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**ABNORMAL ACQUIRER RETURNS IN NORDIC TAKEOVER MARKET-
TARGET SELECTION AND PAYMENT METHOD**

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TABLE OF CONTENTS	page
ABSTRACT	
1. INTRODUCTION	9
1.1. Background and motivation	9
1.2. Purpose of the study	11
1.3. Intended contribution	12
1.4. Structure of the paper	13
2. LITERATURE REVIEW AND HYPOTHESES	14
2.1. Previous studies	14
2.2. Development of hypotheses	20
2.2.1. Positive net present investment hypothesis	22
2.2.2. Target ownership structure hypothesis	22
2.2.3. Method of payment hypothesis	23
2.2.4. The block holder hypothesis	24
2.2.5. Geographic distance hypothesis	24
3. ABNORMAL ACQUIRER RETURNS	26
3.1. Target's ownership structure	26
3.1.1. Choosing between private and public targets	27
3.1.2. Target's ownership structure and acquirer returns	31
3.2. Method of payment	35
3.2.1. Choosing a payment method	35
3.2.2. Method of payment and acquirer returns	38
3.3. Targets geographic scope	42
3.4. Attributes combined	43
4. MERGERS AND ACQUISITIONS	45
4.1. Motives of M&A	45
4.2. M&A activity	46
5. SAMPLE SELECTION AND DATA	50
5.1. Sources	50
5.2. Methods of collecting	50
5.3. The Final Sample	53
5.4. Limitation of the data	54

6. RESEARCH METHODS	56
6.1. Event Study Methodology	56
6.2. Variables	57
6.3. Approach and model	57
6.3.1. The Constant Mean Adjusted Return Model	59
6.3.2. The Market Adjusted Return Method	61
6.3.3. The Market Model	61
6.3.4. Analysing Abnormal returns	62
7. EVENT STUDY ANALYSIS	66
7.1. Bidder returns: whole sample	66
7.2. Bidder returns: private targets	70
8. FINDINGS & DICUSSION	74
8.1. Expected results	74
8.2. Actual findings	74
8.3. Reliability of the findings	81
8.4. Suggestion for further research	82
8.5. Conclusion	83
REFERENCES	86

TABLE OF FIGURES

Figure 1. Timeline of an event study	58
Figure 2. The Market model ARs by method of payment	67
Figure 3. Average cumulative abnormal returns over 21- day period	68
Figure 4. The Market Model ARs for public-to-public takeovers on a 10- day event window	73
Figure 5. The Market Model ARs for public-to-public takeovers on a 10- day event window of	73

TABLE OF TABLES

Table 1. Previous papers on abnormal acquirer returns on Public-to-public deals and private-to-private deals	32
Table 2. Previous studies on abnormal acquirer returns and the Payment method effects	39
Table 3. Sample distribution by country and by method of payment	53
Table 4. Descriptive statistics	54
Table 5. Average Cumulative Abnormal Returns – All Deals	66
Table 6. Average Market model ARs and CARs with 21- day event window	69
Table 7: Average Cumulative Abnormal Returns Public-to-Private Deals	70
Table 8: Average Cumulative Abnormal Returns - Public to Public Deals	71
Table 9. The Market Model Return on a 10- day event window	72
Table 10: Average and Median Cumulative Abnormal Returns - All Deals	75
Table 11: Average CARs – subsamples of private and public targets	76
Table 12: Summary findings based on the Market Model returns	79
Table 13: Comparable findings about CARs between different markets	84

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ABSTRACT

Nordic firms undertake acquisitions and mergers with a growing pace, reaching M&A activity levels comparable to US and continental Europe. However, earlier research on acquirer returns does not cover North European deals.

In this paper an overview of the Nordic takeover market is provided. Initial sample of 3,061 domestic and cross-border corporate takeovers taken place in years 2005 -2015 is analyzed to find the main characteristic of Nordic M&A market. Further, a sample of 203 deals is statistically analyzed to see if the phenomenon linked to US and Continent European M&A deals also stretch out to the North European financial market.

The purpose of the study is to shed light on how acquirer's choice of payment method (all-cash, all-equity, or mixed deals) and the legal status of the target (public or private) affect the acquirer's performance. This performance is measured with short term acquirer returns.

An event study is executed to measure the cumulative abnormal returns (CARs) following the merger announcement. Three different methods are used to carry out the event study to capture the true presence or absence of abnormal returns caused by the takeover transaction. These three methods are the market model, the mean adjusted return method and the market adjusted return method.

This study provides empirical evidence that M&A deals, on average, are a positive net present investment for the North European acquirers. Moreover, the target selection and the payment method of the deal are found to have statistically significant impact on acquirer performance.

KEYWORDS: M&A, Ownerships structure, Method of payment, Nordic countries

1. INTRODUCTION

1.1. Background and motivation

Takeovers are considered to be one of the most important areas of corporate finance, for both the economy and for the firms. In 2016 over 47.000 mergers transactions took place worldwide with a total value of more than 3.5 trillion US dollars. For firms, the mergers and acquisitions are the most forceful way to gain a competitive advantage, create efficiency gains, and enhance growth. (Anderade, Mitchell and Stafford 2001: 103 - 105; Mulherin and Boone 2000; IMAA 2017).

Large part of the empirical research in the area of mergers and acquisitions (M&A's) focuses on the announcement returns of both the bidder and the target. When the net wealth effects of these corporate combinations are studied, various studies have demonstrated that mergers, in general, create value to the combined entity. In other words M&A transactions are considered to have a positive net present values as an investment. These findings are in line with theories based on efficiency and synergy gains. (Jensen and Ruback 1983; Anderade et al 2001; Mulherin and Boone 2000).

