. Harford's "neocalassical explanation of transaction waves" is a response to specific industry shocks that require large-scale reallocation of assets. However, these shocks are not enough on their own there must be sufficient capital liquidity to accommodate the asset reallocation. The increase in capital liquidity and reduction in financing constraints is positively correlated with high asset values and therefore must be present for the shock to propagate a wave. Thus,

…The explanation for transaction waves is intuitive: they require both an economic motivation for transactions and relatively low transaction costs to generate the large volume of transactions (Harford, 2005)

Harford's intuitive explanation is reviewed by Smit and van den Berg (2007) in more dynamic model. Their research indicates that activity clusters in time as managers simultaneously act and then compete for the best combination of assets. The liquidity argument tells that even if industry shocks do not cluster in time, the importance of capital liquidity will cluster the industry shocks in time to create an aggregated wave effect. Due to the large portion of finance needed in private equity deals, the demand and supply of capital in the market is important.

Mulherin and Boone (2000) and Andrade, Mitchell and Stafford (2001) confirms the industry-level clustering in the 1990s. Harford (2005) provides further statistical evidence of industry-specific merger waves occurring as a common response to shocks. He also shows that these shocks will only propagate waves, if efficient capital liquidity is present, and that this macro level component causes industry waves to cluster in time to create aggregated transactions waves. The two most conspicuous characteristics of Public-to-Private transactions are that they seem to come in waves, and are correlated with market liquidity (Harford, 2005).

2.3 Behavioral theories

Whereas the 'economic shock'-view can easily be transformed from an M&A transaction point of view to a Public-to-Private transaction view, this is not the case with behavioral theories. Private equity investors are not the same investors as strategic companies. The can not use their overvalued stock as a transaction currency, since most of the PTP transactions are paid in cash and Private equity firms are mostly private. Smit and Van den Berg (2005) propose a model in which most of the cyclical nature of private equity transactions is the result of herding behavior of the agents involved.

Herding behavior

The application of herding models in finance can be applied to acquisition decisions to generate a herding explanation for Public-to-Private waves. Herding is managers copying each other's behavior in order to be successful. Together with Roll's hubris theory (1986) which specifies that the basis for many acquisitions is due to the management's excessive self-confidence and the high self-worth, it can cause PTP waves. In particular, when an industry shock creates a situation where managers, either correctly or due to hubris, respond by making acquisition bids. Herding and the Hubris theory fits into the distortional behavior explanation of waves.

The return on investment in post-wave transactions are significant lower, and even in some cases negative, comparing to pre-wave transactions (Harford, 2005). Sharfstein and Stein (1990) developed a model of herding in which managers make investment decisions. In their model, managers observe a signal about the investment's value. Informed managers observe an informative signal and uninformed managers observe noise. Managers are unsure of whether they are informed or uninformed. Informed managers are receiving correlated signals since they are all informative signals about the same investment. If managers are evaluated relative to their peers, a herding equilibrium obtains in which managers will mimic the first mover. Later movers will even ignore their own information in mimicking early movers. Graham (1999) concludes that not only managers with low ability to interpret the information are likely to herd, but also managers with high reputation are more likely to herd to protect their reputation.

This information revelation mechanism is closely related to the revelation model of Grenadier (1999). In the information revelation model, agents base their optimal investment decision on the state of the economy and on other agents' investment behavior with their revealed private information. Gomper and Lerner (2002) show that in overheated environments, too many investors chase too few deals. The returns are poor and target value premium can build up. Kaplan and Shoar (2005) show in their research that funds with lesser reputations and experiences have less return on investment and are negatively affected by the wave. These inexperienced agents have an information disadvantage and are exposed to 'herding behavior'. This thesis will investigate this herding behavior and the influence on target value premium through agency-restructuring determinants and the effect of wave periods.

2.4 Pre-identified Private Equity Waves

In 1959 Nelson was one of the first who investigated aggregated merger waves. He studied these merger waves in the United States from 1895 -1956. He concluded that merger behavior could be described as a burst of high activity followed by long periods of low activity. The clustering of merger activity has been the subject of considerable interest since Nelson's first work appeared. However, the formal statistical evidence regarding the wave hypothesis is mixed and the evidence and positive correlation with stock prices is not undisputed for.

Since Nelson's work, research has progressed significantly in identifying waves and econometrically estimating the wave-like behavior. Researchers such as Mitchell and Mulherin (1996) and Harford (2005) based their study on merger waves on two-year wave periods. While choices of a two year windows are somewhat arbitrary, alternate groupings (for example a three year period) yield similar conclusions. Earlier research of Linn and Zhu (1997) and Harford (2005) indicate a wave pattern in M&A in the United States. Smit (2007) and Kaplan (2007) describe also an aggregated wave pattern in Public-to-Private transactions focused on the US and UK. In Harfords' research (2005) a distinction is made between mergers in the 1980s and mergers in the 1990s, this because of different characteristics underlying the two waves. Following Harfords method we construct the same distinction for the whole sample by using the findings of Kaplan (2007), Smit (2007) and Renneboog and Simons (2006) on PTP waves.

The First PTP wave was in the US in both the venture capital and buyout market. In the 1980s the US market was characterized by (hostile) corporate takeovers and financial restructurings (Renneboog and Simons, 2005). The high returns in the early 1980s together with new financial structures led to a boom in the PTP market. The emergence of investment banks like Drexel, who "invented" and enabled the creations of LBOs and management buyouts through options and junk bonds, created a way to restructure inefficient of and over-diversified. This 'boom' in the PTP market led Jensen (1989) to predicted *"the eclipse of the public corporation"*. This first wave and clustering of PTP deals in the latter half of the 1980s, with record transactions like the $25 billion deal of RJR Nabisco in 1989 at the end of the '80s-wave, was also associated with many bankruptcies and fierce public and political resistance.

The effect of the first PTP wave was many bankruptcies and lack of trust of the financial system. The government acted with a large-scale anti-takeover legislation, political pressure against high leveraging and a credit crunch in the financial market. The crisis in high yield market led to low period of Public-to-Private transactions. These effects are very similar with the current market situation where Private Equity is under fire and leveraging and lending is expensive. In the early 1990s the faith in the financial market was restored (except for the legislation), but PTP activity did not increase to former levels. Kaplan (1997) and Holmstrom (2001) argued that the 1980s style of deals were no longer necessary because of the companies focus on shareholder value, is institutionalized within the corporations. The market remained calm until 1997 when a steep rise in PTP transactions was recorded. The reason for this increase, at the end of the 1990s, was a result of the fact that small companies experienced a strong adverse effects from their low trading volumes and the heavily increase in transactions cost. The foreseen implementation of the Sarbanes-Oxley[12] Act on corporate governance and the high listing costs were a heavily burden. Explanations for the second going-private wave at the end of the 1990s generally emphasize on the increased confidence in private equity and debt financiers. Important contributions to this confidence are issues such as access to key information, due diligence, management support, target shareholder support (e.g. through irrevocable undertakings; squeeze out procedures; 'hard' exclusivity agreements) and the disregard of small firms by institutional investors (Renneboog and Simons, 2005).

After the second wave, the market for PTPs slowed down after the burst of the technology bubble and a general decline in share prices. A new wave started with an increase in private equity commitments, a strong credit market with an attractive spread between earning yield and the interest rates. All these conditions are the origination of the new wave as Kaplan (2007) describes. Due to the credit crunch in 2008 the possible outlook is that the number of PTP deals will fall although many private equity firms still have committed large investment funds.

Distinctive wave period	Begin	Peak	End
First wave	1980	1987-1989	1990
Second wave	1990	1998-2001	2002
Third wave	2002	2005-2007	2008

Table 2.1: Private equity waves as formulated by Kaplan (2007); Renneboog and Simons (2005)

[12] The Sarbanes Oxley act was enacted after heavy resistance on 25 April 2002

This thesis will try to find statistical evidence for a wave pattern in the Continental European Public-to-Private market with a focus on the private equity sector. We will use a method close to Harford (2005) to explore if wave periods influence the target value premium paid.

2.5 Conclusion

The target value premium paid in PTP transaction is an important statement of the acquiring company on the perceived value of a target. Research indicates that premium payment affects the acquisition performance years after the acquiring. Several studies on determinants of the target value premium have been discussed. In general, these studies find no mean dominator for the target premium. The research literature however focuses on two main topics; *Leveraging* and *Agency* effects both thanks to restructuring of the target company. Another well documented character of PTPs is the tendency of transactions to cluster into *Waves*. The relation between this so called 'wave factor' and the amount of premium paid is hardly researched to our knowledge. This thesis will analyze different determinants with a focus on Continental Europe. The agency and leverage determinants are tested according to the research done by Renneboog and Simons (2002) UK study. The wave factor will be determined by Harford (2005) method. These determinants will be further explained in chapter four.

The next chapter will introduce the characteristics of Public-to-Private market and transactions in Continental Europe.

3. Public-to-Private Market

3.1 Introduction

Public quoted companies may suffer from problems mentioned in the previous chapter like: inefficient financial structures, agency related problems or corporate undervaluation, making privatization profitable. One way, and often used is to restructure companies on gain and on shareholder value, through a leveraged buyout (LBO). During the 1980s this LBO trend in the US and latter in Continental Europe became very popular. Over the past two decades, the Public-to-Private deals have become a global phenomenon and with the buy-out of Alliance Boots were no longer restricted to medium sized companies. Although the activity is concentrated in the U.S. and UK, it is now a clear factor in Continental Europe and Asia. New players such as hedge funds, wealthy entrepreneurs and family offices are in competition with the old 'traditional' private equity players.

Where the size of deals have fallen sharply since the mid 1980s it is recently increased as club deals[13] become more in evidence. The scope of restructuring and the more favorable legislation for restructuring larger corporations is greater in Continental Europe this is why Private Equity firms are increasingly looking for attractive deals in this environment. The different characteristics and reasons 'why' of this interesting market will be further researched in next paragraphs. This chapter is just to give an overview of the Public-to-Private Market. We will not link geographical and legislative changes to the target premium although we expect a negative impact of stricter financial rulings after the financial crisis. Increased cost thanks to the extra administrative work following those rules can have a positive effect by increasing the PTP trend with small publicly quoted firms.

[13] Private equity firms working together on deals each putting in a part of the equity

3.2 Types of Public-to-Private Transactions

When a listed company is acquired and subsequently delisted, the transaction is referred to as a Public-to-Private transaction or a going-private transaction[14]. This transaction is a special form of a Buy-out. There are several types of buy-outs, but the most common are the Management Buy-Out (MBO), the Leveraged Buy-Out (LBO) and the Management Buy-In (MBI). Virtually all Public-to-Private transactions reviewed in the Amarican literature are financed by borrowing substantially beyond the industry average, that's why PTPs are often called LBOs. In fact, LBOs comprise not only of Public-to-Private transactions but also affects companies which were not publicly listed (private firms in private-to-private transactions) experiencing an increase in leverage after the acquisition.

A buy-out is called a MBO when the target management team takes over the firm, mostly backed by private equity investors (Renneboog and Simons, 2005). One of the main reasons for the management to buy the company is due to information asymmetry. The internal management has more information than the company's shareholders and is therefore more capable to determine the true value of the company. This undervaluation factor is a strong motive for the management to buy the company. Because the acquisition of all the shares needs large funding requirements the management is often backed by private equity investors who take a significant share in the new company.

When an outside management team acquires the firm and takes it private, we refer to this transaction as a Management Buy-In (MBI). The fact that an outside management tam does not have the same level of private information as the 'inside'-managers in MBOs, makes MBIs a complete different type of transaction. This outside team often backed by a private equity firm, realize that the target firm is not performing at its full potential corporate value. MBIs are often considered as a hostile transactions (Robbie and Wright (1995) and strong corporate restructuring and selling off departments is often the case. The public opinion on Private Equity and their image is often based on misconceptions and focused on the view of "firm raiders and barbarians at the gate" with a small investment horizon.

[14] The European Private Equity and Venture Capital Association (EVCA) defines public-to-private transactions as follows: 'a transaction involving an offer for the entire share capital of a listed target company by a new company – Newco – and the subsequent re-registration of that listed company as a private company. The shareholders of Newco usually comprise members of the target company's management and private equity providers. Additional financing for the offer is normally provided by other debt providers.'

Public-to-Private transactions are usually fairly leveraged, according to a study of the Center of Management Buyout Research (CMBOR), averaging around 53% of the acquisition value. When this is the case, the MBO is often called a LBO[15]. The LBO model is built around some strong principles; there is a high leveraged financial structure; there are remuneration packages on a pay-for-performance basis for the managers; there is equity ownership for management and directors. Together with strong contracts with owners and creditors this may limit the waste of free cash flow (Jensen, 1989). In an LBO organization, management is stimulated to maximize the *equity (shareholder) value* instead of the pre-transaction *enterprise value*. This thesis will focus only on Public-to-Private transactions with hundred percent share stake, so the target value premium can be checked against earlier quotation.

3.3 History of the Public-to-Private market

The history of the PTP market started in the earlier 70s in the U.S. with small transactions privately financed. After new financial structures and products, the number of PTP transactions increased rapidly and became a global phenomenon. The three main geographical areas are the U.S., the U.K and Continental Europe with distinctive characteristics in legislation, PTP volume and value. This paragraph will investigate each area in more detail.

3.3.1 United States

During the first years of the 70s, the term "going private" first became commonly used. In this period the stock market was in poor condition and senior management used the outstanding stock to make tender offers. In 1980s, the market of PTP transactions started to move and the number of transactions increased significantly. The U.S. PTP market developed from 16 transactions in 1979 with a total value of $636 million, to a strong peak in 1988 of 125 transactions with a total value of more than $60 billion (Renneboog, Simons and Wright, 2005). The end of the first wave in the latter part of the 1980s and beginning of the 90s was associated with many bankruptcies, a crisis in the high yield 'junkbond' financing, together with a credit crunch in the capital market. The SEC (Securities and Exchange Commission) began an investigation into the fairness to the current shareholders leading to strong anti-takeover legislation.

[15] http://www.evca.com Glossary 2007

The second wave was not recorded until the end of the 1990s. The reason for a strong increase at the end of the 1990s was a result from the fact that small companies experience strong adverse effects from their low trading volumes and high listing costs. The implementing of the Sarbanes-Oxley act on corporate governance increased the costs of listing substantially (Renneboog and Simons, 2005). This increase of transaction costs led to a fled of the smaller firms into the arms of private equity investors according to Kaplan (2007).

3.3.2 United Kingdom

The phenomenon of the first Public-to-Private transaction in the U.K. was the Management Buy-Out (MBO) of Haden Maclellan Holdings Plc undertaken in 1985 for £60 million. Although smaller in scale the activity in the U.K kept in pace with the US and the first wave culminated in 1989 (Renneboog, Simons and Wright, 2005). The second wave of public to private transactions started in 1997 with explanations generally emphasize the increased presence of private equity and debt financiers, target shareholder support and management support. But the strongest reason in many cases was the total disregard of the institutional investor for the smaller companies. The lack of liquidity made it difficult to finance expansions through issue of new shares. This illiquidity drove the public quoted management into the open arms of the private equity firms. The market collapsed after the burst of the internet (technology) bubble, but regain value in both volume and number at the end of 2004.

The buy-out market in the UK reached a record high (CMBOR, 2008) from €39.8 billion in 2006 to €66.9 billion by the end of 2007 mainly due to the Alliance Boots buy-out. Deal volume fell slightly compared to previous years with 650 completions. Alliance Boots at €16.4 billion was not only, the first FTSE-100 company taken private, but also the largest buy-out in the history of the European buy-out market. The UK has always had deal volumes far in excess of any other European country and remains by far the largest country by deal volume with in 2007. Figure 3.1 represents an overview of the total UK buy-out market and buy-in market. With on the left the total number of deals a year and on the right side the aggregated value per year measured in pounds by the Center of Management Buy Out Research (CMBOR).

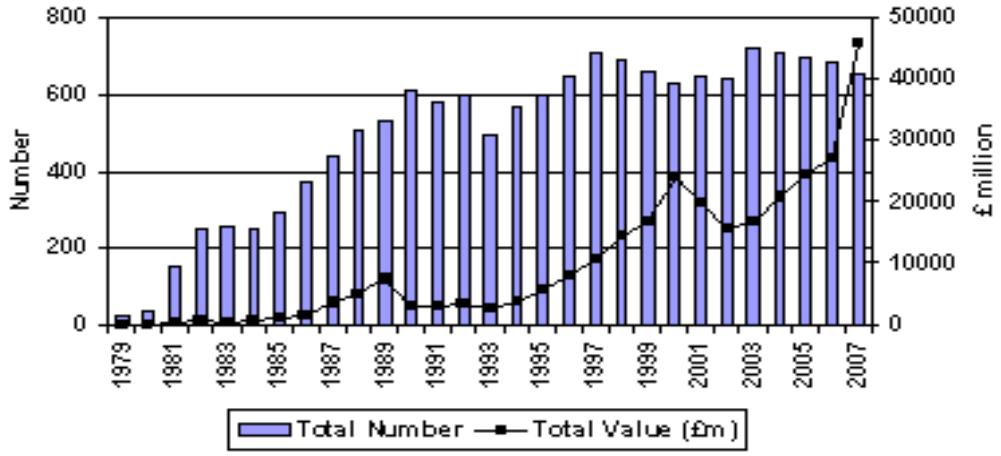


Fig. 3.1:UK Trends Buy-outs/ Buy-ins

Source: CMBOR/Barclays Private Equity/Deloitte , 2008

3.3.3 Continental Europe

Continental Europe has got rather less history in PTPs than the U.S. or the UK, but is strongly comparable with the UK market. They both got a low number and volume of transactions in the 80s and recorded a second wave in the late 90s. The Continental European PTP market stayed small for a number of reasons. First, Continental European countries have got fewer listed companies. Due to the smaller markets the floatation is more limited and fewer private equity houses consider undertaking a risky and costly PTP-process. A third aspect is the cultural differences; German managers focus generally more on corporate governance than on their troubles around the quotation. Swiss and Italian companies are known for their proud and defensive strategies making it difficult to undertake a PTP for example, the difficult acquisition of Banca Antonveneta by ABN AMRO NV.

Finally the fiscal and legal infrastructure is traditionally not as favorable to PTPs as in the UK however recent legislation and regulation changes are stimulating the European PTP market through giving more influence to the shareholder and possibilities for tax deduction.

The number of deals in Continental Europe peaked in the second wave in 1999 with an amount of 31 transactions. In terms of volume this was a very good year with a total value of €20.9 billion. As in the U.K., the amount of large going private deals increased and contributed much to the increase in total value last year. Competition for larger buy-outs have forced prices higher but with record amounts of capital raised in 2005, it seems that large deal flow will continue to grow over the coming years.

The buy-out market value for the whole of Europe (including the UK) reached €171.4 billion from 1436 deals in 2007. The average deal value for the whole European market stood at €119 million. Value in Continental Europe (CE)[16] fell from €130.3 billion in 2006 to €104.6 billion last year.

According to CMBOR the UK remained the largest market in Europe by value and volume in 2008. The largest buy-out market in CE last year was Germany at €12.1 billion following a record €26.5 billion in 2007. The French market also fell last year to just €7.3 billion, which is the lowest level since 2001 after reaching €34.2 billion in 2006.

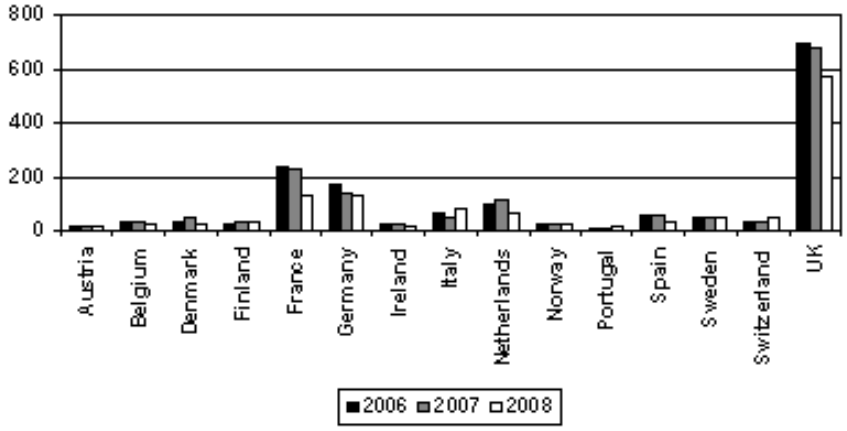


Fig. 3.2: Number of Buy-outs/ Buy-ins Europe (including the UK)

Source: CMBOR/Barclays Private Equity/Deloitte, 2009

[16] Europe = Austria, Belgium, Denmark, France, Finland, Germany, Ireland (Eire), Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK.

Figure 3.3 represents an overview of the total buy-out market and buy-in market. With on the left the total number of deals per year and on the right side the aggregated value per year measured in euros by the Center of Management Buy Out Research (CMBOR) including the UK. As can be seen the trend is upwards regarding both the volume as the number of deals.