However, most previous findings show that these positive gains linked to M&A deals go to the pockets of the target's shareholders. Whereas evidence suggest that acquirers are barely breaking even in these transactions. However, the evidence on the unfavourable wealth effects reported for the acquirers is often found to be insignificant, but in some cases even statistically significant losses to the acquirer are found. There are implications in previous studies that more positive stock market reactions can be accomplished with acquisition of private targets. The explanation for this phenomenon varies widely. (Capron & Shen 2007; Koherns 2004: 1151; Jensen and Ruback 1983).

As a phenomenon the acquisition process of privately held firms has not gained a lot of attention in the field of M&A research. In this thesis, the acquirer's choice between public and private targets is examined. The aim of this paper is to solve if there is an apparent difference in acquirer performance between transactions where the target is private firm compared to ones where the target's stock is publicly traded. Secondly, the impact of payment method of the deal on acquirer returns is thoroughly examined. Payment

method of the deal refers to the financing decision made by the deal participants. Traditionally the deal can be financed with the bidding firm's stock, cash or with a combination of these two. Finally, if some takeover deals are found to generate more positive (or negative) stock market reactions for the acquirer than others, the intention is to recognize the factors most relevant to bidder returns. (Capron & Shen 2007).

Evidence on acquirer returns is highly mixed and not too many studies on these returns come to the same conclusion. Still, various previous findings imply that acquisition of public targets (i.e. public-to-public deals) financed with cash generate insignificant acquirer returns and significantly negative returns for stock offers. Findings on acquirer returns on private target acquisitions (i.e. public-to-private) deals are even more mixed, but it can be noted that findings between these two types of deals are not in line with each other. (Fuller, Netter and Stegemoller 2002).

Moreover, previous findings indicate that acquirers of private targets experience abnormal and positive returns regardless of the payment method. In addition, several studies show that the gains are even more positive when private target deals are financed with common stock instead of cash, and this difference is often found to be significant. (Chang 1998; Fuller et al. 2002; Koherns and Ang 2000).

One valid explanation for the superior performance of private target acquirers is the nature of information. The limited information available on private firms can provide value creation opportunities when the private information is accurately exploited. On the other hand, the restricted information available on private targets can limit the acquirer's search of these targets. In addition, acquiring private targets instead of public ones increases the risk of miss valuation. Valuing privately held companies is often a complex process as a private firm never has an observable market price. Whereas the existence of corporate control for public firms provides the information-processing tools and a base for asset valuation which are available for all potential bidders. (Anderade et al. 2001).

In this study we focus on the wealth effect of the buy side (i.e. the acquirer), since the target loses its existence after the deal is closed and becomes a part of the combined entity. Due to data limitations we only consider deals where the acquirer is a public firm. Further we classify the deals in to two subsamples according to the ownership structure of the target. These two subsamples are *public-to-public* deals, this and *public-to-private* deals. From which the first group refers to transactions where both deal

counterparties are listed firms and the second to deals where the target is an unlisted firm.

1.2. Purpose of the study

Purpose of this study is to estimate the factors that are most significant when considering abnormal acquirer returns in the Nordic takeover market. Abnormal returns (AR) are the actual returns minus the expected (normal) returns of a security. The sum of all abnormal returns (CAR) is calculated over the event window to capture the whole presence of the event. If more positive abnormal returns are found on takeovers where the targets is private the main interest is to find why unlisted firms are sold at a discount compared to those firms which equity is publicly traded. Vice versa if acquirers of public targets perform better the aim is to solve why. If there appears to be a discount in the M&A market concerning private targets the possible discount could be explained with factors such as differences in merger motivation, the relative size of the target to the acquirer, industry of the firms, factors related to liquidity of the assets, and information asymmetry. On the other hand, if the findings show that the performance of acquirers buying publicly traded targets is superior this could be explained with better transparency of value in public firms. (Ninon 2004: 1151).

In this paper when M&A success is discussed it refers to the fact that the deal is beneficial in the eyes of the acquirer; target is not overvalued and deal is done under the assumption that acquirer's main purpose is to maximise its shareholders value in the long run. The purpose is to shed light to merger transactions placed in North Europe and to find the deal characteristics that are most significant to acquirer performance in takeover transactions taking place in Denmark, Finland, Iceland, Norway, or Sweden. Both domestic and cross boarder deals from this region are taken into consideration.

The primary topic of the study is the ownership structure of the target and whether the acquisitions of private targets are able to create more positive stock market reactions compared to acquisition of public targets? Secondly, the impact of financing decision to acquirer performance is measured. The aim is to find out if there is a difference in acquirer performance between deals financed with cash, common stock or with a mix of these two. Reflecting to previous findings, the ownership structure of the target and the difference in wealth effect of the different payment methods are assumed to be linked. This will be tested with a data set covering 203 Nordic takeovers from which 51 are cross-border and 151 are domestic transactions.

1.3. Intended contribution

As previous studies from US such as Chang (1998), Ang and Kohers (2001) and Fuller et al. (2002), and studies from UK such as Conn et al. (2005) Draper and Paudyal (2006) and Faccio et al. (2006) for 17 European countries show that acquirers of unlisted targets generate more positive gains around the announcement period compared to acquisitions of publicly traded targets. And these gains are highly linked to the method of payment of the deals. These previous studies only cover US, UK and the continental European countries leaving the M&A market of Nordic Europe unexplored. Moreover, most of the previous findings (see, for instance Ang and Koherns 2001, Chang 1998, Fuller et. al 2002) indicate opposite effects between public-to-public and public-to-private deals when it comes to acquirer returns and method of payment. Where in public deals cash seem to be more favorable option, in private target acquisitions stock financed deals seem to generate more positive stock price reactions for the acquirer.

This paper contributes to the existing literature in several ways. In this study we go on to test if these findings on announcement returns hold within a sample of Nordic firms, which often differ from US, UK and central Europe in many areas. An empirical research is carried out to measure the short-term wealth effect from a sample of Nordic M&A deals. An event study is executed to solve if M&A deals overall create value for the firms and the economy and if there is a correlation to be found between certain deal characteristics and acquirer performance. The aim is to evaluate bidder returns following the event and the factors that are most significant in the light of abnormal bidder returns in the Nordic takeover market.

Initial sample of thousands of merger announcements taken place in Northern Europe between years 2005-2015 was reviewed in order to find a sample of 203 deals meeting the criteria in which an objective statistical research on acquirer performance can be carried out. In the full information setting, it is assumed that change in acquirer's stock price reflects an accurate and unbiased estimation of the value created by the deal. (Ek-kayokkaya, Holmes and Paudyal 2009: 1201).

The main intention is to solve whether there is an existing link between the target selection and the financing decision of the transaction and does this possible correlation act the same way as in other financial markets. Also, additional factors such as geographic distance between the target and the acquirer are added to the equation.

1.4. Structure of the paper

The second chapter of this paper provides an overview of the previous studies focusing on takeover transactions. This is followed by a deeper literature review on abnormal acquirer returns in Chapter 3. Also the possible sources for abnormal returns are presented in this section. These sources are characteristic differences between unlisted and listed firms, including topics such as liquidity, ownership structure, and information disparities. Furthermore, methods of financing M&A and its impact to acquirer returns are evaluated. In addition, the impact of the geographic distance between the target and the acquirer will be discussed.

In Chapter 4, the motives of doing acquisitions and mergers are discussed. Furthermore, the impact of M&A to the economy and the financial markets are examined. Also the existence of M&A waves and the drivers of M&A waves are presented. Chapter 5 starts the empirical section of this study with a presentation of the research data. The method used to execute the empirical study of this paper is introduced in Chapter 6. Section six also explains the approach and models in use. Finally we present findings in Chapter 7. These findings are further analysed and discussed in the final Chapter 8.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Previous studies

The evidence on whether mergers and acquisitions create value for shareholders are based on stock market reactions of merger announcements. The most traditional and statistically reliable way is to do an event study, where the creation or destruction of value is measured with existence of abnormal returns during the event window. (Andrade et al. 2001).

Nearly all research on mergers and acquisitions has focused on takeovers of publicly traded targets. Chang's (1998) study is a one exception as he studies the effect of method of payment choice with a data set of 281 privately held target takeovers. Chang's results indicate that private target acquirers making stock offers gain positive abnormal returns while in cash offers no significant abnormal returns for the acquirer can be found. These findings are different compared to the evidence found on deals where the target is public. Notably, majority of studies measuring wealth effects of M&A's involving two public deal counterparts report either close to zero or slightly positive acquirer returns in cash mergers and negative return for the acquirers using stock as a method of payment. (Chang 1998; Koherns 2004:1151).

Chang (1998) presents three testable hypotheses to find the core of bidder returns when the target is privately held. Firstly, he notes that when the takeover market is competitive the acquisitions itself should be zero net present value investment. Whereas the competition for unlisted targets is limited the possibility of underpayment increases and it is possible that the bidding firm will experience abnormal returns. Chang names this phenomenon as *The Limited Competition Hypothesis*. (Chang 1998: 774).

Second factor is *The Monitoring Hypothesis*, which concentrates on the creation of outside block holders. As privately held target's ownership structure is often concentrated, this group of shareholders can serve as an effective monitoring tool of managerial performance after the closure of the deal, which could have a positive effect on the firm value. On the other hand there are opposite views on the effects of concentrated ownership. For example Fama and Jensen (1983) state that concentrated ownership creates

space for managerial entrenchment, which can make takeovers more costly and decrease the value of the takeover. (Chang 1998: 774, Fama and Jensen 1983).

The third testable hypothesis by Chang (1998) that is earlier introduced in a study of Myers and Majluf (1984) is the *The Information Hypothesis*. When firm with a large number of shareholders is acquired with common stock it may cause problems with asymmetric information. When managers of the acquiring firm offer their stock as a payment of the deal it may reduce the value of their stock because the market may assume that the managers possess superior information of true value of their firm and are willing to sell their stock because they believe it is overvalued. From the targets' perspective it is essential to evaluate the bidding firm's prospect with a care as they will become owners of the merged firm after the deal is closed. When the owners of the target are willing to accept large block of shares from the acquirer it indicates that they value the stock high. This signals positive information about the bidding firm and may cause a positive stock price reaction. (Myers and Majluf 1984).

Ekkayokkaya, Holmes and Paudyal (2009) agree that the acquisition discount of unlisted targets can be partly explained by information asymmetry. Thus, in their study based in UK the authors suggest that unlisted target acquirer's short-term gains may be an outcome of investors' excessive optimism originating from limited and biased information. Therefore, it presents a question if abnormal acquirer returns linked to private targets are sustainable in the long run. (Ekkayokkaya et al. 2009: 1201).