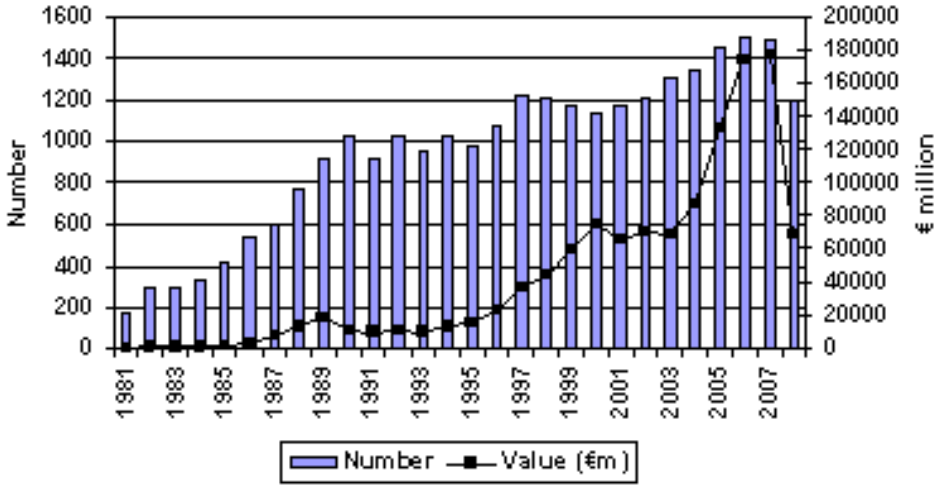


Fig. 3.3: Trends Buy-outs/ Buy-ins Europe (including the UK)

Source: CMBOR/Barclays Private Equity/Deloitte, 2009

According to the CMBOR study (2006, 2008) PTP transactions developed gradually over its life-cycle with a continuous market growth until the sharp decline in 2008. After a peak in 1989 where almost 8% of the Continental European M&A transactions was PTPs, the market calmed. The first period of PTP deals was characterized by high costs, risk taking and relatively small deals involving current management (MBO). The PTP process matured and more PTP deals were successfully completed, with a growing tendency towards (private equity) investor-led or institutional buy-outs/in (IBOs/ MBI) of larger public companies.

Although PTP remain relatively small in number, the aggregated value of PTPs grown substantially. The new PTP wave was even open for options to restructure listed (FST-100) corporations by taking them private. Both in terms of volume and value, the recent wave is far greater than back in the top deal years of the 1980s. Figure 3.3 presents an interesting picture giving information about the UK share and Continental European PTP market relative to the total market. Clear to see is the strong correlation between in and out-wave years between the UK and Continental Europe

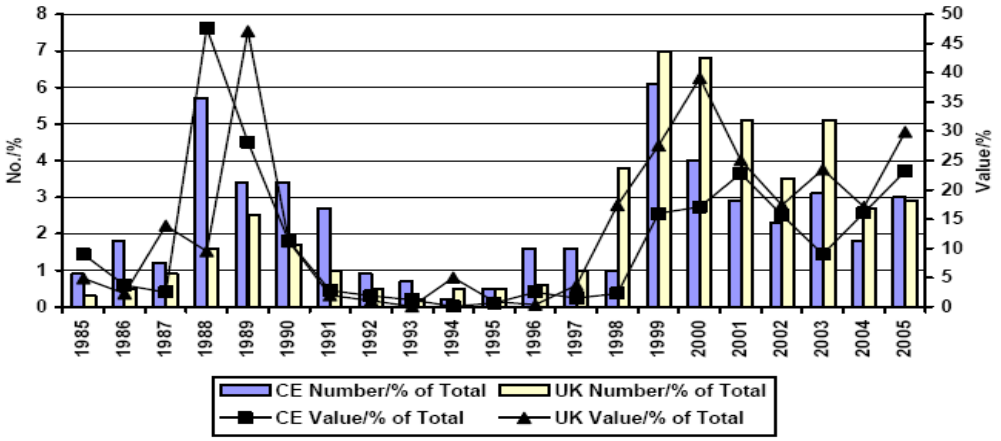


Fig. 3.4: PTP numbers and Values as share of Total Market

Source: CMBOR/Barclays Private Equity/Deloitte, 2006

3.4 Public-to-Private Transaction Structure

When reviewing a PTP transaction many different stakeholders are at play. A transaction is not simply acquiring a majority of the shares in company But in most occasions it involve the current shareholders, the management, a private investor, the bank. The structure of a PTP transaction and the different legal boundaries are further discussed in the following paragraphs.

3.4.1 Shareholder and Financial Structures

Public-to Private transaction involves an offer for the entire share capital of a listed target company by a new company (Newco). In figure 3.5, this is shown by the difference between the old pre transaction structure (on the left side) and the new private company (NewCo). The listed old structure normally has got only normal shareholders. In the NewCo structure a Private Equity investor together with the bank (debt) and the management (equity capital) buy all the shares from the target shareholders. Subsequently the target will be delisted and this new company will be registered as a new private company. The shareholders of Newco will usually consist of the target company's (old) management and the private equity providers. The additional finance for an offer is normally produced by debt providers or a consortium of banks.

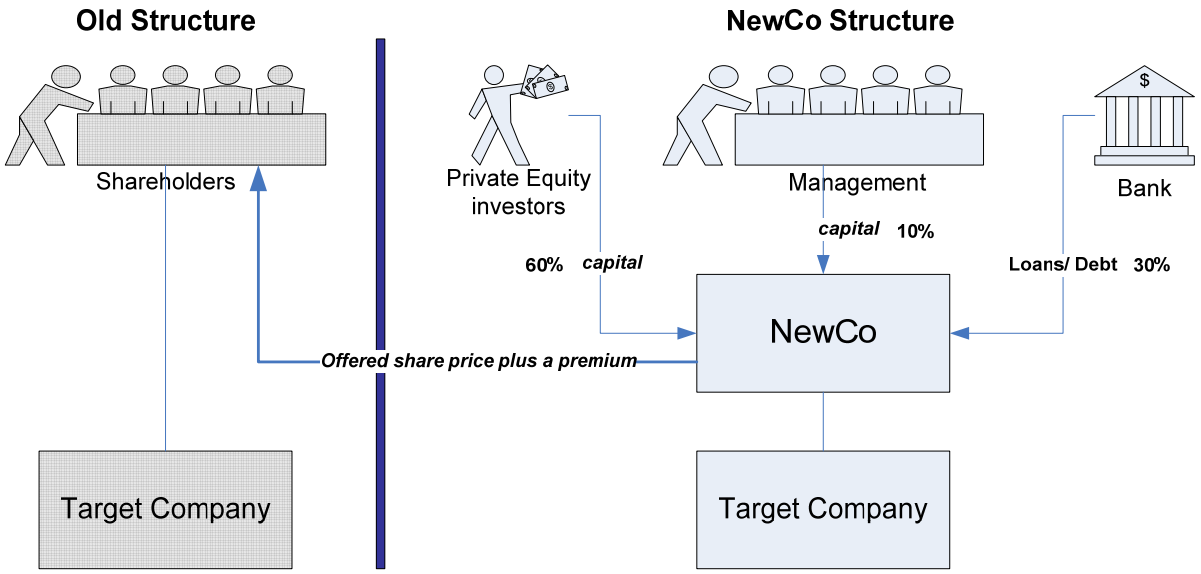


Fig. 3.5: An example of change of shareholder structure after a Public-to-Private Transaction

The European Public-to-Private market, in deal size increased from the mid 1990s, as innovations and the use of financial instruments grew. Financial institutions and investment banks were eager to invest in PTP transactions and debt financing. The proportion of debt in UK buy-outs varied over time the past 20-years but the recent low interest rate is associated with the relative rise of portion of debt in PTP transactions. According to CMBOR studies, the average deal financing is 53%[17] of debt financing against 35% equity (including preferred equity). The remaining funding requirements generally consist of loan notes, mezzanine and other types of financing.

3.4.2 Regulations and Legal matters

Constrictive regulations and legislation in merger and acquisition transactions influence the appetite of investors to invest and take risks in certain sectors or countries. The legal and fiscal regulations in Europe is traditional not as favorable to going private transactions as in the U.S.A and UK. When looking at the regulatory issues it is important to keep in mind that the shareholders of the target company should decide if they are willing to accept the transaction offer. The 'independent' directors often recommend the offer price, focusing on the consideration if it represents the real value of a company. For example in the case of Staples and Corporate Express the management accepted the offer after three increases of the target premium. The consequence of shareholder protections and power for private equity investors are that

[17] CMBOR research report (2006) on the average financial deal structure and UK interest rates

there is more uncertainty about being able to successfully complete the PTP transaction (Renneboog and Simons, 2005).

One of the risk-limited options to private equity investors is the possibility of shareholders to give irrevocable undertakings[18] in accepting the offer. This reduces the risk of the deal failing, especially when shareholders with large share blocks are prepared to accept the offer prior to the announcement. When closing a deal not only the large shareholders are important but also minority shareholders can prevent the completion of a buy-out. One of the factors which contributes to the popularity of a Public-to-Private transaction, is the possibility of a "squeeze out"-procedure. A squeeze out procedure is a rule that gives the acquirer the possibility to force minority shareholders to sell their shares, conditional on a fair offer price. This procedure is rather simple in the UK and U.S. through a minimum acceptance of 90% of the shares is required. In many Continental European countries, the minimum acceptance condition is 95% of the shares. Within Europe, there are big differences between countries and their regulatory and/or legal framework. The regulation regarding the minimum percentages of shares required in order to declare the offer unconditional varies between 50-75%. In practice, all the firms aim for a much higher acceptance rate so they can "squeeze out" the remaining minority shareholders (Schut, 2006). According to Italian law the acquirer needs 98% of the shares, Spanish law even goes further with no squeeze out provisions available (Berwin, 2001).

A trend in several European countries is to reform the regulations concerning the protection of minority shareholders to a more U.S. and UK like system, making it easier for Public-to-Private transactions to take place. One example is the Dutch Fiscal Unity Law of January 2003; it enables acquisition vehicles of private equity investors to allocate the losses of high interest payments form acquisition related leverage to the operations of the target. This makes it more attractive to take a company private through an LBO or MBO because interest losses are deductible. (Renneboog and Simons, 2005)

This thesis will not investigate the different legal and accounting structures but merely indicates the influence of legislation and tax rules, with consequences on the actual future amount of transactions. The expected new more stringent regulations after the credit crunch may disable further PTP growth, but history has proven the ability of Private Equity to be innovative and reinvent itself.

[18] Also known as a lock-up: "A binding agreement by a target shareholder to accept a takeover offer". An irrevocable undertaking may be either hard (binding in all circumstances), soft (ceases to be binding if a higher offer emerges) or semi-hard (ceases to be binding if a higher offer emerges which exceeds the existing offer by an agreed amount).

4. Research Hypotheses

In chapter one and two, we have introduced three main motives for a going private transaction. Chapter three focused on the main characteristics of the market. This chapter will transform the main research variables into testable hypotheses. The goal of this thesis is to determine if these variables have any influence on the target value premium in Private Equity PTP transactions. The variables are split into three distinctive groups; Financial-, Agency- and Wave related-variables, which were identified in earlier research conducted amongst others by Renneboog and Simons (2005) and Harford (2005). Figure 4.1 gives a simplified overview of the variables and the suggested dynamics and relations in a trade-off between acquisition and premium. Besides earlier mentioned variables, the next chapter will introduce some control variables to complement the empirical testing of the target value premium. The main goal of our hypotheses is to answer the main research question, introduced in chapter one. Chapter four will end with a short summary and overview of the tested hypotheses.

This thesis will try to find statistical evidence for a wave pattern in the Continental European Public-to-Private market, with a focus on the private equity sector. We will research if wave periods, agency factors or leveraging are main determinants in target value premium payment.

4.1 Empirical determinants

Research literature on PTP transactions describes mainly two different reasons 'why' potential acquirers are willing to pay a premium on the current market value. Figure 4.1 on the next page shows a graphical presentation of these two 'agency'- and 'leveraging'-factors and adds the third 'wave' determinant. This thesis will focus on these main determinants and their relation with target value premium.

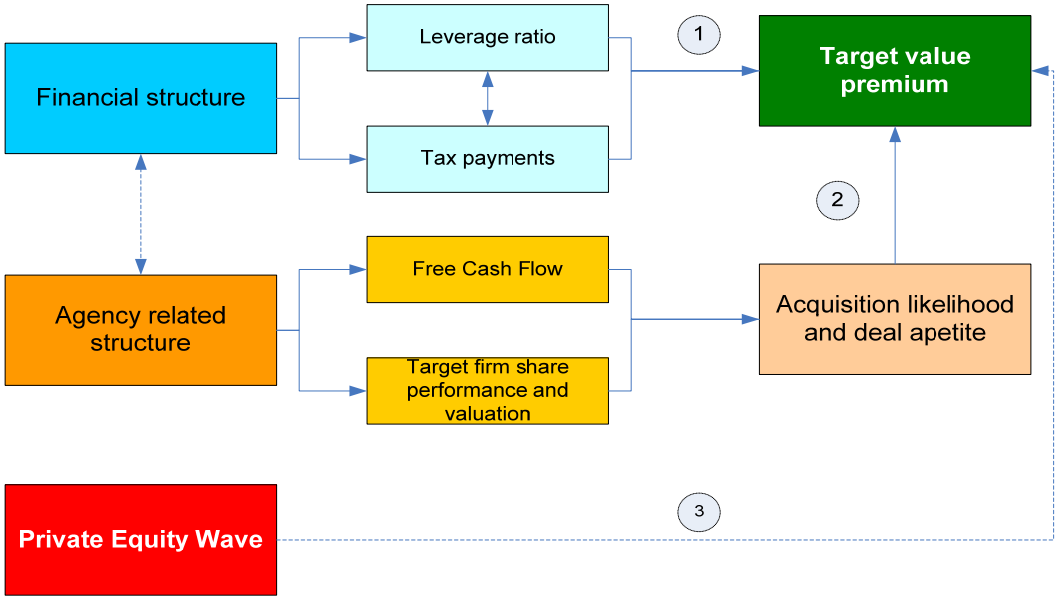


Fig. 4.1: Overview of the empirical investigation determinants

1. The relationship between target firm's financial capital structure (leverage ratio and tax payments) and the target value premium
2. The relationship between the 'agency' structure (monitored by Free Cash Flow and perceived share performance and valuation) and the target value premium
3. A direct or possible indirect relation between the 'wave factor' (by inflating agency and financial restructure benefits through herding or hubris) and the target value premium

Financial restructuring benefits (due to leveraging and tax shield benefits) may influence directly the target value premium as Kaplan (1989) suggested. He claims 76 percent of the premium is directly paid out into the target premium, this research will try to find evidence for this statement.

In order to capture the *agency effect factors* we will focus on the realignment of management and shareholder interests. Excess Free Cash Flow is an indicator that manager and shareholder have a conflict of interest and increases the likelihood of outside (hostile) private equity interest. Share performance and perceived undervaluation due to possible inside-information, increases the deal appetite for an MBO. These agency factors mentioned and investigated in Renneboog and Simons (2005) UK research, with undervaluation being a strong significant variable of target value premium. We will try to investigate the same variables but with a focus on the Continental Europe area.

This thesis will review the *Private Equity wave* with a method derived from the research of Harford (2005). We will check if the high wave periods, indicating a clustering of PTP transactions, have a significant higher target value premium against lower premiums in low wave periods. Research of Harford (2005) and Smit & van den Berg (2006) indicate an 'overpaying'-effect in high wave periods. This can be a direct link to the target value premium or an indirect link where clustering of transactions is the result from positive leverage possibilities (possible due to positive credit-market influences), agency 'herding'-effects or a market/sector undervaluation of target company. We will investigate if there is a direct or an indirect influence of the private equity wave on the target value premium and if there are significant difference between target value premiums paid in high wave periods and low wave periods.

4.2 Leverage related factor hypothesis

Research literature described in chapter two identifies a relationship between the leverage-ratio and the premium payment. The wealth gain from leveraging focuses on the restructuring of the equity and debt basis of a firm. Although most of the studies did not find a significant difference in the premium there is evidence that leveraging can be a source of wealth gains in PTP transactions (for example: Kaplan, 1989; Renneboog and Simons, 2005, Weir et al, 2005). Note is the fact that most of the studies found on leveraging have a U.S. and all M&A transaction focus.

A more systematic investigation into leveraging, which is typical for Private Equity transactions, is interesting because of the increase in share of worldwide M&A transactions by Private Equity investors. Grimpe and Husisnger (2007) recorded an increase in terms of total deal value from 21.6 percent (2000) to 33 percent in 2006.

The following hypothesis reviews the relationship between the leverage-ratio of a firm and the premium that Private Equity pay in order to delist the public quoted company. Debt financing an integral part of going private transactions, according to Lowenstein (1985) this is due to tax savings. Kaplan (1989) also indicates a tax deductibility advantage (tax shield) of interest payments creating value. Many researchers argue that the differences in cost of capital, thanks to leveraging, are the main reason of the increase in debt ratios. An optimal debt to equity ratio can minimize the total cost of capital to the firm and therefore maximizes shareholders' wealth. Additional debt creates value up to a certain point were shareholders demand more risk-reward returns than the extra debt is able to make up for by lowering the cost of debt.

If a company takes too much debt, the total cost of capital will increase and the enterprise value will decrease (Brealey and Myers, 2003).

According to the optimal 'cost of capital'- theory, a PTP transaction only creates value if the company before the transaction is underleveraged[19] compared to the optimum. Through additional leveraging, the total capital cost of the firm lowers creating a wealth gain for future acquirers. This optimum level depends on personal preferences of the Private Equity or strategic 'quoted' firm investor.

A 'normal' firms aim is not to maximize return on equity, but to minimize the weighted cost of capital. This is done through optimizing the debt to equity ratio, but there is a trade of between lowering the cost of capital by increasing the amount of debt (due to the tax benefits) and trying not to take on to much debt because of worsening credit ratings and upsetting shareholders. In practice, there are differences in average leverage ratios of public and private firms. On average, the listed firms have a 36.5% and the delisted firms have an average leverage-ratio of 72.5% (Van der Wurft, 2001). The leverage benefit hypothesis states that the wealth gains from going private are largely the result of benefits associated with the financial structure underlying the transaction (Renneboog and Simons, 2005).

Another reason for the difference in leverage-levels is the structure of the proposed transaction. Financial buyers usually set up an acquisition vehicle, and provide it with the desired amount of equity and debt. On the contrary, corporate buyers tend to finance their bid with a larger share of equity, for example an exchange of stock (Grimpe and Husiinger, 2007). The corporate buyer usually cannot finance a transaction with the same amount of debt as a financial buyer since they probably already use a certain amount of debt to finance their company. This thesis will focus therefore on private equity and not on strategic PTP transactions.

Research conducted by Lowenstein (1985) and Marais, Schipper and Smith (1989) indicate a relation between the tax savings and the premiums paid in a PTP transaction. The higher the tax expenses before the transaction, the larger the tax savings, due to an increased leverage-ratio, will be. The increase in interest payments on the debt construct an allowable deduction and reduce corporate taxation into future years. Tax shields vary from country to country, and their benefits will depend on the taxpayer's overall tax rate and cash flows for the given tax year.

[19] Underleveraging firms have more room for extra debt than an average levered company, leveraging is measured through the Debt to Equity ratio

The rationale is the same as with the leverage ratio, since tax expenses of target firms are also related to the debt portion of the firm. Financial restructuring can be an important source of wealth gains and may justify the target value premium paid. Kaplan (1989) argues that tax benefits constitute an important source of wealth gains in going-private transactions. His model shows a 76 percent payment of the total tax shield as a premium to target shareholders. This indicates pre-buyout investors mainly benefiting from the tax-related incentives, with no incentive for the post-buyout investor to take a company private.

To determine the leverage position of the target firm, the Debt-to-Equity ratio (gearing) is used, which can be derived directly from the Thompson SDC merger database. This variable gives the target total debt divided by shareholder's equity, as of the date of the most current financial information prior to the announcement of the transaction.

Definition Leverage Ratio: $\frac{\text{Debt}_{\text{targetfirm}}}{\text{Equity}_{\text{targetfirm}}}$

Hypothesis 1: Relation leverage-ratio and the target value premium

H_0: The leverage-ratio of the pre-transaction target firm is negatively correlated to the premium

4.3 Agency related factor hypotheses

The Agency theory concerns the 'problematic' relationship between a principal (shareholder) and the agents of the principal (company's managers). Essentially, it involves the costs of resolving conflicts between the principals and agents and aligning interests of these two groups. The restructuring benefits focus on re-alignment of control and on re-alignment of information basis between principal and agent. Recent Corporate Governance legislation and corporate implementation programs are focused on reducing the conflicts between shareholders, directors and management of a company. Corporate Governance has helped to check to ensure full financial disclosure, board independence and shareholder rights. According to McClure (2009) recent studies show that the benefits of a scrutinizing governance, extend beyond simply avoiding disasters. Good corporate governance can increase a company's valuation and boost its bottom line earnings. The Free Cash Flow hypothesis monitors for restructuring and aligning agency problems regarding control. Undervaluation focuses on the information aspect of the agency problem.