The results of Capron and Shen (2007) indicate that acquirers prefer private targets when the industry is familiar to them and are more likely to favour public targets when entering a new field of business. According to the results of their event study and survey data it is shown that in merger announcements the acquirers of private targets perform better than acquirers of public targets when the endogeneity bias has been controlled. Capron's and Shen's main finding is that acquirers of public firm performed better when they acquired a private firm. Also, vice versa acquires of private firm performed better acquiring a private firm than they would have acquiring a public one. Their findings indicate that there are various other factors than target's ownership structure that have an impact on acquirer returns, such as industry and the relative size of the deal counterparties. Their findings are done under the expectation that acquirer returns arising from a target choice are not universal but are linked to the type of research done by the acquirer and to the attributes of the merging firm. (Capron & Shen 2007: 892-894).

A study by Cooney, Moeller and Stegemoller (2008) investigates the under-pricing of private targets by focusing to the valuation process involved. The research examines the acquisitions of privately held firms. It finds a positive relationship between target valuation revision and acquirer announcement returns. The study also shows that returns from acquirer announcements are on average positive. Thus, the positive returns mainly consist from targets that were acquired for less than they were prior valued. According to Cooney et al. (2008) these pricing effects arise from uncertainty of target valuation and behavioural biases in negotiation outcomes. Also Capron and Shen (2007) give attention to information asymmetries. The acquirer's fear of overpayment caused by adverse selection problem is diminished with lowered bidding price (Cooney, Moeller & Stegemoller 2008: 51-66; Capron and Shen 2007).

On the opposite view, findings from a study by Maksimovic et al. (2013) indicates more efficient corporate governance for public firms. They claim that public firms make superior acquisition decisions compared to private firms measured by efficiency gains. This seems to hold even though conflict of separation of ownership and control causes more stress in public firms than in privately owned and often concentrated firms. These findings indicate that an easy access to capital for productive firms may be more valuable than the possible value lost from the separation of ownership and control. (Maksimovic, Phillips and Yang. 2013: 2216).

Grinblatt and Titman (2002: 708) argue that the stock returns around the merger announcement does not fully reflect the profitability of the acquisition and state that, "the stock returns of the bidder at the time of the announcement of the bid may tell us more about how the market is reassessing the bidder's business than it does about the value of the acquisition." Moreover, Hietala, Kaplan and Robinsson (2001) state that the takeover announcement provides information about the synergies as a whole. Takeover provides market information about the target's and the bidder's standalone values; hence it also provides information about the possible bidder overpayment. They note that it is not possible to isolate these effects from one another. In other words it is impossible to recognize the actual cause for market reaction following the merger announcement. (Grinblatt and Titman 2002: 708; Hietala, Kaplan and Robinsson 2000).

Also Koeplin, Sarin and Shapiro (2000) focus on the acquisition process of unlisted firms and underline the valuation differences between public and privately held targets. They value domestic takeovers and find that, based on earnings multiples of the targets, on average private firms are valued lower than their public peers in the takeover market,

these findings are based on earnings multiples of the targets. Thus, when sales multiples are used as measurement, i.e. how much is paid for the target relative to its sales there does not seem to be a significant difference between the two target groups. Koeplin et al. argue that the private company discount is caused by lack of marketability, in other words the difficulty of selling restricted (unlisted) stock. This phenomenon is also known as the liquidity discount. (Koeplin, et al. 2000; Koherns 2004; 1151).

Various studies have been conducted about the liquidity discount. Also variety of methodologies has been used to estimate the level of liquidity discounts. The most commonly used method involves pricing of the restricted stock. In addition, there are studies that include prior Initial public offerings (IPOs), the cost of IPOs, option pricing models and the value of subsidiaries of parent firms to their evaluation of liquidity discount. (DePamphilis 2012: 384).

Faccio et al. (2006) argue that the liquidity effect do not alone explain the superior performance that is associated to acquiring private targets. Likewise to Capron and Shen (2007) Faccio's study concludes that the bargaining power between the target and the acquirer has a significant role when separating private and public firm acquisitions. According to Capron et al. (2007) the role of information in the target selection process and its impact to value creation in M&A's has been widely neglected in earlier studies. (Faccio et al. 2006; Capron et al. 2007).

Abnormal acquirer returns are measured with stock price movement around the announcement date of the corporate event. Hietala et al. (2002) state that there is three different parts of information that may cause fluctuation to acquirer's share price when the merger is announced. Firstly, the announcement provides information about the synergies between the deal counterparties. The second factor is the stand-alone value of the transaction. The last factor influencing the share price reactions is how this value is divided between the acquirer and the target. (Hietala et al. 2002: 1 – 2).

We have to recognize that these three factors and the contribution these factors have on acquirer's share price movement are impossible to separate from one another in a context of a particular takeover. For example if favourable (or unfavourable) information about the acquirer or the target is revealed at the announcement, it is not possible to tell if the change in market price of the stock will exceed (or not exceed) the synergies that are accomplished with the deal. Whereas if favourable (unfavourable) information is revealed about the bidder's value it is impossible say if the price change that this re-

vealed information has on bidder's stock price overstates (or understates) the benefits of the transaction to the bidder. (Hietala et al. 2002: 2, Jensen & Ruback 1983).

Early findings of Jensen and Ruback (1983) indicate that in general positive gains are generated from M&A transactions for the target firm's shareholders and the shareholders of the bidder firm at least do not suffer losses. Their results show that the abnormal stock price movements corresponding with successful corporate takeovers for targets are around 30 percentages and 4 percentile for bidder in case of tender offers. In mergers the statistically significant abnormal stock price change is 20 percentile for the target and on average zero for the bidder. The stock price movements are adjusted for market wide price changes, i.e. the abnormal acquirer returns are market adjusted. (Jensen & Ruback 1983: 5 – 8).

In their US originated study Anderade et al. (2001) evaluate abnormal returns around the announcement period with point of view on both the bidder and the target. They find that on average the combined abnormal returns are fairly similar over decades – with 3,688 completed mergers over the years from 1973 to a year 1998 the average abnormal acquirer return vary from 1,4 percent to 2,6 percent, with an overall average of 1,8. The presented results are abnormal returns calculated over a three day event window. When the authors expand the event window to twenty days prior the announcement to the end of the closing date of the merger, the results are almost identical. Combined wealth effect of the acquirer and the target during the announcement period sets to 1.9 percent. However when the event window is expanded to 142 days the result cannot be statistically distinguished from zero. The results presented are based on a data set where all the bidders and all the targets are publicly traded, i.e. have a viewable market price. (Anderade et al. 2001: 110).

Most studies covering public-to-public deals seem to agree that the stakeholders of the target firm are the clear winners of the takeover transactions. Where on average mergers do not destroy the value of its participant – are the abnormal returns for the acquirer's shareholders negative. Thus this is not clear at a conventional level because these negative estimates are often statistically insignificant, so the result cannot be viewed as reliable. Still, it is clear that performance of the target is significantly more positive. (Anderade 2001.)

Andrade et al. (2001) report that on average abnormal returns to the target firm's shareholders are astonishing 16 percent in the announcement period. With a longer event window this figure raises to 24 percent. Both of these positive gains are found to be significant at a significance level of 0.1. Andrade et al. (2001) also make a notion that the corresponding abnormal return for the acquirer firms is around two percentile on a three day event window. This leads to circumstances where the shareholders of the publicly traded target are able to realize a profit over a three day time period that they would on average level expect to gain over an 16-month period. (Andrade et al. 2001: 110-111.)

What makes these abnormal target returns interesting is that these figures seem to be remarkably stable over time. Even though mergers cluster (this is discussed further when evaluating M&A activity) there does not seem to be a significant variance in target returns, vice versa the abnormal returns are consistently over decades found to be on an average level of 16 percent around the announcement period. (Jensen & Ruback 1983; Andrade et al 2001: 111.)

As a result of data limitation, this study only estimates the short-term wealth effect for acquiring company's shareholders. In comparison to the empirical findings covering the wealth effects of the target side, the findings about abnormal returns for acquiring firms are more unpredictable, which makes acquirer returns more interesting topic to investigate. The prior literature reports both positive and negative reaction in acquirer stock price following the merger announcement.

Previous studies also suggest that corporate control is a factor of successful corporate takeover. Definitions of corporate control vary widely. It can be determined as the management of corporate resources (Jensen and Ruback 1983) referring to the given right to fire and hire employees and to the right to set the level of compensation for top-level managers (Fama & Jensen 1983).

When a firm is acquired the control rights are transferred from the target firm to the board of directors of the acquiring firm. Although top-level control rights are owned by the board the right to manage corporate resources is often delegated to internal managers. This allows the acquiring firm to gain the right to manage the human resources of the target firm less painfully after the takeover. Also the price of acquiring corporate control is a topic of M&A research. Jensen and Ruback (1983) find that the shareholders of target firm suffer when takeover bids are opposed by the top managers of the tar-

get, i.e. the profitability of the takeover is reduced. The research on corporate control effect on acquirer returns is limited. (Jensen & Ruback 1983: 6)

Firms relative sizes, geographic location, asymmetric information, choice of payment, and ownership structure have all been found to have an impact on the success of takeover transactions. That to said, it has to underline that these factors are not independent from one another. For example, information asymmetry tends to rise when the target size increases. Then again, when target firm is significant addition to the bidding firm it is more likely that the offer is made using common stock, because it diminishes the risk of asymmetric information. All else kept equal, this reasoning implies that the bigger the acquirer is compared to the target more willing is it to make a cash offer as the target is less significant additions to the firm. And when the target size increases stock financing should become a more likely option, which in addition to other factors might be due to a lack of usable free cash. Whereas, the geographic distance of the deal participants has found to be positively correlated with asymmetric information. (Martin 1996; Hansen 1987 Ragozino and Reuer 2011: 879).

2.2. Development of hypotheses

Statistically most solid evidence on whether M&A's can create excess value, or does it destroy shareholders value can be gathered by executing an event study where abnormal stock market reactions are measured before and after the merger announcement. In an efficient capital market that corresponds to public information share prices should quickly react to a merger announcement, in other words incorporate any value change to stock caused by the merger. Under the efficient market hypothesis the whole price effect of the merger should be incorporated into share prices by the merger completion, in other words by the time when all the uncertainty is resolved. (Anderade, Mitchell and Stafford 2001: 109-110.)

A great part of literature that researches mergers and acquisition and whether they create value for the acquirer (also known as bidder returns) use an event study methodology. The event in here is equal to the announcement of the takeover. In these event studies the abnormal returns of the acquirer are measured and compounded around the announcement day using different event windows. The one used in this study and seemingly the most popular event window in previous papers is a three day event window, where the returns are measured on the event day, day before and one day after the actual

event. The event in here is equal to the announcement of the takeover. The use of three-day event window makes a use of the efficient market theory, where markets are expected to correspond quickly to any new public information. Further this information is expected to have an immediate impact on share prices. Another commonly used window is a longer window – beginning several days before the announcement and ending when the merger is closed. (Anderade et al. 2001: 109-110).