4.3.1 Free Cash Flow hypothesis

Free cash flow (FCF)[20] represents the cash a company is able to generate after investing the money required to maintain or expand its assets. FCF is a measure of financial performance calculated as operating cash flow minus capital expenditures. Free cash flow is important measure because it allows a company to pursue opportunities that enhance shareholder value. Without cash liquidity, it is tough to develop new products, make acquisitions, pay dividends and reduce debt. These firms are at the grace of corporate lenders and debtors to be able to grow. FCF is calculated by:

Net Operating Income
+ Amortization/ Depreciation
- Changes in Working Capital
- Capital Expenditures
Free Cash Flow (to Firm)

[20] Source: Investopedia.com

This thesis will examine the relationship between the relative (to sales) amount FCF and the Private Equity premium payment. According to Renneboog and Simons (2005), FCF is usually defined as the excess cash flow in required to fund all projects that have a positive net present value, discounted at a relevant cost of capital. The FCF-to-sale ratio takes the size factor of the firms into account so the different transactions are comparable.

Murphy (1985) first argues that managers have incentives to retain resources and grow the firm beyond its optimal size- so called 'empire building'- which is in direct conflict of the shareholders' interests. This problem is most severe in cash-rich industries with low growth prospects. Jensen (1986) states that 'many of the benefits in going private and leverage buy out transactions seems to be due to the control function of debt', this due to an exchange of debt for equity. The expected shareholder wealth gains from PTPs are positively related to levels of free cash flows in the pre-transaction firm. There is no clear evidence sustaining this hypothesis in most recent US studies and recent UK study by Weir et al. (2005).

According to the Free Cash Flow (FCF) hypothesis, firms that generate large Free Cash Flows may waste resources. Exchanging equity for debt in a PTP transaction will reduce the amount of resources under managerial discretion but the external control will increase due to the control function of debt. This aligns the management values with the shareholder values as firms are making capital budgeting decisions more efficient and pre-commit to pay out future cash flows rather than retaining them.

Relying on debt to motivate the managers may induce agency cost of debt as debt gives managers the incentive to substitute low-risk assets for high-risk assets and create an *asset-substitution problem* (Renneboog, Simons and Wright, 2005). The asset-substitution problem is where value transfers from a firm's bondholders to its shareholders placing more risk on the debt holders without providing them with additional compensation. High-risk projects can yield higher profits, however the firm endures increased risk. The added profit may only benefit the shareholders, as the bondholders require only a fixed return. The increase level of risk does affect the bondholders, since the company increases its chance of defaulting on its debt. Therefore, by solving one agency problem a company could create another problem with its current debt holders. The asset-substitution problem is outside the scope of this research paper.

Renneboog and Simons (2005) expect the higher the FCF-ratio, the more wealth gains from PTP restructuring is possible. Both sales and FCF are derived from Thomson SDC Database, with the latest twelve months (LTM) accounting data prior to the takeover.

Definition Free Cash Flow ratio: $\frac{FCF_{\text{targetfirm}}}{Sales_{\text{targetfirm}}}$

Hypothesis 2: Relation Free Cash Flow ratio and target value premium

H_0: The Free Cash Flow ratio of the pre-transaction target firm is positively correlated to the target value premium

4.3.2 Undervaluation hypothesis

The conflict between management and outsiders on the 'true' value of a company can lead to a Public-to-Private transaction. As a firm is viewed as a portfolio of projects, there may be asymmetric information between management and outsiders about the maximum value that can be realized with the existing assets (Renneboog and Simons, 2005). It is possible that the management has superior inside information and knows the true distribution of the future returns and realizing the share price is undervalued in relation to the true potential of the firm. Especially smaller firms receive a lack of interest and have problems using shares to increase liquidity.

Lowenstein (1985) and DeAngelo (1986) have researched the manipulation of pre-buyout accounting data by the target firm management but have found no indications. Alternatively, it is possible that specialized outsiders (like institutions or private equity investors) realizes that a firm has got substantial unrealized locked-up value, which motivates them to buy large share blocks or even propose a management or institutional buy-in. The undervaluation hypothesis suggests that the wealth gains from going private results from developing an alternative higher-valued use for the firm's assets.

The determinant of undervaluation hypothesis is the share performance and return on asset ratio (Renneboog and Simons, 2005; Goh et al., 2002) which are both commonly used in research papers and daily practice at KPMG Corporate Finance.

Return On Assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. ROA is calculated by dividing a company's annual earnings by its total assets and is displayed as a percentage. Sometimes this is referred to as "return on investment".

Definition Return on Assets (RoA): $\frac{Net\ Income_{\ targetfirm}}{Total\ Assets_{\ targetfirm}}$

ROA tells you what earnings were generated from invested capital (assets). ROA for public companies can vary substantially and will be highly dependent on the industry. This is why when using ROA as a comparative measure, it is best to compare it against a company's previous ROA numbers or the ROA of a similar company. The ROA calculation is not used in the actual regression model because of the individual characteristics.

The assets of the company are comprised of both debt and equity. Both of these types of financing are used to fund the operations of the company. The ROA figure gives us an idea of how effectively the company is in converting the money it has to invest into net income. The higher the ROA number, the better, because the company is earning more money on less investment. For example[21], if one company has a net income of $1 million and total assets of $5 million, its ROA is 20%; however, if another company earns the same amount but has total assets of $10 million, it has an ROA of 10%. Based on this example, the first company is better at converting its investment into profit. A management's most important job is to make wise choices in allocating its resources.

The accounting data used in both values are derived from the Thompson SDC Merger database. The undervaluation hypotheses state that management or an LBO specialist is able to pay higher premiums in a PTP transaction when a firm is underperforming. The higher the discrepancy between the market value of a firm, and the potential value under private ownership, the larger will be the wealth gains in a PTP. The past performance is captured by share price returns over a one-year period prior to the PTP ending one month before the first announcement. The expected sign is negative and the

[21] Example derived from investopedia.com

research conducted by Renneboog and Simons confirms this in their undervaluation hypothesis.

The idea behind this variable is that financial markets are inefficient, and therefore some companies are valued incorrectly. In contrary to the markets, the managers of the buying firms are rational and therefore are able to recognize the market's undervaluation of companies. Those managers can partly take advantage of those undervalued companies through mergers and acquisitions (Shleifer and Vishny, 2003). Undervalued companies are popular takeover candidates because of the chance to buy bargain, the opposite applies to companies with a high market to book ratio. Hence transactions, in which the target has a low share performance, can be the evidence of a buyer with financial motives which is in this case a private equity buyer.

Hypothesis 3: Relation share performance and the target value premium

H_0: The pre-transaction firm share performance is negatively correlated to the target value premium

4.4 Public-to-Private Wave factor hypothesis

As discussed in chapter two, research indicates statistical evidence of a transaction wave pattern. The purpose of the wave hypothesis is to identify if existent a PTP-wave and unfold a possible relationship with the target value premium paid. This thesis will try to identify a relationship of the PTP-wave on the target value premium as Smith and van den Berg (2006) are suggesting.

Research by Mitchell and Mulherin (1996), Linn and Zhu (1997) and Harford (2005) indicate a wave pattern in merger activity in the United States. Because of the resemblance between the U.S. stock market and the European stock markets, the European PTP market is expected to have a similar wave patterns. Harford (2005) makes a clear distinction between merger periods in the 1980s and the mergers in 1990s. Those periods characterized by two distinct aggregate merger waves, with substantial through surrounding the 1990-1991 recessions. Smit (2002), Grenadier (1999) and Kaplan (2009) investigate and agree with this theory and create a private equity cycles. This thesis will build on their results and divides the dataset into three periods accordingly to table 2.1 in paragraph 2.4 which is inline with the precede findings of Smit and van den Berg (2006) and Kaplan (2009, 2007). This thesis and latter empirical research will focus on the last cycle of the second PTP wave (1999-2008) for investigating the relationship with target premium.

The measurement of the Public-to-Private wave is based on research papers from Mitchell and Mulherin (1996) and Harford (2005). In their empirical study of the American M&A market, they use two-year wave periods. As mentioned before in paragraph 2.4 the choice of a two-year window is arbitrary; but alternate groupings (for instance three-year period) yield similar conclusions of a strong relation between industry shocks and clustering of transaction wave behavior (Mitchell and Mulherin, 1996).

The objective is to compare the actual concentration of PTP activity in a 24-month period with the empirical distribution of 24-month concentrations. We take the total number of bids in the entire sample then simulate 200 distributions of that number over the 120-month period[22] by randomly assigning each occurrence to a month where the probability of assignment is 1/120 for each month.

[22] 1/1/1998 – 1/1/2009 is 120 months

To identify the wave periods we identify the completed PTP deals each month and following calculate the 24-month concentrations of announcements. If the actual peak concentration exceeds the 95th percentile from the empirical distribution, that cluster is coded as part of the PTP wave.

For example:

Definition of Public-to-Private Wave:

1: If the actual 24-month concentration exceeds the 95th percentile from the empirical distribution

0: If the actual 24-month concentration does not exceed the empirical 95th percentile distribution

After identification of a wave pattern in the Public-to-Private market, we will investigate the dynamics within the Public-to-Private waves. Harford (2005) indicates a significantly higher target value premium during a merger wave than during a non-wave period. Smit and van den Berg (2006) agree and indicate in their dynamic private equity model an 'over-paying'-effect in high wave periods therefore the following hypotheses will be tested.

Hypothesis 4: Relation Public-to-Private Wave and the target value premium

H_0: High-wave periods are positively correlated to the target value premium

Hypothesis 5: Relation Public-to-Private High-wave and Low-Wave

H_0: High-wave premium paid is significant different from Low-wave periods

4.5 Summary

This chapter identified five hypotheses possibly influencing the height of the premium payment. Each variable is tested to determine its influence to the target value premium paid, besides we will investigate if there is a significant difference between the high-wave and low-wave periods.

Table 4.1 will give an overview of the below hypotheses and their expected relation.

Hypothesis 1: Relation leverage-ratio and the target value premium

H_0: The leverage-ratio of the pre-transaction target firm is negatively correlated to the premium

Hypothesis 2: Relation Free Cash Flow ratio and target value premium

H_0: The Free Cash Flow ratio of the pre-transaction target firm is positively correlated to the target value premium

Hypothesis 3: Relation share performance and the target value premium

H_0: The pre-transaction firm share performance is negatively correlated to the target value premium

Hypothesis 4: Relation Public-to-Private Wave and the target value premium

H_0: High-wave periods are positively correlated to the target value premium

Hypothesis 5: Relation Public-to-Private High-wave and Low-Wave

H_0: High-wave premium paid is significant different from Low-wave periods

Hypotheses	Type	Expected Relation
1. Leverage	Financial Restructuring	Negative
2. Free Cash Flow	Agency Restructuring	Positive
3. Undervaluation	Agency Restructuring	Negative
4. Private Equity Wave	Wave Influences	Positive
5. Private Equity Wave	Wave Influences	Positive

Table 4.1: Overview presented hypotheses and expected relations

Positive = the higher the ratio, the higher the premium and vice versa

Negative = the lower the ratio, the higher the premium and vice versa

5. Research design and variables

The aim of this chapter is to outline the chosen methodology and research design of this study. After reading paragraph 5.1, it should be clear how the research is structured. The next paragraph 5.2 gives an overview of the data selection. The data samples begin with all the merger and acquisition transactions and filters down to Continental European Public-to-Private deals. The dependent variable (target premium payment) is further introduced in paragraph 5.3, followed by the introduction of the predefined independent variables: leveraging; free cash flow ratio; share performance; wave factor (paragraph 5.4). To complete this research we discuss other variables that may have influence on the premium in paragraph 5.5. This chapter ends with a short summary (paragraph 5.6).

5.1 Research Design

The goal of this thesis is to find out whether the three earlier defined variables; Leverage, Agency and Wave influences the amount of target value premium paid in Public-to-Private transactions in Continental Europe. According to Malhorta and Birks (2003) research purposes are divided into three different groups: exploratory, descriptive and causal/explanatory. In this study, where it is difficult to determine the exact important variables and their relations, the exploratory method is appropriate. Descriptive studies are usable when there is a clearly formulated research problem, while explanatory studies intend to cause and effect relationships.

This thesis has elements of both the descriptive as the causal/explanatory studies. First we will focus on whether there is a difference in target premium payments along the different variables giving the descriptive. Second, we try to answer why or why not such a differences exist. Through comparing the identified variables of the diverse transactions, we derive descriptive statistics. Finally, a multiple regression analysis could show relations between the independent variables and target premium and hopefully draw useful conclusions.

The first step of this research is to collect all relevant data. The data collection procedure starts with identifying all Public-to-Private transactions involving a Continental European target. After excluding transactions that could contaminate our sample, we create a final research set. Paragraph 5.2 describes the creation of this final data set.

The next step is to compare the selected variables along periods and PTP-transactions with frequency tables and descriptive tables. The most important variable is the actual amount of premium paid by the acquirer. The premium compared statistically over the wave periods and transactions. The analysis of variance is the statistical method for comparing the means of several populations in order to determine the existence of any differences among the populations (Aczel and Sounderpandian, 2002).

According to Kallenberg (2003) the existence of a normal distribution in big populations should be tested with a Normal Probability Plot to select the proper statistic test. This test consists of two graphs; the Normal Q-Q-plot and the de-trended Normal Q-Q plot. The variable is normal distributed if:

1) the points in the normal Q-Q Plot form a straight line
2) The points in the De-tended Normal Q-Q plot are on or around the horizontal 0-line and do not form a systematical pattern.

The graphs are included in Appendix VII. The conclusion is that none of the populations/ variables are normally distributed which is not uncommon in financial research.

Because the variables are not normal, we therefore test differences between populations with the alternative *Kruskal-Wallis* test. Aczel and Sounderpandian (2002) explain the Kruskal-Wallis test as a nonparametric test that is designed to detect differences among population that does not require any assumptions about the shape of the population distributions. Hence, the Kruskal-Wallis test is the most suitable test for this study to find out whether the paid premium differs along the wave periods.

With T-tests we compare the means and influences on the return. Since T-test assumes a normal distribution, the results of these tests should be interpreted with caution.

After comparing the means and variances per group, correlation measures the strength and direction of each variable with the amount of premium. The two main measures of correlation are Pearson's correlation coefficient and Spearman's correlation coefficient. One of the assumptions of the Pearson's correlation test is that variables are normal distributed. Hence the pearson's correlation test cannot be used. According to de Vocht (2007) is the Spearman's correlation test, an alternative for the pearson's correlation test. Therefore uses this study the spearman's correlation coefficient in order to examine the correlation between two variables. The spearman's correlation coefficient gives the non-parametric correlation between variables and is indicated by the symbol ρ (rho). This coefficient varies between *-1* perfect negative relation and *+1* perfect positive relationship. If the spearman's rho is zero, there is no direct identifiable relationship between the variables.

To complete our empirical investigation we use a multiple regression analysis in order to draw useful conclusions. The general purpose [23]of multiple regression (the term was first used by Pearson, 1908) is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable. Once the information is compiled, it would be interesting to see whether and how these measures relate to the target price (dependent variable) for which a firm is sold.

The dependent variable in this study is the paid premium in a transaction and is expected to be influenced by the independent variables: Leveraging; Free Cash flow ratio; Share performance; Wave factor, all previously introduced.

A linear regression equation with k independent variables will estimate a linear equation of the form:

Linear Regresion Formula $Y = a + b_1*X_1 + b_2*X_2 + ... + b_p*X_p$

Within this model, Y is the intercept/ constant of the regression surface and $b_i(i=1,..,k)$ is the slope of the regression surface equals each variables regression coefficient. The regression coefficient gives us information on the relative contribution to the target premium and sign. A multiple regression model consists of one dependent variable and several independent variables (Kallenberg, 2003) which we assume have causal relationship between them. Hence it assumes that the dependent variable is influenced by these several independent variables.

[23] Source: http://www.statsoft.com/TEXTBOOK/stmulreg.html#anormality; SPSS Basis Handboek 15

In this study the dependent variable is the target value premium paid in a Public-to-Private transaction and the most important and unknown independent variable is the wave period because we want to check if there is a significant difference between the high and low wave periods.

After analyzing the variables and their relations, we can draw conclusions about their relations and influences on the target premium. This thesis will conclude with limitations of the research and final remarks on current market situation.

5.2 Data selection

Creating a valuable data set is an essential part of this empirical research. The first step of creating the data set is to define a sample period. As described in chapter one, the raw data set consist of samples from the 1980 until 2008 sample period. Harford (2005) and Kaplan (2009) detected three main private equity waves because of the low number of transactions before 1998 we investigate only the last part of the second wave until the peak in the third wave period in the regression analysis. Since the focus in this research lies on Continental European companies, it is logical to look at all the Public-to-Private transactions with a Continental Europe listed target company in this period. The data is gathered through Thomson Mergers and information from Securities Data Company (SDC) database. According to the SDC database 716 PTP transactions with a Continental European target companies have occurred in the sample period. The next step consists of expelling transactions which have the following characteristic:

- Transactions where the acquirer already owned over 50 percent or more of the target share capital
- Transactions in which the buyer does not buy the majority of the shares (less than fifty percent)
- Uncompleted or unconditional transactions
- Deal value under 1 million
- Acquirers which are not Financial sponsors (Private Equity)

If the acquirer already owns 50 percent or more of the shares, he already controls the target. This will influence the total value of the bid because the control premium is already paid and (partial) wealth gains are already acquired. By excluding deals in which the buyer does not buy the majority of the shares, eliminates for example buyback programs from the data set. In order to select only the successful transactions, all those that are not yet completed are excluded.

We only take Public-to-Private transactions into account which have a financial buyer on the buy-side as this is influences the main motives of the acquisition. After expelling the first order transaction conditions, the data set of this study consists of 176 deals.

Besides the first identification of all the Public-to-Private transactions, the identified variables and characteristics of those deals must be derived from the SDC database. The selected variables and their brief description are given in appendix III. The next step in creating the final data set is to check the data sheet manually on missing essential variables. These transactions are not included in the final data set. Of the 176 transactions, forty-four transaction where unjustified included. In these transactions, the acquirer did not buy the majority of the shares or the buyer had already had the majority of the shares before the bid. To prevent excluding from the data set due to missing essential variables from Thomson SDS, we tried using several other databases[24] in order to find the missing variables. Eventually the final database consists of 126 transactions. Appendix IV contains a graphical presentation of the selection method and the amount of transactions.

[24] The following databases are used: Bloomberg, Factiva, Lexis Nexis, Mergermarket and Company websites

5.3 Dependent variable: Premium

The main rationale for a premium payment is the creation of value to the shareholder of the acquiring company. In general there are two main categories of methods to measure value creation in a Public-to-Private transaction; event studies (ex ante) and premium analysis (ex post) studies. The event study methodology calculates the abnormal return of a particular event, such as an acquisition announcement, on the market value of the target company, e.g. on the stock price of the target company. The studies that conduct an event study find an average abnormal return of about 20 percent (Renneboog and Simons, 2005). Following the premium analyses means taking the final price offered by the acquiring party divided by the share price before the first announcement.

When the financial market is rational, all the information content of an event should be immediately reflected in its asset share prices (Fama, 1970; Cambell et al., 1997). The disclosed information reaches the market in two stages: there is an initial notification of an imminent deal[25] (event 1), followed by announcement disclosing the deal type and likely value follows later (event 2)

- *Event 1: The very first announcement of takeover interest in the target firm that may eventually leads to the PTP*
- *Event 2: The very first announcement that identifies a going private proposal*

Event studies

Focus on the market reaction at announcement date. Performing an event study, the validity of the semi-strong form of the efficient market hypothesis (Fama, 1970) is assumed, so all available public information is reflected in the share price. Event studies calculate the cumulative abnormal returns (CAR) by measuring the informational effect of an event. Positive abnormal returns indicate that announcement of the transaction is positively received on the market while negative abnormal returns indicate a negative market response. CARs are calculated as the difference between the daily normal returns corrected for dividends and stock splits, and the future expected returns predicted by the CAPM methodology.

[25] The City Code requires firms to disclose takeover negotiations when there are rumors, speculation, or an untoward price movement in shares, if it can reasonably be determined to be caused by the bidders actions (Paul, 1994)

Premium Analysis

A more direct and simple way and used in many empirical papers (e.g. Kaplan, 1989a,b; Lehn and Poulsen, 1989; Halpern et al., 1999; and Renneboog and Simons, 2005) is the measuring the wealth effect by calculating the real premium paid in a transaction to target shareholders. Premium analysis measures this real premium as the difference between market value of a firm on the last trading day and the pre-announcement day. This premium ratio is the final price offered by the acquiring party divided by the share price before the first announcement (event 1 or 2):

$$\text{Target Premium} = \frac{TotalValue\,bid - Target Value_{t\text{-}4wk}}{Target Value_{t\text{-}4wk}} \bullet 100\%$$

The Total Value of the bid is the price per share times the total shares issued in the market at announcement date (t). The TargetValue is the share price four weeks before announcement. The difficulty with the benchmark 'pre-takeover price' is the choice of the pre-takeover date (t-?wk). Kaplan (1989) and Goergen and Renneboog's (2004) studies on European M&A mention an anticipation window of approximately one month before the initial announcement. Renneboog and Simons (2005) give an overview on the different PTP studies and find premiums averaging around 45%.

Several studies tried to explain the cause of the differences between event- and premium-studies. The fact that an event study corrects for expected returns and premium analysis does not, is considered as an important reason. Secondly, according to DeAngelo et al. (1984) the difference can also be the incorporation of the fact that transactions can be withdrawn. On the other hand, premium-analysis reflects the the final bid price and gives therefore a good estimation of the true value of a bid comprising both cash and securities (Halpern, Kieshnick and Rotenberg, 1999). According to Renneboog and Simons (2005) the discrepancy between these two types makes them incomparable for going-Private transactions.