To define abnormal returns a measurement of normal returns is required. More detailed normal returns can be defined as expected returns experienced by the acquirer. In other words expected returns are the returns the acquirer would experience if the event would have not taken place in first place. A possible scenario is that the event does not have an impact on the acquirer returns; in this case the experienced returns are equal to the expected returns and the abnormal returns equal to zero. There are various ways to define expected returns of a security. The main difference between the methods used to evaluate expected returns concern the exploration of available data. In this paper three methods are used to define expected (normal) returns. The methods are the market model, the mean adjusted return method and the market adjusted return method. The differences between these methods are presented in chapter 6.

After defining expected returns for each acquirer the abnormal returns (AR's) can be determined. The definition of abnormal returns is quite simple, though calculating these ARs is dependent on the method chosen to define normal returns. Abnormal returns are the reflection of the unexpected movements in any security, here in the acquirer's stock price. In other words abnormal returns are any negative or positive returns that differ from the expected rate of return. (Kohtari and Warner 2006; 12).

Later the abnormal returns (ARs) are summed together over the event window to capture the whole presence of the event. The cumulative abnormal return (CAR) is used as measurement of the impact that the event (takeovers) has on acquirer's stock price. The main intuitive of this research is to solve if there is an existence of abnormal returns during the event window (at the time of the takeover announcement) for the acquirer. The ARs and the CARs are measured individually for all of the 203 deals in the sample. These results are further combined together to resolve average impute merger announcements have in the Nordic financial market.

General principles of inferential statistics are followed, where in this study the null hypothesis (H0) is expressed as a situation where there is no abnormal returns (ARs)

found within the event window. That is to say, the null hypothesis is to test that the mean abnormal performance of the acquirer equals to zero. The alternative hypothesis (H1) states that there is, on average an existence of ARs during the event window. Mathematically, this is expressed as follows:

$$H_0: \mu = 0 \quad (1)$$

$$H_1: \mu \neq 0 \quad (2)$$

Furthermore, under this framework more specified hypothesis about the outcomes of M&A transactions are presented. The sample is divided into detailed subsamples to discover what factors are most relevant in successful takeover transaction from the point of view of maximizing acquirer's shareholder value.

2.2.1. Positive net present investment hypothesis

The aim of this testable proposition is to evaluate if M&A transactions on average add value to the investors. If the AR's and the CAR's measured from the acquirer's stock price reaction around the announcement day of the acquisition are found to be on average positive considering the whole sample this hypothesis holds, otherwise it is rejected. The hypotheses takes the following form:

H1: M&A transactions have on average a positive net present value as an investment

2.2.2. Target ownership structure hypothesis

As presented in various previous studies it is found that on average public-to-private deals cumulate more positive stock market reactions to the public acquirer than public-to-public deals. These abnormal acquirer returns are measured from the acquirer's stock price reaction around the announcement day of the acquisition.

H2: Ownership structure of the target has an impact on acquirer returns

The aim of hypothesis H2 is to review if there is a statistically significant difference between deals where both the acquirer and the target are listed firms, i.e. firms where stock is publicly tradable in the stock market compared to those deals where the acquir-

er is listed, but the target is a privately held firm. To clarify, these two different types of deals are referred as public-to-public and public-to-private deals.

Next, more detailed testable propositions about the ownership structure of the target are presented. First we combine the positive net present investment hypothesis to the ownership structure of the target:

H2a: Abnormal acquirer returns are positive when the target is private

H2b: Abnormal acquirer returns are positive when the target is public

Secondly we move on to test if there is a difference in acquirer returns between the two subsamples:

H2c: Acquirer returns are on average higher in public-to-private deals than on public-to-public deals

H2d: Acquirer returns are on average higher in public-to-public deals than on public-to-private deals

If a statistical difference between the two subsamples is found this could be explained by factors such as liquidity, agency problems or lack of them, the nature of the information, limited competition, publicity factors, and misvaluation of the assets. These theories that explain the relationship between target ownership structure and acquirer performance are presented in Chapter 3.1.

2.2.3. Method of payment hypothesis

Various previous studies state that acquirer returns are dependent on how the transaction is financed. Most traditionally the M&A deals are divided into three groups based on the payment method of the deal. The target can be acquired with cash, common stocks of the acquirer, or with a mix of cash and common stocks.

H3: Method of payment has an impact on acquisition returns

In this hypothesis (H3) it is tested if there is a difference to be found on the level of abnormal acquirer returns in three different subsamples classified as cash deals, stock

deals and mix deals. Additionally the method of payment is considered from the perspective of positive net present investment:

H3a: *Abnormal acquirer returns are positive when the deal is financed with cash*

H3b: *Abnormal acquirer returns are positive when the deal is financed with stock*

H3c: *Abnormal acquirer returns are positive when the deal is financed with mix payment*

If statistically significant difference between these subsamples is found this could be explained with theories based on contingency pricing effect, signalling theory, risk advertising, information characteristics, valuation of assets, and differences in merger motivations. The payment method of the takeover deal and theories interpreting the relationship between ownership structure of the target and acquirer performance is presented in Chapter 3.2.