This thesis will use the premium analysis method, mainly because the two main data sources[26] are using premium analysis as the method to measure the target value premium. The anticipation window of 20 working days (4 weeks) is chosen, inline with Thomson SDC and Mergermarket calculations. The choice of the estimation window is a arbitrary. A long window will increase the chance of noise, while short window period increases the chance that the share price already includes speculation. The event window of this study is twenty working days, or 4 weeks. In practice, this means that the average share price of the twenty days before the announcement is used to measure market value and target premium.

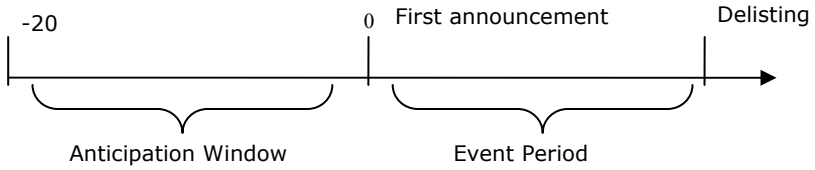


Fig. 5.1: Estimation and event period

The analysis of the premium payment gives insight in 'why' acquisition of a firm creates value. After calculating the premium this thesis will investigate the link between research defined 'agency'-, 'leveraging'- or 'wave'-factors and the size of the premium payment.

[26] Thomson SDC Database and Mergermarket.com are using both the premium analyzing method with different event periods. In this thesis is therefore an event period of 30 working days chosen

5.4 Independent variables

This research has identified three main variables (chapter four) which may influence the target premium in Public-to-Private transactions. The financial restructuring variable will be tested through the leveraging (gearing) of the target company. Second variable is the possible agency restructuring wealth effects and will be identified trough the free cash flow ratio and the undervaluation-ratio (share performance). Besides these restructuring variables, we will investigate if the phase of the transaction wave has got any influence on the expected target value premium paid. Hence the influence of these independent variables on the dependent variable (premium) will be tested in this research. A description of the SDC variables used and a short explanation of their expected impact on the target value premium can be found in Appendix III.

5.5 Other research variables

Chapter One gave an overview of the determinants of the PTP premium identified by the described literature. Not all of those determinates will be used as a variable in this study. Besides the mentioned independent variables, we also include several control variables that may have an influence on the Public-to-Private premium. Next the variables are discussed.

Deal characteristics of the transaction

Presence of multiple bidders

Chapter One has made clear that in some studies, like for instance Renneboog and Simons (2005), show that when a takeover is contested the expected premium is to be higher than in friendly acquisitions. Hence it is interesting to see whether the presence of multiple bidders will lead to a higher premium. Also does this presence occur both high-wave as in low-wave periods. The SDC database is used to find out if multiple bidders were active in the transaction. This is a dummy variable, in which 1 means there is at least one competing offer and 0 means the opposite (no competing offers).

Presence of financial advisers

The presence of financial advisors could influence the amount of premium bid in a transaction. We researched this variable because of the interesting implications for the KPMG Corporate Finance practice. Two types of financial advisors are identified: acquirer financial advisors and target financial advisors. By hiring a financial advisor, an acquirer

or a target company hires an experienced partner in the merger and acquisition market. Since more experiences, probably leads to a better negotiation position, hiring a financial advisor can lead to a lower (in case of an acquirer advisor) or a higher premium (in case of a target advisor).

Allen et al (2004) indeed find in a study into the mergers and acquisition market that when a target firm employs a more reputable financial advisor, it enjoys a greater absolute wealth gain. This study identifies how many advisers are hired by the acquirer and by the target company per transaction. Hence two variables are added: number of acquirer advisors and number of target advisors. This information is provided by the SDC. The expectation is that an increase of target financial advisors leads to a higher premium while an increase in acquirer advisors leads to a decrease in the amount of premium offered

Industry of the target

Another variable in this study is the industry of the target. One could expect that premiums differ a lot across industries. Kaufman (1988) finds evidence for differences in premium payments across industries. Adding this variable gives the opportunity to look at the premiums offered by the different buyers per industry. The industry in which the target is active determines to which industry the deal belongs. The two Digit SIC codes reported by the SDC are used to identifying the different industries of the targets.

Size of the target (Sales)

The size of the target can give more insight in the strategic motives of the bidder. Previous research has shown that relative small listed companies pursued a Public-to-Private strategy and have probably a positive attitude against financial sponsors. The size of the target is determined by the net sales of the target for the last twelve months ending on the last day of the most current financial information. The size of the target may influence the premium payment.

Buyer incentives in a transaction

The incentive of the acquirer for the PTP transaction can play a major role in determining the premium the buyer is willing to pay. As Slusky and Caves (1991) and Hirhsleifer and Titman (1990) concluded that acquirers are willing to pay higher premiums when the acquisition is synergistic effects. As concluded in chapter one these strategic motives hard to capture in general variables for all the transaction. In order to include motives we added some financial multiples that monitor company performance and used in daily KPMG practice.

EBITDA-to-Sales

The Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) of the target can give an idea about the performance of the target company. The EBITDA is often used as a proxy of the operational earnings of a company and is a good metric to evaluate profitability. Furthermore it can be used to compare profitability between different companies. One can imagine that a buyer offers a higher premium for a more profitable target. More specifically the EBITDA-to-Sales ratio is a metric indicate the percentage of the company remaining after operationg expenses.

Calculated as: $$\text{EBITDA Margin} = \frac{\text{EBITDA}}{\text{Revenue}}$$

An important note of caution is when comparing company's EBITDA margin, that different size companies in different industries are bound to have different cost structures, wihich could lead to irrelevant comparisons. The EBITDA to Deal value ratio is often used as a multiple in Corporate Finance KPMG practice to do comparable company analysis and spot relative differences in premium payments.

5.6 Summary

This chapter has introduced the research methodology, variables and design. Through a variance analysis and a correlations test we will investigate whether the premium differs along the identified variables and wave periods. The procedure of selecting the final data set is described in paragraph 5.2. The dependent variable is the amount of target premium offered in a PTP transaction. Independent variables investigated are: leveraging, free cash flow, undervaluation (share performance), wave factor. The other variables are divided into two different groups; variables related to the deal characteristics and variables related to the buyers incentives (multiples). Deal characteristic variables are: multiple bidders, financial advisors, industry and size. The variables related to the incentive to acquirer a company are: Price/Earnings ratio, Price/ Book ratio and the profitability ratio. From both the histogram and the Normal P-P plot (Appendix XII) we derive that the residuals are normally distributed. Hence the assumption of the models are met, and the variable can be analyzed using the regression model

The regression model

Regression analysis is needed before useful conclusions about the correlation, strength and direction of the variables can be drawn. Three multiple regression models are constructed; one with the identified independent variables in a linear relationship with target premium (model 1). The second takes all the restructuring variables and other variables into account. Because the wave, industry, advisors and bidders are nominal parameters, we include dummy parameters.

Regression models:

1) *Target Premium* = $\alpha + \beta_1$ Leveraging + β_2 Free Cash Flow + β_3 Undervaluation + β_4Wave dummy + ε

2) *Target Premium* = $\alpha + \beta_1$ Leveraging + β_2 Free Cash Flow + β_3 Undervaluation + ε

3) *Target Premium* = $\alpha + \beta_1$ Leveraging + β_2 Free Cash Flow + β_3 Undervaluation + β_4Wave dummy + β_5 Industry dummy + $\beta_{6,7}$ Target/Acquirer advisor dummy + β_8 Multiple bidders dummy + ε

Model 1): Linear relationship between all the prior defined independent variables and the dependent variable

Model 2): Linear relationship between all the prior defined independent variables and the dependent variable plus the other possible identified variables

The next Chapter will present the research findings and descriptive analysis of the variables presented.

6. Results and Empirical Research findings

6.1 Introduction

This chapter describes the results of the empirical research conducted in the Thompson SDC database. The final data set consist of 128 PTP transactions and is analyzed with SPSS v15. The selected transactions are relevant (PTP transactions with a financial buy-side) and have a complete variable dataset. The selection period is between January 1998 and January 2009. The variables of the selected transactions are divided into different groups: nominal, ordinal and scale variables. Paragraph 6.2 will give the descriptive analysis of all variables that were used in the regression analysis. Nominal and ordinal variables are discussed with the help of frequency tables and scale variables with descriptive tables. The results of the correlation tests and the previously stated hypotheses are discussed in paragraph 6.3, followed by the multiple regression analysis in paragraph 6.4. This chapter concludes with a brief summary of the chapter. This research contributes in three ways. First, it focuses on Continental Europe where others have focused on the U.K and U.S. Second, it introduces an updated time frame where the latest PTP transactions and the 2008/2009 are recorded. Third it tests and take into account a new 'wave variable' as a possible explanations of target premium.

6.2 Frequency and Descriptive Analyses

This paragraph will give the frequencies and further descriptive analysis of the variables. The goal of the tables is to give more insight in the composition of the data set.

6.2.1 Frequency tables

The first figure (6.1) gives an overview of the number of transactions, multiple bidders, target- and acquirer advisors, all per year on the complete 176 identified PTP transactions. The number of PTP transactions in Continental Europe remained near constant at a two-year average of sixteen transactions a year. Figure 6.1 shows a sharp increase in 1999, following the boom in 1998 in the UK and U.S. and a dip in 2005. The dataset was constructed until August 2009 and shows no PTP transactions in 2009. We expect this is mainly due to the sharp decline in asset share prices and the turmoil in the credit market. The fluctuations in transactions and the influence on the target premium payment is discussed in paragraph 6.4.

The focus for the correlation and descriptive analysis will be on the 1998-2008 period, with a complete data set on all variables for 126 PTP transactions.

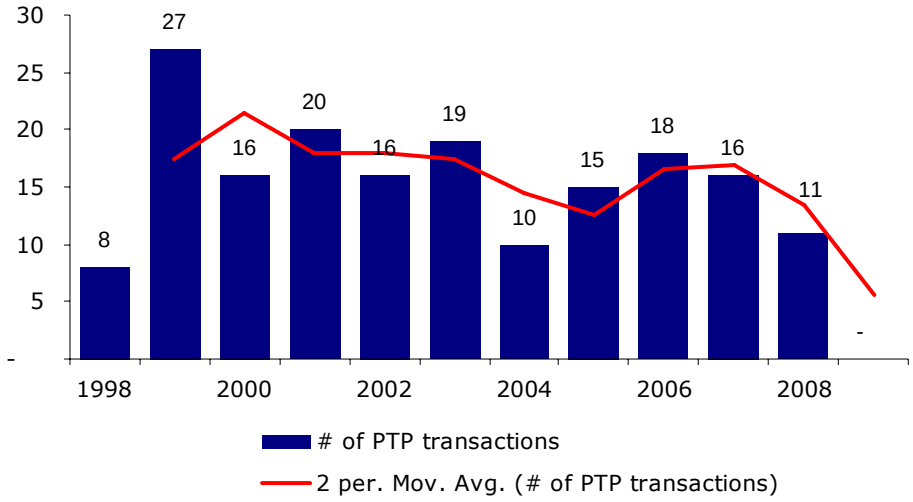


Figure 6.1: Overview number of selected Public-to-Private transactions

Of the selected PTP transactions is the majority advised by financial advisors. We have expected this outcome because of the nature of the transaction. Public quoted firms normally have at least one Investment Bank and legal council as advisors. In the case of the acquisition of ABN AMRO even eleven investment banks were employed! Multiple bidders contested each other only in 8% of the PTP transactions. Both are therefore not a reliable variable to investigate the target premium

Frequency table (1998-2009)

					# Fin. Advisors	
Period	**# PTPs**	**%**	**# Mult. Bidders**	**%**	**Target**	**Acquirer**
1998	8	4,5%	-	0,0%	14	12
1999	27	15,3%	-	0,0%	18	19
2000	16	9,1%	2	12,5%	23	31
2001	20	11,4%	2	10,0%	17	22
2002	16	9,1%	2	12,5%	15	15
2003	19	10,8%	2	10,5%	20	24
2004	10	5,7%	1	10,0%	17	15
2005	15	8,5%	1	6,7%	20	22
2006	18	10,2%	2	11,1%	7	16
2007	16	9,1%	1	6,3%	11	25
2008	11	6,3%	1	9,1%	7	7
2009*	-	0,0%				
Total	**176**	100%	**14**	8%	**169**	**208**

Table 6.1: Frequency table number overview of number of transactions and advisors

Frequency table - SIC primary Industry group			
Primairy Group	**Name**	**# PTPs**	**%**
1	Mining / Construction	7	4,0%
2	Manufacturing Textile / Rubber/ Plastics/ Petroleum	35	19,9%
3	Manufacturing Metal/ Machinery/ Electric eq.and ins	44	25,0%
4	Transportation, Communication, Elec. and Gas Services	18	10,2%
5	Wholesale/ Retail Trade	10	5,7%
6	Finance, Insurance and Real Estate	30	17,0%
7	Services (other)	24	13,6%
8	Social Services	7	4,0%
9	Public Administration	-	0,0%
0	Agriculture, Forestry and Fishing	1	0,6%
Total		**176**	**100%**

Table 6.2: Frequency table number of transactions per Industry group

The primary SIC code provided by the SDC database, ten different main industry groups are identified. The goal is to analyze possible differences that lead to differences in amount of premium payment per group acquirers. Table 6.2 shows how the amount of transactions per industry group. The focus of the transactions seems to be on two kinds of industries. Manufacturing (group 2 and 3) and Services (group 6 and 7). This is consistent with the M&A market. KPMG Corporate Advisory has focused its business into four groups: (Financial) Services, Industrial Markets, Retail, Information Communication and Entertainment. The largest team is the Industrial and retail market team. The focus of PTP transaction could lead to a different amount of premium offered. Because of the limit number of transactions, we will further not investigate this option.

The frequency table (6.3) on the next page provides an overview of the different countries covered in our empirical research. Continental Europe in this research consists of all the Western-European countries minus the United Kingdom. The top five countries (Sweden; Netherlands; Germany; France; Denmark) have been involved in over 64% of the total PTP transactions. Sweden (22%) and the Netherlands (15%) have experienced many PTP transactions. The literature doesn't seem to indicate any reasoning why. The positive tax incentives and reduction of cost for smaller firms seem to give an explanation. The lack of protective legislation could be another explanation. We added this table just for explanatory purposes. Because of the limited amount of transactions, a useful conclusion on the target premium per country cannot be drawn.

Frequency table - Target Nation			
Group	**Country**	**# PTPs**	**%**
1	Austria	1	0,6%
2	Belgium	2	1,1%
3	Denmark	11	6,3%
4	Finland	4	2,3%
5	France	14	8,0%
6	Germany	16	9,1%
7	Greece	1	0,6%
8	Iceland	2	1,1%
9	Republic of Irelan	20	11,4%
10	Itally	7	4,0%
11	Jersey	2	1,1%
12	Lichtenstein	1	0,6%
13	Luxembourg	4	2,3%
14	Monacco	2	1,1%
15	Netherlands	26	14,8%
16	Norway	15	8,5%
17	Spain	4	2,3%
18	Sweden	38	21,6%
19	Switzerland	6	3,4%
Total		**176**	**100%**

Table 6.3: Frequency table number of transactions per Country

After selecting of the PTP-data, we have a relative small amount of transactions per month. According to the Harford (2003) statistical method we test if the real value exceeds the 95th percentile of the simulated distribution. The threshold value is 10,6% of the transactions in the next 24months. Table 6.3 gives an overview of the months that exceeds this value. Appendix (VI) gives the total list and statistical value. Over eighteen percent of all transactions are coded as an "in-wave" month. Because of the financial turmoil in the capital markets, its safe to consider no "in wave" periods have to be coded after 1 January 2008.

Table 6.4 on the next pays show the real 24-month concentration and our empirical testing threshold. An important limitation to this research method is the limited number of transactions over the whole period and subsequently the twenty-four aggregated concentrations. The distribution is not uniform across the months and shows therefore no real swings in PTP activity. Figure 6.1 gives a clear overview of the PTP activity and shows a relative constant 24-month cumulative line and therefore the effects are limited in this dataset. In paragraph 6.4, we will test if the In-Wave months contribute significant to the target premium.

Frequency table - Private Equity Wave				
Wave Month	**Concentration**	**Threshold**	**# transactions**	**Coded**
June 2000	0,108	0,106	4	**Wave**
June 2001	0,108	0,106	4	**Wave**
December 2002	0,125	0,106	4	**Wave**
March 2003	0,148	0,106	4	**Wave**
April 2003	0,148	0,106	4	**Wave**
November 2003	0,148	0,106	4	**Wave**
March 2005	0,121	0,106	4	**Wave**
May 2007	0,136	0,106	3	**Wave**
September 2007	0,133	0,106	2	**Wave**
Total		**0,106**	**33,00**	**18,8%**

Table 6.4: Period "In-wave" months

Table 6.4 gives an overview of months which show a significant clustering of PTP transactions. Because of the limited frequency of transactions there are no real connected periods of "in-Wave" transactions. A total of 33 transactions is recorded in a "in-Wave" period, reflecting almost a fifth of the total transactions in 9/130 of the recorded time period.

6.2.2 Descriptive Analysis

The goal of analyzing the descriptive of a variable is to find any differences between previous research and this empirical research. Descriptive tables can give insight in the underlying distribution and dispersion of a variable. Appendix V summarizes the characteristics of our PTP transactions. The summary statistics are based on the accounting measures identified in previous chapters, derived from the Thompson SDC database. These variables give an indication on the performance and descriptive of the dataset. The table in Appendix V provides an overview of the mean, median and the standard deviation of all the variables used in the empirical research and regression analysis. Next are the findings described per variable.

Total Deal value

The average deal size (Appendix V) in the selected dataset is 559.3 EURm with a median of 203.0 EURm. Over seventy percent of the transactions is under de EURm 500. Previous research literature (Travlos and Cornett (1993) and Renneboog, Simons and Wright (2004)) have investigated the transaction cost and small firm hypothesis. The research results do not give a clear indication towards this reason. Our results indicate a preference for small-cap investment of Private Equity. The highest recorded investment is the Dutch privatization of VNU in January 2006 by private equity investors KKR, Blackstone and Alpinvest for a stunning EUR 7.6 billion. Recent their were rumors of VNU Media (acquired by 3i in a secondary buyout) to HIG Capital in a 3rd buyout attempt.

Target value premium

The research objective is to find if the premium offered by Private Equity investors in Public-to-Private transactions. We will investigate if the differentiation of the premiums is caused by de earlier identified variables (leverage; agency; wave-factors). Appendix V gives an overview of the mean and median of the offered premium in all transactions.

The mean 'target value premium' in all 126 transactions is about 30.3 percent (median is 27.7). We can conclude that a Financial Buyer pays on average a premium of thirty percent compared to the market value four weeks before the announcement day of the transaction. The most recent all UK PTP study of Renneboog, Simons and Wright (2005) discovered a target premium of approximately 41%. Figure 6.2 shows an approximately same percentage for Continental Europe.

Out of 126 transactions, seven are in financial distressed. Of those seven, four were in 2008 characterizing the financial turmoil. Excluding those distressed firms increases the premium by three percent. At the other extreme, the highest premium offered for a company was almost 115%[27]. The premium payments are not constant and fluctuate over time. In the beginning of our analysis, the premium is much higher than in the end. Kaplan (2009) indicates a trend of lower premiums compared to previous transaction waves mainly due to the fact of more realistic calculation of probable wealth effects.

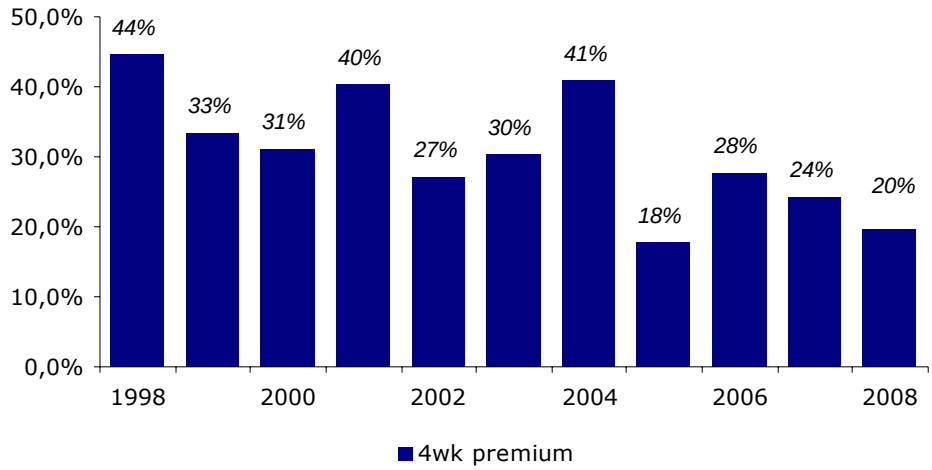


Figure 6.2: Overview average 4wk-target premium per year

[27] The contested bid for Ireland based "Radiator and plastic"-manufacture by Quinn Group (23/03/2004)

Leveraging (gearing)

The Debt-to-Equity ratio we would expect financial buyers to buy targets with lower debt-to-equity ratio than normal corporate buyers. This is mainly due to the higher amount of debt that financial buyers use to finance their transactions. The debt used to finance the transactions will leverage the transaction in hope to create value to the acquirer. Hence targets with a low debt level are more attractive for financial buyers. The average leverage-ratio is 0.77 (median 0.61). With our sample, we cannot conclude that firms with lower leverage-ratios have higher premiums. Figure 6.2 indicates an increase in higher leverage-ratios in up-swing markets and a much lower leverage-ratio can be detected in periods of economic downfall like 2002/2008 with turmoil in the financial markets. This is consistent with previous empirical research.

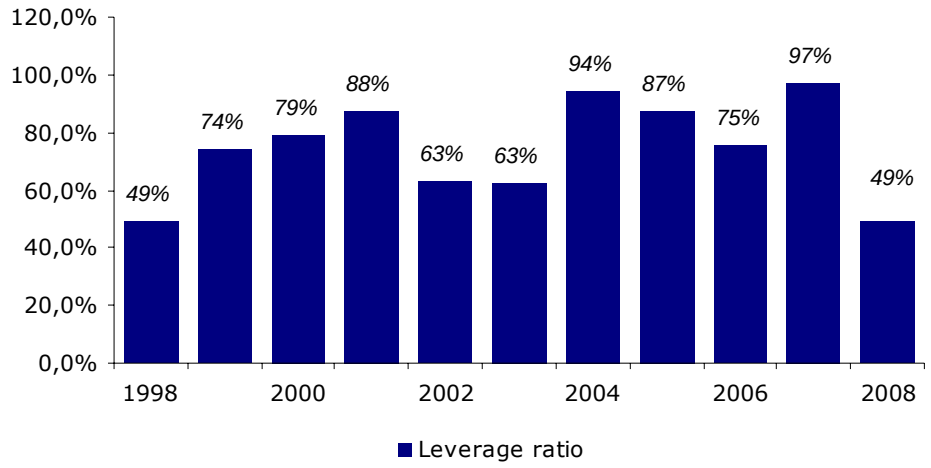


Figure 6.3: Overview average Leverage-ratio per year

Return on Assets

The Return On Assets (ROA) is an indicator of how profitable a company is relative to its total assets. Companies with lower ROA variables could under perform in respect to the market and be an interesting target for Private Equity. On average, the ROA was around 3.47% (median 3.82), with strong dispersion across the analyzed range (-42.4:+45.7). This outcome compared to Renneboog, Simons and Wright (2005) research is slightly lower. Because of the limited set of data we did not split the PTP transactions into different classes such as: MBO/ MBI/ IBO. Previous research into ROA and different industry groups indicate variation in values. Our research does not find strong evidence linking industries and ROA together. Because ROA is a performance indicator, it should be interpreted against the financial market constraints of its time and therefore in low financial markets the ROA will be lower as well as the expected premium.

Share performance

The share performance is measured as the share price return two years prior to the transaction minus the return one year prior to the transaction. The average return is minus 0.73% (median -0.05). This is inline with other researches were negative returns are an indication of probability of undervaluation. The higher the target premium, the more negative the share performance should be. Share return is directly linked to the financial market and should therefore be corrected with the market returns. Because of the limited sample and not able to extract previous share information of the transactions, we limit this research to the return one-year prior the transaction.

Free Cash Flow ratio

Besides the two-undervaluation variables (Return-on-Assets; Share Performance) is Free Cash Flow (FCF) the third possible Agency-factor controlling the target premium. Because the FCF is not a variable in the SDC database, we had to construct it from Net Operating Income + Amortization and Depreciations and divide this by net sales. The average FCF ratio was about 14.5% (median 0.11). There is no real relationship between number of transactions and free cash flow discovered. We do not find any evidence in FCF as a measure of taken private activity as Jensen (1989) predicts. This is inconsistent with most of the US studies according to Renneboog, Simons and Wright (2005).

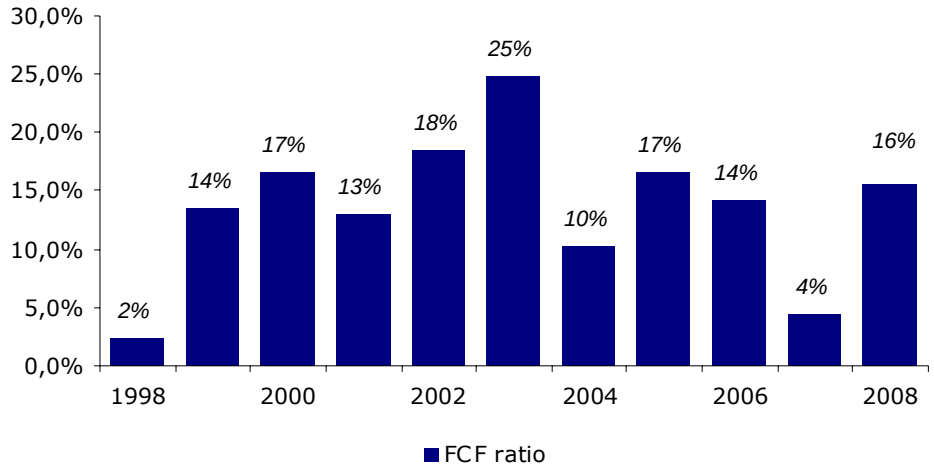


Figure 6.4: Overview Free Cash Flow ratio per year

EBITDA-margin

This variable is added as a control variable. The mean EBITDA of all the transactions is 18% (median 0.12). Over the years, the EBITDA margin is constant and seems not to influence the Target premium. The EBITDA margin is influenced by both sector as geographical factors and is therefore not included in further analysis of the premium. One can expect that buyers are willing to pay more for a higher profitable company.

6.3 Correlations and Hypothesis testing

As explained in the previous chapter, this study uses the spearman's correlation coefficient to investigate the strength and direction between two variables. We use spearman's correlation because based on our research variables and their lack of normality. The correlation matrix is included in Appendix VII. Apparently none of the selected variables are significantly correlated with the amount of premium paid on a transaction.

Only two Industrial-dummy variables (Financial Institutions and Real Estate; Social Services) are significant correlated with the amount of premium paid in a transaction. This means that Financial Institutions (ρ= -0.239; sig = 0.007) are negatively related to target premiums and likely pay less in an PTP transaction. Social Services (ρ=0.176; sig.= 0.049) is positively correlated to the amount of target premium.

Furthermore the results of the correlation test show that some of the variables are correlated with each other. For instance leverage and return-on-assets. This is a strong negative correlation (ρ= -0,331; sig = 0.000) which indicates that financial structure not only influence but also overleveraging could impact the return on return on assets. This thesis focuses on the target premium and therefore other variable relations are not further specified.

6.3.1 Leverage effect hypothesis

The first hypothesis is the relation of the leverage-ratio and the target value premium. Research literature concluded their was a negative relation. In our dataset we find a light positive (ρ= 0.082) correlation while comparing it with the raw data set a negative correlation (ρ= -0.06) was found. We do not find any evidence sustaining the leverage- or tax-effect as suggested in U.S. research literature. Possible explanation is the increased gearing of public companies to create a leverage-effect. The average gearing was 0.77 which was far beyond the average of the public firm found by van den Wurf (2001). This average could be inflated due to the outliers in the data set as the regression results in paragraph 6.4 suggests.

6.3.2 Agency effect hypothesis

We have researched the 'agency-effect', where through PTP transactions incentives are created to align management and shareholder values. The agency effect is split into two effects: Undervaluation and Free Cash Flow. Undervaluation is measured through share performance and Return-on-Assets. Free Cash Flow is a ratio of excess cash not invested to create maximum value for the shareholder.

The relation Free Cash Flow ratio and target value premium

Previous research indicate a positive relationship between the FCF-ratio and the target value premium. In Renneboog, Simons and Wright (2005) U.K research they did not find evidence sustaining the free cash flow hypothesis. Firms are not taken private to reduce high free cash flows as Jensen (1989) predicts. The relation is not positive but again a bit negative. The main reason to take companies private in the 80s and 90s was because of the excess cash and corporate wealth. Thanks to more shareholder commitment and rights, free cash flow is no longer a strong indicator of target value premium.

The relation share performance and the target value premium

Share performance is measured by checking previous year returns against the market. Because we did not have the exact previous year share prices, we measured the difference in return-to-equity. If a share had a negative share performance, the likelihood of a PTP transaction and premium was higher. Our dataset did not show evidence for this undervaluation hypothesis.

The second measure was return-on-assets; the expectation a negative correlation with the target value premium. Our strongest result relates to this undervaluation hypothesis. This result is consistent with most U.S. studies and the U.K. research of Renneboog, Simons and Wright (2005). This paper identifies a positive relation between pre-transaction undervaluation (so a negative correlation) and the expected shareholder gains in the PTP transaction. However the correlation in this transaction is not significant enough to conclude a direct relationship between the Return-on-Assets and the target premium (ρ= -0.144; sig. 0.108). Hence pre-transaction share performance is negatively correlated with the target premium but this relationship is not significant in our empirical research.

6.3.2 Wave effect hypothesis

The Wave hypothesis measures the effect of PTP-wave periods and the target value premium. Because of the limited dataset and timeframe, this was particularly hard to analyze. The results show no significant relationship between the "In-wave periods" and the target premium, although a slightly positive correlation exists (ρ= 0.028). Figure 6.1 and 2 in the previous paragraph shows the target value premium over the years and the number of transactions. We can assume there is no clear significant relationship between wave periods and the premium paid in the transaction. For example, the years 2002 and 2007 where there was a lot of PTP activity the average premium was 27.1 and 24.3 percent. In contrast to the year 2004, where only seven PTP transactions took place had an average of 41.0%. The data shows an indication of premium lagging one period, so premiums could increase during a peak and then drop one period after the peak. We tested this but because of the limited data only find a positive not significant correlation for this statement (ρ= 0.388; sig. 0.268).

The relation between PTP transaction variables and In/ Non-wave periods

We researched the relationship between the target premium and the other research variables across the wave periods. The ANOVA test results in appendix VII did not indicate a significant relationship between wave periods and the research variables.

Table 6.5 gives an overview of the target premium in different wave periods. The conclusion is that the average premium is not significant different comparing (sig. 0.47) Non-wave and In-wave periods. The correlation with other factors is not tested and results can be found in appendix VII. A word of caution is in place because of the size differences between the In-wave and non-wave group. This would affect the robustness of the test and needs further research on private equity waves in order to conclude about any relation between these variables.

Descriptives - Premium 4 Weeks (%)				
Wave Factor			**Statistic**	**Std. Error**
No Wave N= 102	Mean		29,60	2,55
	95% Confidence mean	Lower Bound	24,53	
		Upper Bound	34,67	
	Median		27,69	
	Std. Deviation		25,80	
In Wave N = 24	Mean		33,04	4,54
	95% Confidence mean	Lower Bound	23,64	
		Upper Bound	42,43	
	Median		28,75	
	Variance		495,04	
	Std. Deviation		22,25	

Table 6.5: Overview premium per wave period

6.4 Regression model and analysis

The regression analysis is a useful analysis measurement of correlation and the degree of dependence between the dependent (target premium) and several independent variables. The regression helps us to understand the estimated changes when variables are changed. Before the regression analysis is performed, the variables are checked on several assumptions of the multiple regression analysis. The assumptions are derived from de Vocht (2007). Since the true form of the data-generating and distribution is not known, regression analysis depends to some extent on making assumptions about this process. Regression models can be useful for prediction when the assumptions are moderately violated, although they may not perform optimally. However when analyzing causality based on observational data, regression methods must be always used cautiously.

The first assumption is that none of the selected variables suffer from multicollinearity. Multicollinearity occurs when the correlation between two variables have a rho of 0.9 or higher. The table in Appendix VI shows no multicollinearity along the selected variables. Another restriction of the model is that all variables used in the model are scale variables. Nominal and ordinal variables can only be included through *dummy* variables. Hence dummy variables are created for the following variables: wave period, industry, multiple buyer. However we choose to exclude the industry and multiple bidder and advisor dummy variable, because we would include ten extra dummy variables. If we compare the adjusted R-square of the model with the industry dummies (appendix IX, model 3) and the adjusted R-square of the model without these variables (table 6.6), the latter is larger. Hence we made the choice to exclude this variable in our final results.

The last assumption of the model is that the residuals are normally distributed and equally spread. This can be tested with a residual analysis. The results of the residual analysis are included in appendix XII. From both the Histogram as the P-P scatter plot we may conclude a normally distribution. The scatter plot also indicates a linear regression model [28]. Hence all assumptions to regression model are met.

[28] If the scatter plot indicates an linear pattern (line), one could say the regression model is linear (de Vocht, 2007)

The three regression models

Three regression models are constructed; one without the industry variables and with only the research variables ('base case' -model1), one without the wave variable and industry variables (model2), and one with all the variables included (model3). The tables of model two and three are included in appendix IX. The results of our *base case* model are discussed below.

Regression models:

1) *Target Premium* = $\alpha + \beta_1$ Leveraging + β_2 Free Cash Flow + β_3 Undervaluation + β_4Wave dummy + ε

2) *Target Premium* = $\alpha + \beta_1$ Leveraging + β_2 Free Cash Flow + β_3 Undervaluation + ε

3) *Target Premium* = $\alpha + \beta_1$ Leveraging + β_2 Free Cash Flow + β_3 Undervaluation + β_4Wave dummy + β_5 Industry dummy + $\beta_{6,7}$ Target/Acquirer advisor dummy + β_8 Multiple bidders dummy + ε

The regression model test results have to be interpreted with caution because of outliers in the variable characteristics in our empirical dataset. The recent financial turmoil on the market increased the negative premiums paid in the market. We will conclude with some remarks on the analysis of the dataset with no data-outliers and negative transaction premium (Appendix XII, 99 transactions left).

Base Case - Regression Model Summary

Model	R	R Square	Adj. R Square	Std. Error of the Estimate
1,00	0,347	0,121	0,084	24,034

** Predictors: (Constant), Wave Factor, Share Performan, FCF Ratio, Debt/Equity (Gearing), RoA LTM*

Regression model coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	33,607	3,896		8,626	0,000
Debt/Equity (Gearing)	0,627	3,518	0,016	0,178	0,859
RoA LTM	-0,755	0,249	-0,276	-3,029	0,003
FCF Ratio	-13,147	10,678	-0,107	-1,231	0,221
Share Performan	-0,085	0,071	-0,109	-1,198	0,233
Wave Factor	3,379	5,489	0,053	0,616	0,539

Dependent Variable: Premium 4 Weeks (%)

Table 6.6: Overview premium per wave period

Regression coefficients

Table 6.6 on the previous page provides information about the regression equation. The partial regression coefficient (B) is given of the variables. This provides the degree in which the dependent variable (target premium) will change if the independent variable increases with one unit. The constant is the expected mean target premium 33.6%. Furthermore, the table provides the significance of each variable. As previously mentioned is the negative relation ship between Return-on-Assets and the target premium the strongest relation.

Finally, the table provides a Beta coefficient (β) as degree of the relative influence of each independent variable[29]. In this model, the variables with the most influence are the Agency factors: Return-on-Asset (0.276); Free-Cash-Flow Ratio (0.107); Share Performance (1.09).

When studying table 6.6 and appendix VI/ VII, we can conclude that some variables have positive influences and others have a more negative impact on target value premium. The variables: leveraging, wave, multiple bidders and some industries (other/ social services) have a positive influence. This means that an increase of these variables will lead to an increase of the amount of premium. All but the leverage-effect is what we would have expected, however none of these are significant. Previous research and investment theory suggests a negative coefficient for leveraging in relation to target premium. Further research on this determinant is beyond the scope of this research.

The variables relating to the agency factors, advisors and most of the industries dummies have a negative impact on the target premium. This means that an increase of these variables will have a negative impact on the amount of premium paid by the acquirer. The variable advisors (both the target and acquirer) have got a negative impact on the target premium payment. This is off-course good news for KPMG when negotiating on a sell-side mandate. The FCF ratio has a negative impact on the premium. This negative relation is in contrast to previous researches and the relation what we would expect. Because the limited number of transactions and resources we cannot further investigate the extend of this negative relation.

[29] Note: 'The absolute value of the Beta's should be compared for comparison'

Dummy variables and interpretation

In our literature research, we identified many nominal scale variables. Wave-factors, Industry groupings, number of advisors. Since the dummy variables can only take a value of null or one, the minimum and maximum value respectively. The conclusions on these variables are limited. From the descriptive analysis, we conclude there was no significant difference between the premium payment and the dummy variables (wave factors and the industries). With a stepwise regression analysis on all variables a strong but not significant relationship between premium payment and the transaction variable ROA, Industry dummy6 (Finance, Insurance and Real-estate) and the target advisor dummy is indicated. Both dummy variables have a negative influence on the target premium.

Cook's distance and excluding outliers

Our final dataset is derived from transactions from the SDC database between 1998 and august 2009. Every PTP transaction has its own characteristics and deal specification. In regression problems, an alternative approach to indicate relationships may be to only exclude points which exhibit a large degree of influence on the parameters, using a measure such as Cook's distance. With help of SPSSv15, we identify outliers and subsequently clear them from our dataset. This drastically changes the R-square and the partial coefficients. For example, the adjusted R-square of the *base case* model (0.084) increases to 0.381. We therefore note that the underlying distribution of the variables and their characteristics must be further researched to draw strong and usefull conclusions.

6.5 Research Limitations

This paragraph identifies some limitations to this research. The first limitation is that the Private Equity market in Continental Europe is relatively young and small comparing it to the American Private Equity market. The exact market size is hard to measure and (non-listed) financial sponsors are not eager to share information about their transactions and financial information. We choose to investigate Public-to-Private transactions in order to capture the financial information behind the deal. These PTP transactions are just the tip of the Private Equity-transaction iceberg. As a corporate finance analyst at KPMG, we saw the most of the deal flow happening in the mid-market, non-public and mainly industrial and retail transactions. The number of transactions and the relevant data is a important research limitation compared to for example M&A-waves.

Another limitation is the fact that there is no distinction made between geography, industry, type, domestic and cross-border deals. It could very well be that different results are found in different sectors. Cross-border deals are subjected to much more risk than national deals. Political risk, currency risk and difficulties of combining two cultures can lead to different conclusions. The main reason why we decided not to divide the *base case* into sector sub or type of deal samples is because of the small sample size in each category.

The third limitation is that the individual transactions are not checked for idiosyncratic-items. Important news items, individual deal characteristics, exchange sentiment could influence the share price and the target premium. For example, the premium differs greatly between a company announcing the acquisition of a car-manufacturing company during the credit crisis of 2008 or for example in the boom of 1999. Market and news are not incorporated into the analysis. The transactions that have large idiosyncratic returns should be filtered out of the sample or be further examined. Due to lack of information and resources, this is an important constraint.

6.6 Summary and relevance

This chapter has compared the means and median of the variables along the different transaction variables. The used techniques are frequency tables, descriptive tables and regression analysis. Clearly, the variables vary along the transaction but there is no real significant relationship found between differences in the target premium across industry or wave periods. Second, we checked the correlation between the transaction variables and target premium. The strongest negative correlation is between the Return-on-Assets and target premium and is inline with the research literature. When a multiple regression model is used, we identified important limitations about the exact measurement of the characteristics of the variables and limited number. There is a big difference between the final-dataset and the dataset without the outliers.

The relevance of this research for KPMG Corporate Finance is in its role as an advisor to the target or acquirer. It needs to understand the underlying dynamics in valuating a company. The Private Equity market is still a mystery and a black box in valuation. To know the different variables and take into account the phase of the 'wave' helps to make a more realistic offer based on thorough analysis. This and future research hopefully gives new tools to sharpen their corporate valuation in a bidding contest. Beside the limited forecast basis of this analysis, it gives an important insight to the Public-to-Private market and the private equity motives. Chapter Seven will conclude on this research and give an update of the current market status.

7. Conclusion

The central question in our Master Thesis was:

> *"What is the influence of the selected transaction variables on the target value premium paid by private equity investors in Public-to-Private transactions?"*

This thesis focused on three statistical tests where the answer to this question is found. The descriptive analysis gave an overview of the different variables across the period, industries and waves. None of these differences was significant enough to draw strong conclusions. Because of the limited dataset and possible influences of outliers and distress PTP transactions, we need to be careful with our interpretation of the results. Comparing the variables and the correlation gives an insight in the PTP dynamics, the effect and extend of these variables on the target premium. With the third statistical test, the regression analysis the conclusions are drawn and is the research question answered.

The descriptive analyses showed that differences across the transactions between industries and waver periods exist, as well for the premiums and other identified variables. We have to conclude that none-of these differences are significant. Because of the small sample size, we did not find evidence that a PTP wave pattern exists in our dataset. The mean target premium paid (41%) is inline with previous UK research conducted by Renneboog, Simons and Wright (2005).

The correlation analysis showed a positive relation between the leverage-ratio and the Free Cash Flow. Both variables were not significant in earlier research conducted by Renneboog, Simmons and Wright (2005), Kaplan (1989, 2009) but the positive relation is in contrast to what we would have expected, based on previous research. The limited number of transactions and possible influences of outliers could have made impact on the results. Therefore, we conclude that the leverage-ratio of the pre-transaction target firm does not have impact on the target premium. We also found no proof for the Free Cash Flow hypothesis, which relied on the agency theory of Jensen (1986). Firms that were taken private did not have significant different levels of Free Cash Flow controlling the level of target premium, this is inline with earlier research.