2.2.4. The block holder hypothesis

According to Chang (1998) and others following, the superior performance of private firm acquisitions financed with stock can be explained with enhanced monitoring power. When the deal is financed with stock the sell side might become large block holder of the combined entity, in other words the ownership becomes more concentrated. Hence, the block holders may monitor the management more closely and add value to the combined entity. The block holder hypothesis is tested with sample of Nordic firm acquisitions, taking the following form:

H4: acquirers of private target's gain more when the deal is closed with common stock

If cash payment is found to generate more positive abnormal returns for the private firm acquirers with in the sample the bloc holder hypothesis is rejected in the Nordic takeover market.

2.2.5. Geographic distance hypothesis

Geographic distance between the target and the acquirer is found to have an impact on acquirer returns (see for instance Grote and Ueber 2006). Geographic distance between deal participants has been associated with monitoring costs; closer they are to one an-

other lower the costs are. This implies that domestic M&A deals are more affordable for the acquirer and therefore perform better than cross-border deals. The study addresses this with the following statement:

H3: Geographic distance between the acquirer and the target diminish on acquirer returns.

Additionally, there are other assumptions about the correlation between other deal characteristic and the geographical distance. Sample screening of earlier studies show that acquisitions are more likely to be financed with cash when the acquisition is cross-border and that in cross-border acquisitions it is more common that the target is listed than private. In section 5.2 we evaluate if these assumptions hold within the Nordic takeover market.

H3a: Acquisitions are more likely to be financed with cash when the acquisition is cross-border

H3b: In cross-border acquisitions the target is more likely to be listed than private

3. ABNORMAL ACQUIRER RETURNS

Acquisitions and mergers are corporate events that signal information to the market about the value of its parties involved. To capture the impact of the event the ambition is to solve how the market reacts to the new information, which in this case is the take-over announcement. To define abnormal acquirer returns, it can be stated that abnormal returns are considered to be any positive or negative fluctuation that differ from the expected rate of return of the security. So, to measure if there is an existence of abnormal returns we first need to define the expected rate of return (also referred as the normal rate of return). To do so, asset-pricing models are used and multiple valuation and long run historical data are exploited to get accurate estimations of the expected rate of return. (Chang 1998).

According to the rules of the efficient market theory, it can be stated that when the M&A market is competitive, the net present value (NPV) of a project is zero. In this case the NPV in a competitive acquisition market would equal to zero and there would be no existence of abnormal returns. That said, any financial market is never fully competitive and there are always winners and losers when it comes to investing. Abnormal acquirer returns can be viewed as a reflection of the unexpected economic rents originating from the transaction. Therefore, average abnormal returns settling to zero can be said to be a situation where the acquirer breaks even. In other words it is a fair rate of return for the investment. (Anderade 2001: 119).

3.1. Target's ownership structure

Various studies provide evidence that targets ownership status has an impact on acquirer returns (See for instance Faccio et al. 2006, Koherns 2004, Capron and Shen 2007). Firms can be divided in two groups while defining the ownership structure. Public firms (also known as listed firms) are firms which shares can be publicly traded in the stock market. Selling or buying listed stock happens true authorised stock exchange where the seller and the buyers remain anomalous. Whereas private firms (also known as unlisted firms) are much less liquid as the exchange of these stocks is restricted. Privately held firms often possess much more concentrated ownership structure than listed firms. Also

the valuation of unlisted firms is a more complex process, as they do not have viewable market price as their public peers.

3.1.1. Choosing between private and public targets

Information availability

Information left unshared between buyer and seller may be crucial to the success or failure of the takeover transaction. This crucial information includes for instance, growth prospects of the target, insight on target's human capital, key technologies, specific knowledge of brand value and key account relationships to customers and other firms. Hence, the buyer often has a logical assumption that the seller will withhold information that would lower its value and highlight information that is positively correlated with high valuation. Occurrence of this phenomenon may be especially evident in case of acquisitions because it is a one-shot type of a transaction. That is to say the seller does not care about its possible risk of losing its reputation. (Raggozino and Reuer 2011: 877- 878).

According to previously mentioned reasons information asymmetries may lead to one or mix of the following outcomes. Acquisition will be left undone, even if it would make financial and strategic sense. Or sellers must agree to discounted offer prices causing its shareholders to lose value, whereas buyer side must face the risk of unfavourable selection and face the possibility of miss valuation. (Raggozino and Reuer 2011: 877- 878).

When comparing the acquisition between public and private firm's one of the aspects is the quality and quantity of information available. For bidders, gathering information is much more accessible when it comes to public firms. Whereas in private firms the managers have a bigger influence on the information they want to communicate outside of the company. (Capron & Shen 2007:893; Reuer and Raggozino 2011: 887).

Capron et al. (2007) findings state that acquirers choose between public and private targets based on deal attributes (information availability) and the target attributes. When the industry is familiar to the acquirer they are more likely to prefer private targets and when entering to a new field of business domains or industries acquirers rather seek targets that are listed. (Capron et al. 2007: 906).

Chang (1998) talks about the role of information in target selection. When publicly traded target with a large number of shareholders faces a stocks offer the acquirer might experience problems with asymmetric information. In their study Myers and Majluf (1984) demonstrate how issuing equity to the public may reduce the stock prices when managers of the firm possess superior information about their stock. Their asymmetric information model states that managers of the bidding firm make stock offers when they are under the expectation that their firm is overvalued. Their willingness to give up their stake may lead a negative stock price reaction in the stock market if the investors assume that they find their stock overvalued.

Furthermore, when stock is used the shareholders of the target firm are more willing to collaborate with the bidder firm as after the merger they will end up holding notable amount of the bidding firm's stocks. This creates a situation where the best interest of the acquirer is also in the best interest of the target firm owners. Chang (1998) also points out that the competition for privately held targets is limited, which makes it possible for bidding firms to experience positive stock returns because of the likely-hood of underpaying for the target rises due to a lack of a competition. Chang names this as the *limited competition hypothesis*. (Chang 1998: 774).