The regression analysis focused on three main models checking which factor, (Leveraging; Agency; Wave) and to what extent, they influenced the target premium. Opler and Titman (1993) argue that it is important to identify factors that may encourage the going private decision. Both the wave and leverage-hypothesis are not significantly supported. Kaplan (2009) suggests in his research that the decrease of the relation between leverage-ratio and premium was mainly due to higher equity levels and lower interest coverage ratios. This is inline with our dataset, were we record a drop in the levels of gearing from over 80% in 2000 to around 50 percent in 2008.

As for the Agency hypothesis we have got an good indication that the Return-on-Assets have got a negatively impact on the target premium. This is inline with research of Renneboog, Simmons and Wright (2005) where agency factors (underperformance) were also the strongest indicators of the level of target premium. The traditional rationale for going private is the incentive realignment hypothesis associated with the agency cost (Jensen, 1989). Good performing companies with high Return-on-Assets have less underperformance and therefore more room for target premium.

The start of the idea behind the paper was to check if a certain wave pattern exists as it is formulated for the Mergers and Acquisition transactions. Private Equity (PE) is a relevant specialized form of transaction and PTP transactions are about 30% of the PE transactions (Kaplan, 2009). With the method of Harford (2005) we try to statistical proof a wave pattern, and check if there were differences between the *in-wave* and *out-wave*-periods. Because of the limited number and distribution of the PTP transactions no real clustering could be discovered. Around eighteen percent of the periods were coded as an in-wave period, but did not have significant different transaction variables than out-wave periods. Kaplan (2009) divided the wave not in three but in two periods (1998-2008) with the end of the last wave in 2007/2008. Our research agrees with this observation as after a sharp increase in the 1998 a decline in activity in 2003/04 is recorded but PTP activity not drop until the financial crisis in 2008.

This thesis analyzed the Continental European Public-to-Private market in the 1998-2009 period with a financial sponsor on the buy-side. For further analysis, a larger sample and more variables could be explored, to be able to draw significant conclusions. Especially the relation between the premium and the Return on Investments after the first two years could be an interesting subject. We added an epilogue because of the changing market environment due to the financial turmoil to give a complete view on the recent developments on Private Equity.

8. Epilogue – Past, Present and Future of Private Equity

8.1 Introduction

This thesis was written in probably one of the most volatile financial markets of the last century. The collapse of the American mortgage market and large investment banks, created lot of distress in the financial market. The high leveraged companies could not refinance their debt position, as they were confronted with sharp declines in sales. The car industry and American housing market had its biggest crisis as to date because of their heavy financing. All of these problems were all over the news with everyday *Credit Crisis* headlines.

During this time, the first part of this thesis was written, within KPMG Corporate Finance. From October 2007 until July 2009, I worked for the Industrial and Retail M&A team. During the first few months, Private Equity was very successful, and closed new large funds and took companies like Hema and VNU private. The market sentiment changed after the collapse of one of the largest global investment banks Bear Stearns in March 2008. Trust in private equity and the collapse of the M&A market was evident when subsequently the bankruptcy of the bulge bracket firm Lehman Brothers in September 2008 was a fact. Private Equity normally financed their deals through high leverage-ratio but could not persuade banks to invest debt in their investments. The lack of trust and transactions marked the end of my wave, as it was the end of my career with KPMG Corporate Finance. As of July 2009 the market had gone sour and as many other investment bank employees, I had to seek a new career.

This chapter will focus in its first paragraph on the differences with the past wave (1980-1998) and private equity characteristics. Second paragraph will focus on the present and current situation. Last, we will explore some future scenarios and trends in Private Equity.

8.2 Private Equity and the past

A typical Private Equity investment or characteristic is hard to find. All the variables vary across time and industry. A Private Equity description could be:

"Private Equity is a long-term, majority control investment. The target premium varies between 15 to 50 percent over the current stock price. The transaction is financed through 60% to 85% debt, and 15% to 40% equity. Generally all investments are long-term and are kept between three to eight years and subsequently exited (IPO, trade sale, or secondary buy-out). The typical investment value range varies widely with from USDm 5 and 1,000+." (Kaplan, 2009)

Where the characteristics vary focuses the critics however on five main Private Equity topics:

- The systematic effects of *high leverage* could lead to mass bankruptcies such as in the case of the private equity burst in late 1980s
- The *strict leadership* styles could have negative effects on labor and employee benefits. Many people compare private equity with a barbarian at the gate or a grass hopper
- The *target premium* could to a conflict of interests between CEO, PE and past shareholders. Why don't the CEOs do more as public companies CEOs?
- Private Equity share *little information* when companies are taken private which makes it mysterious and hard to investigate
- Peoples perception of i*ncredible wealth* gain of the private equity industry and individual tax benefits when working at companies for example Blackstone, KKR

The next paragraph will focus on the comparison on the relevant critics and compare it to the second wave. After the burst of Private Equity bubble in the late 1980s, these critics led to new legislation and constraints. The next paragraph will check the second Private Equity wave and recent financial crisis to the first wave in the eighties. What are the lessons learnt and how do we compare the second wave to the first in matter of capital committed, and money invested?

8.3 The present wave compared to the past

To know the future we must take lessons of the past. Kaplan (2009) compared the first Private Equity wave (1980-1996) with the second wave (1996-2008) in his research into Private Equity. Together with recently published researches of Weir, et al. (2008) and Kapland & Strömberg (2009), we compare the past wave with the present situation reflecting the on our research.

The two main investigate components are the change in capital committed to PE partnership over the years and the differences in deals structure (money invested). The capital committed gives an idea on the growth of private equity over the years, whereas the funding structure gives an insight on the deal structure. As the number of Private Equity transactions increased, so did the amount of capital committed to Private Equity. Figure 8.1 gives an overview of the number and value of worldwide transaction. We see a peak in the late 80s with a drop until 1995/1996 marking the first wave.

Figure 8.1: Overview number and value of total Private Equity transactions (Kaplan, 2009)

The early investors in the eighties (e.g. Kravis Kohlberg and Roberts) discovered the benefits of Private Equity (LBO) transactions. These benefits focus on Financial Engineering and Governance Engineering. Financial Engineering improved the structure and leverage-ratio of a transaction. Governance engineering enforces a stricter control on the target company and realigns the shareholders with corporate values (agency-effects).

One of the aspects of financial engineering is the increase of incentives to the management through high equity management participation. CEOs receive more upside and take more risk than in public companies. In the eighties the management ownership differed by a factor of 4x compared to public companies (Kaplan, 2009). This is still true in the deals from the second wave, although the percentage of participation increased from 6.4% to 15% on average. The second factor of financial engineering is the control function of debt. The use of leveraged transactions, increased in the eighties dramatically thanks to complex financial products. The control function of debt and the tax benefits became main incentives to take companies private but were heavily debated after the bust in the late eighties. In our research and Renneboog, Wright and Simons (2005) could not link the leverage-ratio to the target premium as source of wealth gain in second wave transactions.

The second reason of the increased popularity in private equity transactions was the discovered benefit, thanks to governance engineering. Private Equity portfolio companies have smaller boards and more frequent meetings compared to public companies. Private Equity closely monitors the performance of the CEO and portfolio companies with 1/3 of the CEOs replaced within hundred days (Acharya and Kehoe, 2008). The increased focus on shareholder value increased the operational (10-20%) and cash flows margins (40%).

Research into the results indicates a small difference between the first and second wave. Private Equity transactions are overall associated with an increase in operational margin relative to the industry. PE transactions showed an increase in employment and reduction of the capital expenditures with a strong tax incentive. Differences between the two waves are the substantial increase in value (first wave more obvious) and the shift in focus from efficiency to effectiveness (second wave). Cumming, Sigel, Wright (2007) summarizes the consensus as: *"LBOs and especially MBOs enhance performance and have salient effect on work practices."*

An important difference between the transactions in the early 1980s and the present is the difference in structure and price. Appendix XIII (i/ii) gives an overview of the U.S. EBITDA multiples paid in a transaction from 1980-2007, and the portion of equity to Enterprise Value. Higher multiples are paid, implicating a higher premium but the D/E ratios are much lower. Because of the de-leveraging, we may assume a decreasing effect of leveraging in the transaction structure and relation with the target premium.

As a reaction of public firms adopting the principles of leveraging and governance, the Private Equity firms created and added *Operational Engineering* to financial- and governance engineering. Most PE firms are structured around industries to leverage industry expertise to generate deal flow, identify improvements and drive changes. The uses of internal industry experts or top-consulting firms identify opportunities for cost-cutting, growth initiatives, strategic changes. (Kaplan, 2009)

Operational Engineering needs a large up front investment (time) in due diligence and strategy changes using industry expertise. Some of these firms focus on consulting experts or backgrounds (Bain Capital) others use operating experts/ CEOs (Boekhoorn M&A[30]). At the time PE firms invest, they have a value creation plan in mind:

- Identify cost cutting opportunities/ productivity improvements
- Identified strategic changes and repositioning
- Identified organic growth opportunities (Buy-and-Build)
- Identified acquisition opportunities
- Generally oriented to increasing margins, increasing ROA, increasing operating cash flows

Management change and upgrades the value creation plan as implemented, if necessary. Post investment value creation teams (consultants, operating executives, functional teams, outside consultants) are implemented together with a strong monitor. This new invasive way of business is in contrast with the early 'buy-and-hold' strategy of private equity. The improved operating performance does not necessarily mean that PE funds generate out-performance net of fees. This depends on what the PE funds paid to acquire the company and the (management) fees during the holding period.

Research reports indicate a relation between past performance and the raise of new funds and subsequently the performance is negatively related to the amount of money flowing into the industry. This creates a *Boom-and-Bust-cycle* (Wave) in the Private Equity industry, visualized in Appendix XIII (iii/iv). During the booming inflow years ('89, '98 and 2007) the returns are lower (or mediocre) than during low fundraising periods. The high returns/ multiples in first half of 1980s increased fundraising, chasing those returns in the late 1980s, with mediocre results at best. Fundraising again picked up from mid 1990s to 2000 and the results were again mediocre. After these lower returns the fundraising decreased from 2001-2003, with better returns as result. The cash inflow boomed over the years 2005, 2006 and 2007 but we expect the returns will be poor as lot of these investments are under water (lower current value than when acquired).

[30] Dutch PE office with top individual advisors: Cees vd Hoeven (Ahold); Wilco Jiskoot (ABN AMRO)

8.4 Private Equity going forward

The question is what will happen next to Private Equity and the PE firms? Was the last explosion of PE transactions temporary or permanent? Will Private Equity prevail with the recent credit crisis (2008/2009), financial markets in distress and a total lack of trust and guidance of the banks? Debt, trust and distress of financial markets are all problems in Private Equity transactions. There is no short-term credit available and banks will not lend to each other short term. Appendix XIV shows for the Dutch mid-market the funding problems and the measures taken where 11% postpones new investments. Kaplan (2009) and others, state that this economy is in a recession and will stay there for a while and we need first to stabilize the financial system. Stabilization will be expensive in terms of government help, but we are better of if it is sooner than later.

History repeating almost again

Private Equity has the tendency of repeating itself and this crisis has many similarities as the one in the late eighties. With new legislation and financial rules as a outcome.

Michael Jenssen (1989): *"I look with discomfort on the dangerous tendency of LBO partnerships, bolstered by their success to take more of their compensation in front-end fees rather than in back-end profit earned through increased equity value"*

A difference is that the capital structures are safer than in late 1980s with higher coverage ratios and lower debt repayment requirements. When a company is in distress it has today more options available (distressed sale, debt restructuring) in contrast to the past.

The expected return for high equity investments in 2006/2007 and 2008 will probably be negative because of the high prices paid. This is the same when you compare this with the investments in the late eighties but the nature of the Private Equity firms has changed and is more "persistent" compared to the past with PE firms increased their capabilities to add value through operational engineering. The 'Boom-and-bust cycle" will repeat itself as PE firms still have capital but the bottom line is**:**

"Private Equity industry will undoubtedly and necessarily contract but new investments will be very attractive in 2009/2010. In 5-years from now, PE will be in a better position relative to other classes, other occupations, because of the ability to reinvent itself!"

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Appendix II Overview Empirical Research Studies

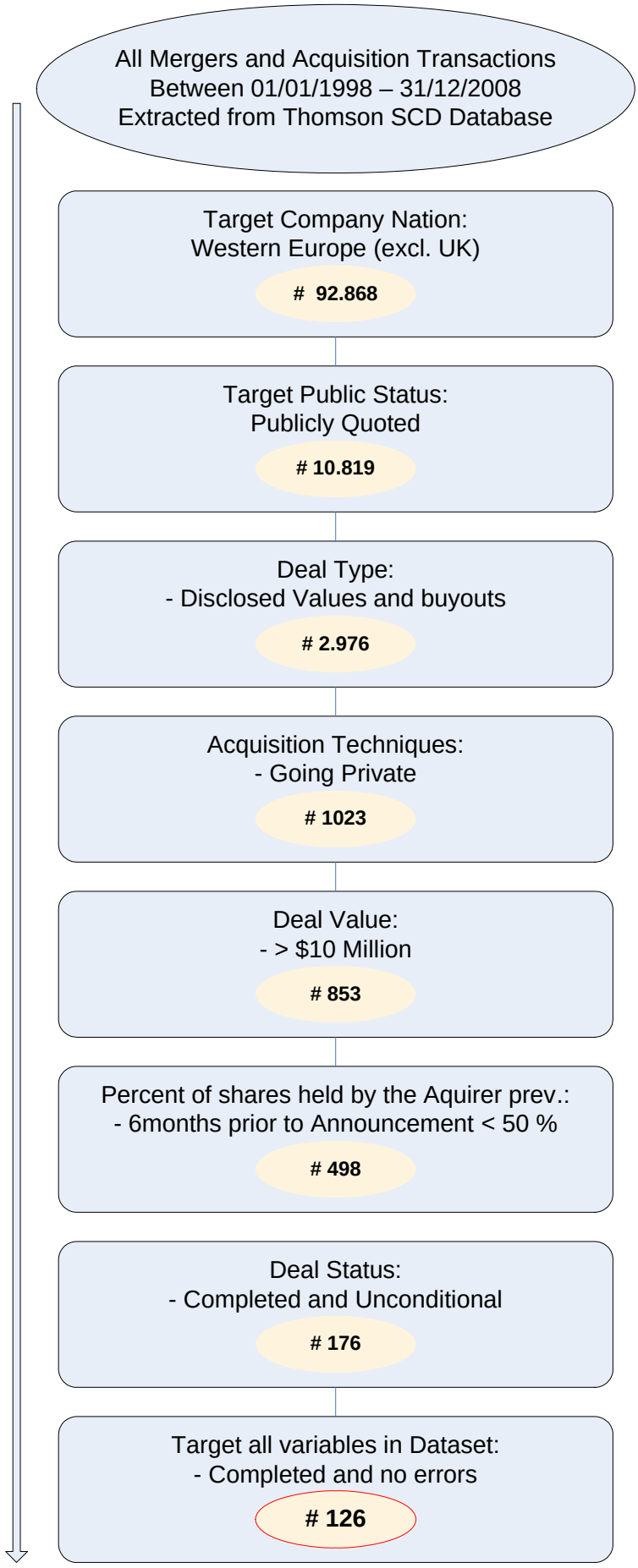
This table shows all papers that estimate the shareholder wealth effects of going private through premiums analysis. The results are not independent due to partially overlapping samples. ALL= all going private deals. MBO = MBO deals only

Empirical Research	Sample period/ Country	Type of deal	Anticipation Window	# Obs.	Mean Premium offered
DeAngelo, Deangelo and Rice (1984)	1973-1980 US	ALL	40 days	72	56.3%
Lowenstein (1985)	1979-1984 US	MBO	30 days	28	56.0%
Lehn and Poulsen (1989)	1980-1987 US	ALL	20 days	257	36.1%
Amihud (1989	1983-1986 US	MBO	20 days	15	42.9%
Kaplan (1989a, 1989b)	1980-1985 US	MBO	2 months	76	42.3%
Asquith and Wizman (1990)	1980-1988 US	ALL	1 day	47	37.9%
Harlow and Howe	1980-1989 US	ALL	20 days	121	44.9%
Travlos and Cornet (1993)	1975-1983 US	ALL	1 month	56	41.9%
Easterwood, Singer, Seth and Lang (1994)	1978-1988 US	MBO	20 days	1984	32.9%
Weir, Laing and Wright (2003)	1998-2000 UK	ALL	1 month	95	44.9%
Renneboog, Simons and Wright (2004)	1997-2003 UK	ALL	20 days	177	41.0%
VanSanten (2008)	1998-2008 CE	ALL	1 month	126	30.3%

Appendix III Overview empirical research variables

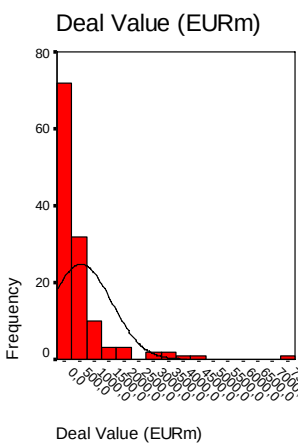
	Short description	Dummy	Measurement	Influence
Dependent variable				
Target Premium	Target value premium paid by the acquirer	N	P= (MV-MV target$_{-4wk}$)/ MV target $_{-4wk}$ *100%	
Independent variables				
Leveraging	Identifies the financial restructuring possibilities	N	Gearing = Total Debt / Total Equity * 100%	*Negative*
Free Cash Flow Ratio	Identifies the possibility of Agency related problems	N	FCF = Free Cash Flow / Sales Target	*Positive*
Undervaluation	Identifies the Return on Asset, possible agency problem	N	RoA = Net Income / Total Assets	*Negative*
Wave period	Identifies if the PTP transaction took place during a wave period	Y	1 = during a 'high'-wave period expected premium higher	*Positive*
			0 = during a 'low'-wave period the expected premium has no influence	
Other variables				
Multiple bidders	Gives whether there are any competing offers	Y	1=at least 1 competing offer	*Positive*
			0= no competing offers	
Financial advisor acquirer	Number of acquirer financial advisors	Y	# of acquirer advisors (1= at leas 1 advisor ; 0= no advisor)	*Negative*
Financial advisor target	Number of target financial advisors	Y	# of target advisors (1= at leas 1 advisor ; 0= no advisor)	*Positive*

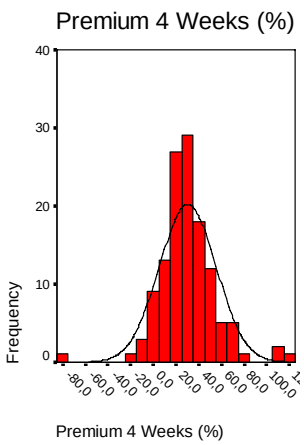
Appendix IV Research selection criteria

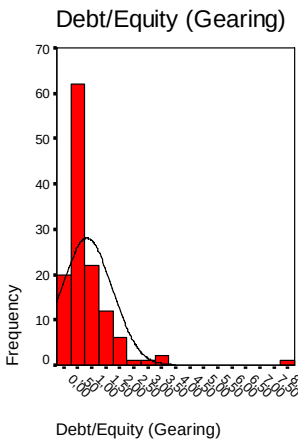


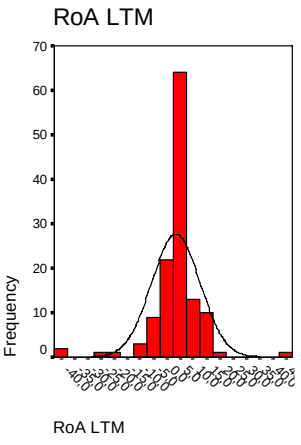
Appendix V Descriptive analyzes - PTP transaction variables

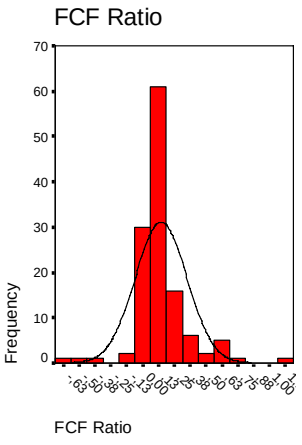
Descriptive statistics PTP transactions							
	Deal Value (EURm)	Premium 4wk (%)	Debt/Equity	RoA LTM	FCF Ratio	Share Perform.	EBITDA Margin
N	126	126	126	126	126	126	126
Mean	559,29	30,25	0,77	3,47	0,15	(0,73)	0,18
Median	203,02	27,69	0,61	3,82	0,11	(0,05)	0,12
Minimum	11,23	(84,98)	0,02	(42,43)	(0,66)	(263,67)	0,01
Maximum	7.578,91	115,84	3,46	45,70	1,14	135,16	1,86
Std. Deviation	1.023,41	25,11	0,91	9,17	0,20	32,38	0,20
Skewness	4,00	0,11	4,69	(1,60)	0,89	(3,54)	5,23
Std. Error of Skewness	0,22	0,22	0,22	0,22	0,22	0,22	0,22
Kurtosis	20,11	4,63	32,85	12,94	7,14	36,83	39,43
Std. Error of Kurtosis	0,43	0,43	0,43	0,43	0,43	0,43	0,43

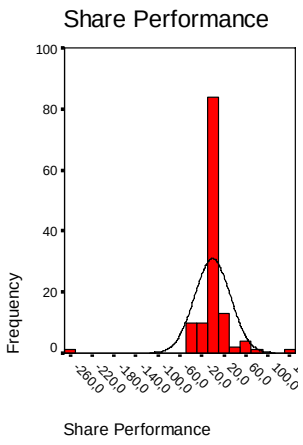


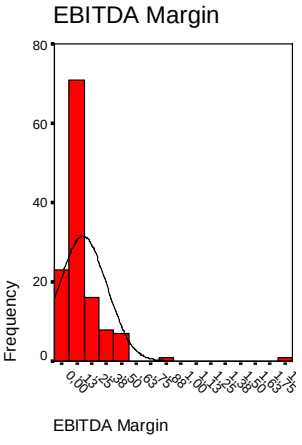












Appendix VI Correlation Matrix - PTP transaction variables

			Premium 4 Weeks (%)	Debt/Equity (Gearing)	RoA LTM	FCF Ratio	Share Performan	EBITDA Margin	Wave Factor	BidDummy	Indus Dummy0	Indus Dummy1	Indus Dummy2	Indus Dummy3	Indus Dummy4	Indus Dummy5	Indus Dummy6	Indus Dummy7	Indus Dummy8	Indus Dummy9
Spearman's rho	Premium 4 Weeks (%	Correlation Coefficie	1,000	,082	-,144	-,067	,025	-,049	,028	-,027	,018	-,075	,023	,032	,014	,001	**-,239****	,121	**,176***	.
		Sig. (2-tailed)	.	,363	,108	,453	,779	,588	,757	,765	,838	,405	,795	,725	,879	,992	,007	,177	,049	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	Debt/Equity (Gearing	Correlation Coefficie	,082	1,000	**-,331****	,021	,098	-,047	,085	-,030	,112	,002	,037	-,118	,031	,102	,078	-,129	,021	.
		Sig. (2-tailed)	,363	.	,000	,819	,276	,601	,345	,738	,212	,979	,685	,190	,732	,254	,386	,149	,818	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	RoA LTM	Correlation Coefficie	-,144	-,331**	1,000	,055	,177*	,166	-,066	,051	-,127	,063	,119	,068	-,169	,028	-,070	,012	-,088	.
		Sig. (2-tailed)	,108	,000	.	,538	,048	,064	,462	,568	,158	,481	,184	,451	,059	,758	,439	,896	,329	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	FCF Ratio	Correlation Coefficie	-,067	,021	,055	1,000	,013	**,503****	**,177***	,048	-,097	-,081	-,147	-,023	,211*	-,085	,119	,055	-,026	.
		Sig. (2-tailed)	,453	,819	,538	.	,882	,000	,048	,596	,279	,365	,099	,802	,018	,344	,183	,539	,770	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	Share Performan	Correlation Coefficie	,025	,098	,177*	,013	1,000	-,084	-,015	,074	-,112	,112	,086	-,127	,068	-,089	-,078	,094	-,010	.
		Sig. (2-tailed)	,779	,276	,048	,882	.	,349	,868	,409	,212	,212	,339	,157	,447	,324	,388	,297	,916	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	EBITDA Margin	Correlation Coefficie	-,049	-,047	,166	**,503****	-,084	1,000	,066	,156	-,117	-,031	-,091	-,127	,139	-,132	**,231****	,016	,050	.
		Sig. (2-tailed)	,588	,601	,064	,000	,349	.	,462	,081	,193	,727	,310	,155	,121	,141	,009	,856	,576	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	Wave Factor	Correlation Coefficie	,028	,085	-,066	**,177***	-,015	,066	1,000	,101	-,043	,059	-,025	-,106	**,187***	-,043	-,045	,104	-,099	.
		Sig. (2-tailed)	,757	,345	,462	,048	,868	,462	.	,259	,630	,513	,780	,239	,036	,629	,619	,245	,272	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	BidDummy	Correlation Coefficie	-,027	-,030	,051	,048	,074	,156	,101	1,000	-,030	,032	-,061	,014	-,021	,019	-,005	,095	-,069	.
		Sig. (2-tailed)	,765	,738	,568	,596	,409	,081	,259	.	,736	,725	,494	,880	,814	,836	,960	,289	,443	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy0	Correlation Coefficie	,018	,112	-,127	-,097	-,112	-,117	-,043	-,030	1,000	-,022	-,049	-,047	-,029	-,023	-,039	-,035	-,018	.
		Sig. (2-tailed)	,838	,212	,158	,279	,212	,193	,630	,736	.	,809	,587	,603	,747	,796	,666	,695	,840	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy1	Correlation Coefficie	-,075	,002	,063	-,081	,112	-,031	,059	,032	-,022	1,000	-,133	-,127	-,079	-,063	-,105	-,096	-,049	.
		Sig. (2-tailed)	,405	,979	,481	,365	,212	,727	,513	,725	,809	.	,139	,158	,381	,482	,240	,286	,584	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy2	Correlation Coefficie	,023	,037	,119	-,147	,086	-,091	-,025	-,061	-,049	-,133	1,000	**-,286****	**-,177***	-,142	**-,238****	**-,216***	-,111	.
		Sig. (2-tailed)	,795	,685	,184	,099	,339	,310	,780	,494	,587	,139	.	,001	,047	,112	,007	,015	,215	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy3	Correlation Coefficie	,032	-,118	,068	-,023	-,127	-,127	-,106	,014	-,047	-,127	**-,286****	1,000	-,169	-,136	**-,227***	**-,206***	-,106	.
		Sig. (2-tailed)	,725	,190	,451	,802	,157	,155	,239	,880	,603	,158	,001	.	,058	,129	,011	,021	,237	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy4	Correlation Coefficie	,014	,031	-,169	**,211***	,068	,139	**,187***	-,021	-,029	-,079	**-,177***	-,169	1,000	-,084	-,141	-,128	-,066	.
		Sig. (2-tailed)	,879	,732	,059	,018	,447	,121	,036	,814	,747	,381	,047	,058	.	,347	,115	,153	,463	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy5	Correlation Coefficie	,001	,102	,028	-,085	-,089	-,132	-,043	,019	-,023	-,063	-,142	-,136	-,084	1,000	-,113	-,103	-,053	.
		Sig. (2-tailed)	,992	,254	,758	,344	,324	,141	,629	,836	,796	,482	,112	,129	,347	.	,207	,252	,556	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy6	Correlation Coefficie	-,239**	,078	-,070	,119	-,078	**,231****	-,045	-,005	-,039	-,105	**-,238****	**-,227***	-,141	-,113	1,000	-,172	-,088	.
		Sig. (2-tailed)	,007	,386	,439	,183	,388	,009	,619	,960	,666	,240	,007	,011	,115	,207	.	,055	,326	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy7	Correlation Coefficie	,121	-,129	,012	,055	,094	,016	,104	,095	-,035	-,096	**-,216***	**-,206***	-,128	-,103	-,172	1,000	-,080	.
		Sig. (2-tailed)	,177	,149	,896	,539	,297	,856	,245	,289	,695	,286	,015	,021	,153	,252	,055	.	,372	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy8	Correlation Coefficie	,176*	,021	-,088	-,026	-,010	,050	-,099	-,069	-,018	-,049	-,111	-,106	-,066	-,053	-,088	-,080	1,000	.
		Sig. (2-tailed)	,049	,818	,329	,770	,916	,576	,272	,443	,840	,584	,215	,237	,463	,556	,326	,372	.	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126
	IndusDummy9	Correlation Coefficie	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		Sig. (2-tailed)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		N	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126

**·Correlation is significant at the 0.01 level (2-tailed).

*·Correlation is significant at the 0.05 level (2-tailed).

Appendix VII ANOVA – Public-to-Private Wave Factor

Independent Sample test - PTP wave Factor

	Wave Factor	N	Mean	Std. Deviation	Std. Error Mean
Premium 4 Weeks (%)	NoWave	102	29,60	25,80	2,55
	InWave	24,00	33,04	22,25	4,54
Debt/Equity (Gearing)	NoWave	102,00	0,74	0,61	0,06
	InWave	24,00	0,88	0,70	0,14
RoA LTM	NoWave	102,00	3,63	9,52	0,94
	InWave	24,00	2,80	7,67	1,57
FCF Ratio	NoWave	102,00	0,14	0,19	0,02
	InWave	24,00	0,18	0,25	0,05
Share Performan	NoWave	102,00	-1,12	34,79	3,44
	InWave	24,00	0,92	19,54	3,99

PTP variables and the significance between in and out-wave periods

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Premium 4 Weeks (%)	Equal variances assumed	0,53	0,47	-0,60	124,00	0,55	-3,44	5,71	-14,75	7,87
	Equal variances not assumed			-0,66	38,96	0,51	-3,44	5,21	-13,98	7,10
Debt/Equity (Gearing)	Equal variances assumed	0,83	0,36	-0,99	124,00	0,33	-0,14	0,14	-0,42	0,14
	Equal variances not assumed			-0,91	31,83	0,37	-0,14	0,16	-0,46	0,18
RoA LTM	Equal variances assumed	0,13	0,72	0,40	124,00	0,69	0,83	2,09	-3,30	4,97
	Equal variances not assumed			0,46	41,46	0,65	0,83	1,83	-2,86	4,52
FCF Ratio	Equal variances assumed	0,63	0,43	-0,80	124,00	0,43	-0,04	0,05	-0,13	0,05
	Equal variances not assumed			-0,68	29,97	0,50	-0,04	0,05	-0,15	0,07
Share Performan	Equal variances assumed	0,28	0,60	-0,28	124,00	0,78	-2,04	7,37	-16,64	12,55
	Equal variances not assumed			-0,39	62,23	0,70	-2,04	5,27	-12,57	8,49

Appendix VIII Private Equity Wave periods

Frequency table - Private Equity Wave

Wave Month	Concentration	Threshold	# transactions	Coded
January 1998	-	0,106	0	NOWave
February 1998	0,028	0,106	1	NOWave
March 1998	0,056	0,106	2	NOWave
April 1998	-	0,106		NOWave
May 1998	0,029	0,106	1	NOWave
June 1998	-	0,106		NOWave
July 1998	0,026	0,106	1	NOWave
August 1998	-	0,106		NOWave
September 1998	-	0,106		NOWave
October 1998	-	0,106		NOWave
November 1998	0,024	0,106	1	NOWave
December 1998	0,047	0,106	2	NOWave
January 1999	-	0,106		NOWave
February 1999	0,065	0,106	3	NOWave
March 1999	0,044	0,106	2	NOWave
April 1999	0,087	0,106	4	NOWave
May 1999	0,070	0,106	3	NOWave
June 1999	0,070	0,106	3	NOWave
July 1999	0,023	0,106	1	NOWave
August 1999	0,022	0,106	1	NOWave
September 1999	0,067	0,106	3	NOWave
October 1999	0,023	0,106	1	NOWave
November 1999	0,071	0,106	3	NOWave
December 1999	0,077	0,106	3	NOWave
January 2000	0,028	0,106	1	NOWave
February 2000	0,029	0,106	1	NOWave
March 2000	-	0,106		NOWave
April 2000	-	0,106		NOWave
May 2000	0,026	0,106	1	NOWave
June 2000	0,108	0,106	4	**Wave**
July 2000	0,028	0,106	1	NOWave
August 2000	0,054	0,106	2	NOWave
September 2000	0,029	0,106	1	NOWave
October 2000	0,029	0,106	1	NOWave
November 2000	0,059	0,106	2	NOWave
December 2000	0,059	0,106	2	NOWave
January 2001	0,083	0,106	3	NOWave
February 2001	0,057	0,106	2	NOWave
March 2001	0,086	0,106	3	NOWave
April 2001	0,028	0,106	1	NOWave
May 2001	0,077	0,106	3	NOWave
June 2001	0,108	0,106	4	**Wave**
July 2001	0,088	0,106	3	NOWave
August 2001	-	0,106		NOWave
September 2001	0,032	0,106	1	NOWave
October 2001	-	0,106		NOWave
November 2001	-	0,106		NOWave
December 2001	-	0,106		NOWave
January 2002	-	0,106		NOWave
February 2002	0,057	0,106	2	NOWave
March 2002	0,061	0,106	2	NOWave
April 2002	0,030	0,106	1	NOWave
May 2002	0,031	0,106	1	NOWave
June 2002	0,030	0,106	1	NOWave
July 2002	0,059	0,106	2	NOWave
August 2002	-	0,106		NOWave
September 2002	-	0,106		NOWave
October 2002	0,029	0,106	1	NOWave
November 2002	0,061	0,106	2	NOWave
December 2002	0,125	0,106	4	**Wave**

Wave Month	Concentration	Threshold	# transactions	Coded
January 2003	0,069	0,106	2	NOWave
February 2003	0,071	0,106	2	NOWave
March 2003	0,148	0,106	4	**Wave**
April 2003	0,148	0,106	4	**Wave**
May 2003	0,043	0,106	1	NOWave
June 2003	0,042	0,106	1	NOWave
July 2003	-	0,106		NOWave
August 2003	-	0,106		NOWave
September 2003	0,038	0,106	1	NOWave
October 2003	-	0,106		NOWave
November 2003	0,148	0,106	4	**Wave**
December 2003	-	0,106		NOWave
January 2004	-	0,106		NOWave
February 2004	-	0,106		NOWave
March 2004	0,069	0,106	2	NOWave
April 2004	-	0,106		NOWave
May 2004	0,063	0,106	2	NOWave
June 2004	0,067	0,106	2	NOWave
July 2004	-	0,106		NOWave
August 2004	-	0,106		NOWave
September 2004	0,067	0,106	2	NOWave
October 2004	-	0,106		NOWave
November 2004	0,031	0,106	1	NOWave
December 2004	0,030	0,106	1	NOWave
January 2005	0,030	0,106	1	NOWave
February 2005	0,030	0,106	1	NOWave
March 2005	0,121	0,106	4	**Wave**
April 2005	-	0,106		NOWave
May 2005	0,063	0,106	2	NOWave
June 2005	0,061	0,106	2	NOWave
July 2005	-	0,106		NOWave
August 2005	0,029	0,106	1	NOWave
September 2005	0,029	0,106	1	NOWave
October 2005	0,029	0,106	1	NOWave
November 2005	0,029	0,106	1	NOWave
December 2005	0,029	0,106	1	NOWave
January 2006	0,088	0,106	3	NOWave
February 2006	0,032	0,106	1	NOWave
March 2006	0,059	0,106	2	NOWave
April 2006	0,091	0,106	3	NOWave
May 2006	-	0,106		NOWave
June 2006	0,031	0,106	1	NOWave
July 2006	0,032	0,106	1	NOWave
August 2006	-	0,106		NOWave
September 2006	0,065	0,106	2	NOWave
October 2006	0,067	0,106	2	NOWave
November 2006	0,067	0,106	2	NOWave
December 2006	0,036	0,106	1	NOWave
January 2007	0,037	0,106	1	NOWave
February 2007	0,038	0,106	1	NOWave
March 2007	0,080	0,106	2	NOWave
April 2007	0,043	0,106	1	NOWave
May 2007	0,136	0,106	3	**Wave**
June 2007	0,105	0,106	2	NOWave
July 2007	0,059	0,106	1	NOWave
August 2007	0,063	0,106	1	NOWave
September 2007	0,133	0,106	2	**Wave**
October 2007	0,077	0,106	1	NOWave
November 2007	-	0,106		NOWave
December 2007	0,080	0,106	1	NOWave

1998-2002	# transactions	# periods	%
Number "In-wave" Periods	**12,0**	**3,0**	**5,0%**
Number "No-wave" Periods	**75,0**	**57,0**	**95,0%**
Total	**87,00**	**60,00**	**100,0%**

2003-2008	# transactions	# periods	%
Number "In-wave" Periods	**21,0**	**6,0**	**10,0%**
Number "No-wave" Periods	**57,0**	**54,0**	**90,0%**
Total	**78,00**	**60,00**	**100,0%**

Appendix IX Final Dataset - Regression model

Model 2:

Model 2 - Regression Model Summary				
Model	**R**	**R Square**	**Adj. R Square**	**Std. Error of the Estimate**
1,00	0,343	0,118	0,089	23,972
a Dependent Variable: Premium 4 Weeks (%)				

Regression Coefficients model 2 : Final- dataset					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	34,091	3,806		8,957	0,000
Debt/Equity (Gearing)	0,780	3,500	0,020	0,223	0,824
RoA LTM	-0,761	0,249	-0,278	-3,060	0,003
FCF Ratio	-12,720	10,628	-0,103	-1,197	0,234
Share Performan	-0,083	0,070	-0,107	-1,183	0,239
a Dependent Variable: Premium 4 Weeks (%)					

Model 3:

Model 3 - Regression Model Summary				
Model	**R**	**R Square**	**Adj. R Square**	**Std. Error of the Estimate**
1,00	0,484	0,234	0,122	23,537
a Dependent Variable: Premium 4 Weeks (%)				

Regression Coefficients model 3 : Final- dataset					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**	**B**	**Std. Error**
(Constant)	47,618	7,704		6,181	0,000
Debt/Equity (Gearing)	0,917	3,754	0,023	0,244	0,807
RoA LTM	-0,880	0,267	-0,322	-3,292	0,001
FCF Ratio	-15,647	11,350	-0,127	-1,379	0,171
Share Performan	-0,089	0,074	-0,115	-1,203	0,232
Wave Factor	0,873	5,612	0,014	0,155	0,877
BidDummy	7,271	7,218	0,088	1,007	0,316
IndusDummy0	-18,732	24,555	-0,066	-0,763	0,447
IndusDummy1	-8,580	9,983	-0,079	-0,859	0,392
IndusDummy3	-3,393	6,457	-0,056	-0,525	0,600
IndusDummy4	-0,227	8,611	-0,003	-0,026	0,979
IndusDummy5	-0,002	9,815	0,000	0,000	1,000
IndusDummy6	-12,996	6,929	-0,190	-1,876	0,063
IndusDummy7	6,502	7,454	0,089	0,872	0,385
IndusDummy8	8,971	11,543	0,070	0,777	0,439
Target Advisor Dummy	-12,505	5,151	-0,226	-2,428	0,017
Acquirer Advisor Dummy	-3,181	5,828	-0,050	-0,546	0,586
a Dependent Variable: Premium 4 Weeks (%)					

* *The increased Adjusted R Square is largely thanks to the increasing of the dummy variables*

Appendix X No-outlier dataset – Regression model

Model 1:

Regression model 1 : Non-oultier dataset				
Model	**R**	**R Square**	**Adj. R Square**	**Std. Error of the Estimate**
1,00	0,642	0,412	0,381	12,715
a Dependent Variable: Premium 4 Weeks (%)				

Regression Coefficients model 1 : Non-oultier dataset					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	33,510	2,337		14,338	0,000
Debt/Equity (Gearing)	1,511	2,019	0,063	0,748	0,456
RoA LTM	-0,880	0,150	-0,500	-5,873	0,000
FCF Ratio	-7,751	5,886	-0,107	-1,317	0,191
Share Performan	-0,118	0,039	-0,254	-3,026	0,003
Wave Factor	-3,385	3,157	-0,086	-1,072	0,286
a Dependent Variable: Premium 4 Weeks (%)					

Model 2:

Regression model 2 : Non-oultier dataset				
Model	**R**	**R Square**	**Adj. R Square**	**Std. Error of the Estimate**
1,00	0,637	0,405	0,380	12,725
a Dependent Variable: Premium 4 Weeks (%)				

Regression Coefficients model 3 : Non-oultier dataset					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	33,070	2,303		14,362	0,000
Debt/Equity (Gearing)	1,246	2,005	0,052	0,621	0,536
RoA LTM	-0,885	0,150	-0,503	-5,904	0,000
FCF Ratio	-8,043	5,885	-0,111	-1,367	0,175
Share Performan	-0,117	0,039	-0,254	-3,020	0,003
a Dependent Variable: Premium 4 Weeks (%)					

Model 3:

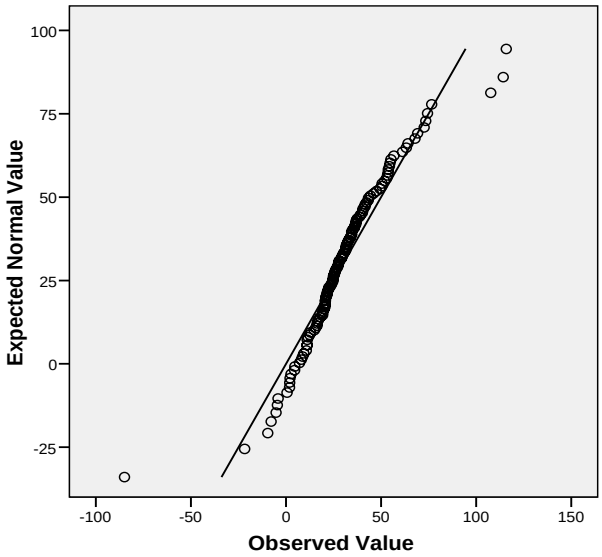
Regression model 3 : Non-oultier dataset				
Model	**R**	**R Square**	**Adj. R Square**	**Std. Error of the Estimate**
1,00	0,750	0,563	0,477	11,685
a Dependent Variable: Premium 4 Weeks (%)				

Regression Coefficients model 3 : Non-oultier dataset					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**	**B**	**Std. Error**
(Constant)	42,053	4,239		9,920	0,000
Debt/Equity (Gearing)	2,422	2,060	0,101	1,176	0,243
RoA LTM	-0,962	0,153	-0,546	-6,273	0,000
FCF Ratio	-7,081	6,027	-0,097	-1,175	0,243
Share Performan	-0,121	0,039	-0,261	-3,082	0,003
Wave Factor	-3,347	3,028	-0,085	-1,105	0,272
BidDummy	1,027	3,817	0,021	0,269	0,788
IndusDummy0	-20,752	12,396	-0,129	-1,674	0,098
IndusDummy1	-7,302	5,528	-0,108	-1,321	0,190
IndusDummy3	-2,392	3,916	-0,059	-0,611	0,543
IndusDummy4	-8,816	5,126	-0,158	-1,720	0,089
IndusDummy5	-6,739	5,508	-0,107	-1,224	0,225
IndusDummy6	-13,997	3,852	-0,343	-3,634	0,000
IndusDummy7	-2,467	4,240	-0,053	-0,582	0,562
IndusDummy8	4,946	6,031	0,067	0,820	0,415
TargetAdvisor	-6,914	2,887	-0,196	-2,395	0,019
Acquirer advisors	1,090	3,219	0,027	0,339	0,736
a Dependent Variable: Premium 4 Weeks (%)					

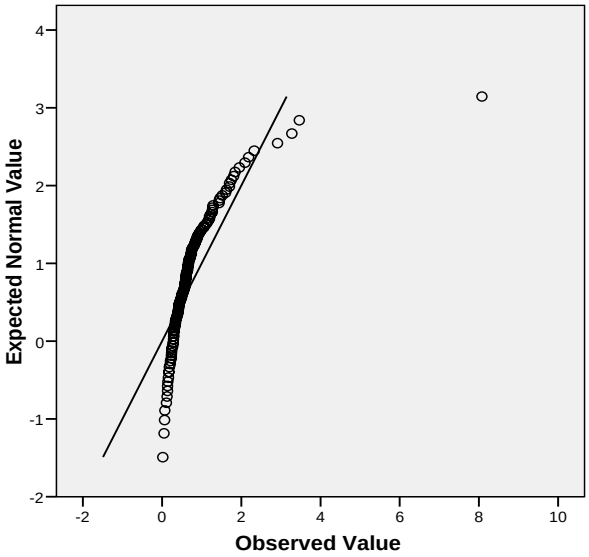
** The increased Adjusted R Square is largely thanks to the increasing of the dummy variables*

Appendix XI Normality check variables (Q-Q Plot)

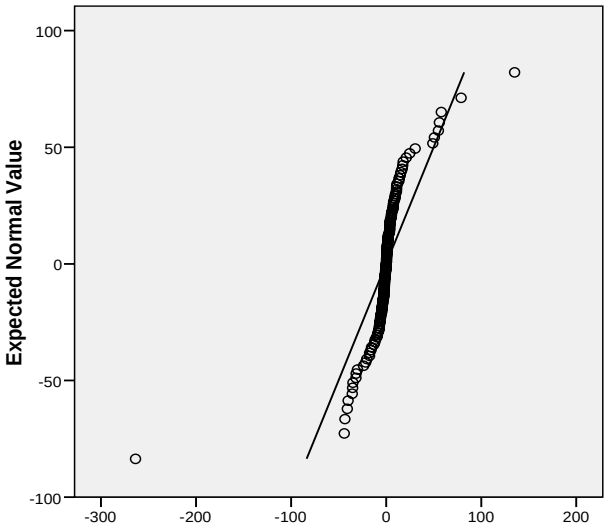
Normal Q-Q Plot of Premium 4 Weeks (%)



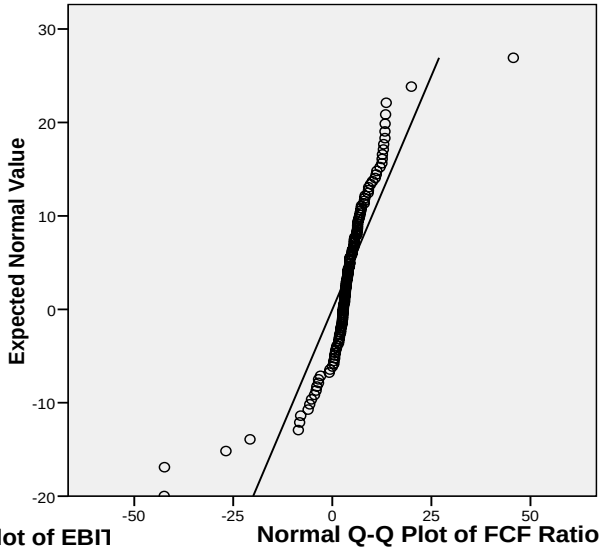
Normal Q-Q Plot of Debt/Equity (Gearing)



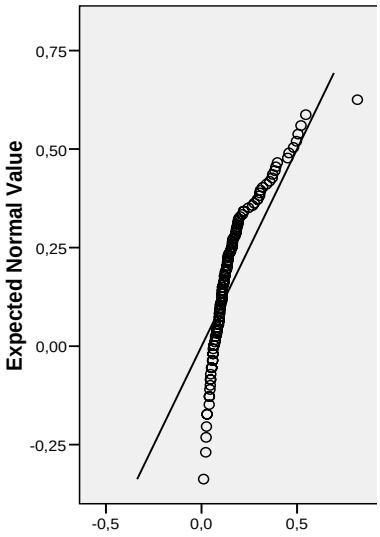
Normal Q-Q Plot of Share Performance



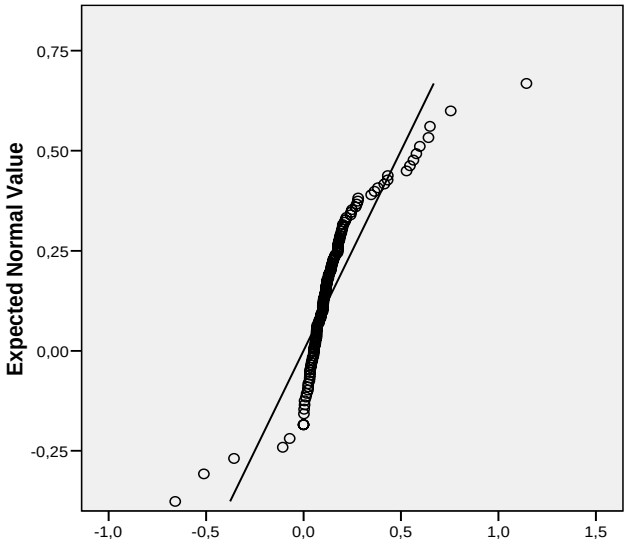
Normal Q-Q Plot of RoA LTM



Normal Q-Q Plot of EBIT



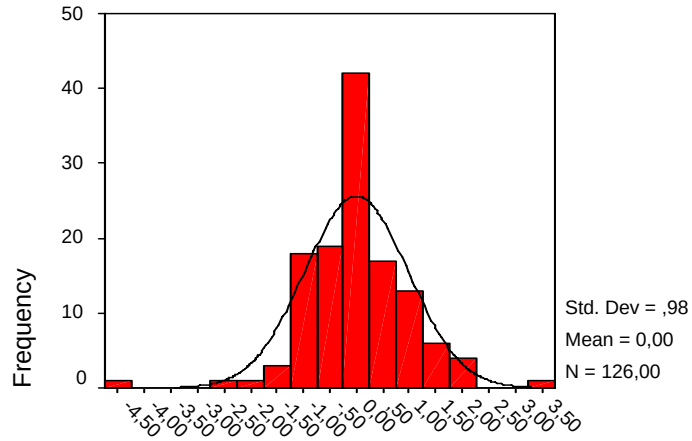
Normal Q-Q Plot of FCF Ratio



Appendix XII Regression Normality check (P-P Plot)

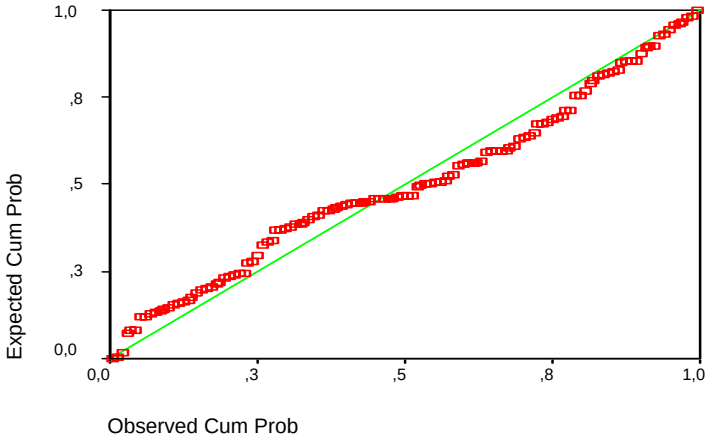
Histogram

Dependent Variable: Premium 4 wk



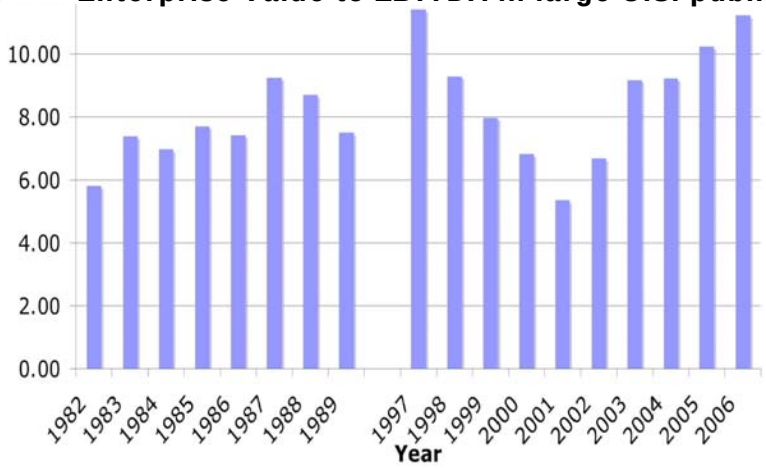
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Premium 4 Weeks (%)

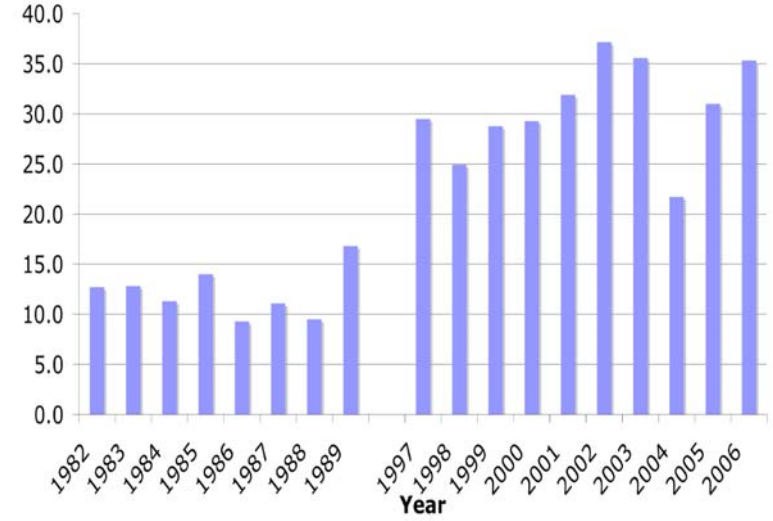


Appendix XIII Private Equity: Past, Present and Future

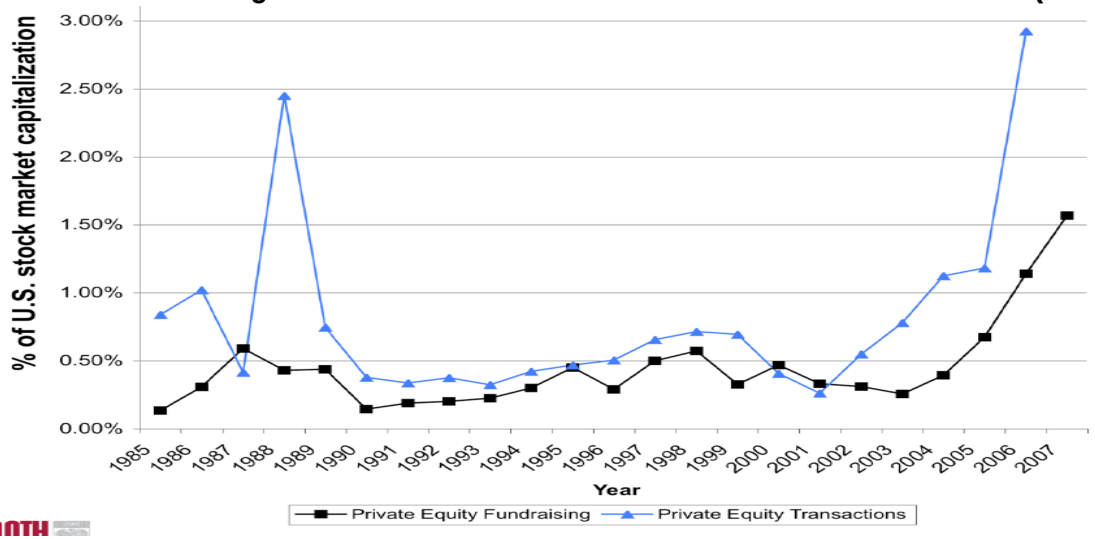
i) Enterprise Value to EBITDA in large U.S. public to private buyouts 1982 to 2006 (Kaplan and Strömberg , 2009)



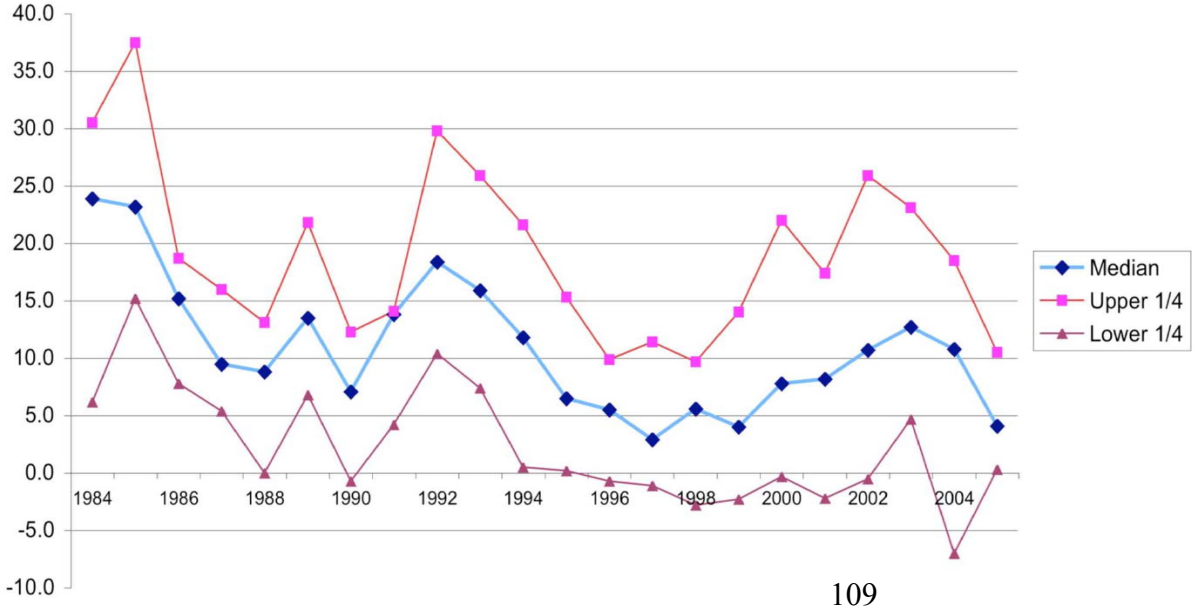
ii) Equity to Enterprise Value in large U.S. public to private buyouts 1982 to 2006 (Kaplan and Strömberg , 2009)



iii) **U.S fundraising and transaction value as % of stock market value (source: Kaplan, 2009; Venture Economics)**

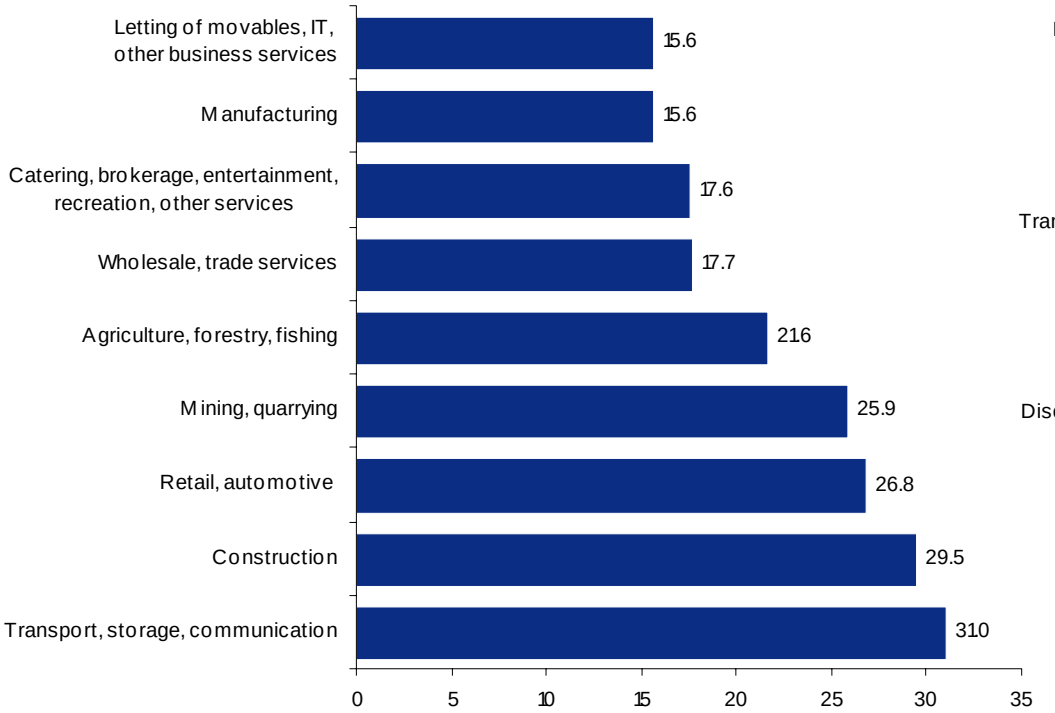


iv) **Buyout returns by vintage year (as of September 2008)**

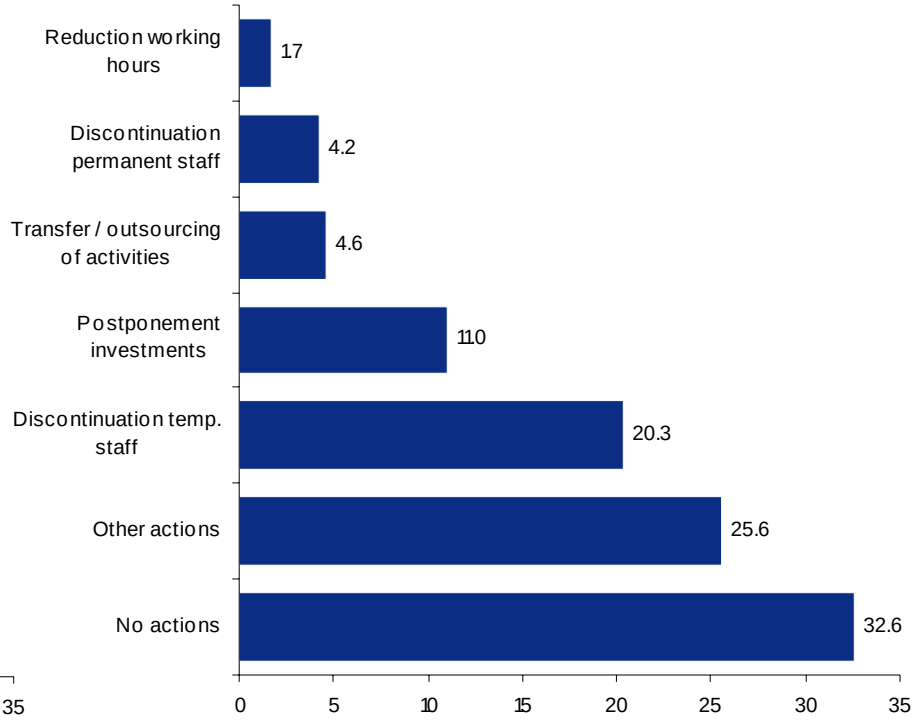


Appendix XIV Effect Credit Crisis on Dutch Companies

Dutch companies indicating to have funding problems (per sector)



Measures taken by Dutch companies



Source: CBS, Conjunctuurenquête Nederland, KPMG, January 2009