Firm ownership status also creates information asymmetries from a regulation perspective. In most countries, including the Nordic countries there is wide set of laws and regulations how firms should report on their business. Usually these regulations are much more specific and strict for firms which shares are publicly traded than for those that are privately owned. The regulated information expressed outside the company from the listed firms include information such as the stock exchanges' feed on regulatory news services and regulations to obey a certain type of format of reporting when handing out annual reports. Analysts also cover news and speculate the performance of listed firms in a much wider range compared to their private peers. With analysts' coverage and reporting regulations public firms are under a much bigger microscope than firms which stock remain in a private market. This diminishes the risk misvaluation on public targets. (Ekkayokkaya et al. 2009: 1203-1204).

Listed firms also tend to have stronger ties to investment banks and there they possess greater coverage by analysts. Listed firms are also often better known than their private peers and therefore get more coverage by the press compared to private firms which increases their visibility to the market. These factors included to the fact that public targets are already priced in the market make public targets appealing to investors. It is

also likely that investors are less aware of the existence of private firms due to less visible characteristics. For private firms it may be difficult to find exchange partners because they are not well known by the investment community. (Capron et al. 2007: 893).

It is clear that information disparities exist. Evidence suggests that managers have a firm tendency to highlight positive information and fade out negative news when they can. An unlisted firm has much weaker regulatory requirements than a listed one when it comes to information. This leaves more room for alternation of information for managers/owners of unlisted targets before and during the bidding process. The lack of regulation of a target firm also makes it easier for the bidder side managers to bury their possible personal motives concerning the deal. (Kothari et al. 2009; Ekkayokkaya, Holmes & Paudyal 2009: 2102).

The lack of information involved in buying a private target causes a risk of overpayment for the acquirer. The logical response to this risk and to the adverse selection is to lower the bidding price. This phenomenon is named as the private firm discount. By understanding the private firm discount the favourable market reaction of acquiring private targets instead of public ones becomes clearer. (Capron et al. 2007: 893).

Valuation

The valuation of unlisted firms is often a highly subjective and difficult process. What makes a private firm different from a listed one is that a privately held firm has no observable stock price that could serve as an objective measure of the market value. To define the value of an unlisted company analyst must seek other techniques for valuation. These techniques cannot guarantee a cure for uncertainty. (Koeplin, Sarin & Shapiro 2000: 94).

The most commonly used and theoretically correct approach of valuing any assets, including companies, is the use of discounted cash flow (DCF) methodology. The issue is that the use of DCF requires a use of discount rate and defining this rate is complex. Also prediction of cash flows is a part of the DCF method and this causes the method to be dependent on the accuracy of these future predictions and appropriate risk measures that should be used are hard to define. Even though there are many limitations in the DCF values these may be useful when used together with other valuation approaches. (Koeplin et al. 2000: 94).

Ownership structure

The pre-takeover ownership structure of private target is often very concentrated compared to listed targets. Chang (1998) names a beneficial block holder as an owner that holds more than five percent of the outstanding shares. Chang (1998) argues that the concentrated ownership structure of the target tends to create the block holders when stock bids are made. Moreover, evidence shows that bidding firm's returns tend to positively correlate with the existence of target side block holders. This is consistent with the idea that large shareholders serve as an effective monitoring tool for the new combined entity and its managerial performance. (Chang 1998: 776, 783).

There are opposite views on concentrated ownership, some argue that concentrated ownership leads to private benefits of control. Private benefits of control is a phenomenon where owners/managers of the firm are more driven by their own interest than the best interest of all shareholders. Thus, Immonen (2014) claims that the corporate governance models in Nordic countries are in contrast to many global models. Where the ownership structure in Nordic countries remains fairly concentrated, it has been reported that in Nordic corporate governance the private benefits of control still remain somewhat unused. Low levels of private benefits in the Nordics have been, among others factors, explained with social norms. (Immonen 2014).

Negotiation process

The negotiation process between the bidder and the target is often a long and complex process. As this process may sometimes be costly it will lift up the expenses of the deal, diminishing the value of the deal. The less public nature of private target deals gives the parties (seller and buyer) often more space to proceed at a more deliberate pace, and acquirer do not feel the pressure to break off the negotiations quickly and can therefore be saved from high prestige expenses. (Koherns 2004: 1152.)

Lack of marketability

For investors liquidity can be seen as the ease in which they are able to realise their assets e.g. stocks or bonds without causing damage to the value of their initial investment. Compared to a listed company a privately held company has a limited amount of investors willing to buy equity for them which makes selling of these unlisted stocks more difficult than the ones that are publicly traded. Therefore unlisted stocks are less liquid.

This phenomenon is also known as lack of marketability. In order to find an investor that is willing to buy assets that lack marketability a discount may be required to cover the disadvantage caused by the liquidity risk. This reduction of the offer price arising from unlisted nature of the assets is referred as liquidity or marketability discount. (De-Pamphilis 2012:384).

Officer (2006) calls this phenomenon as the price of corporate liquidity. Maintaining liquidity does not come without a price for corporations and for their owners. It seems that companies whose stocks are publicly traded possess larger cash balances compared to their privately held peers. Whereas, it is more difficult for shareholders of private firms to access the public pool of capital where they could diversify their portfolios. In other words privately held firms lack an easy access to the market where they could sell their stocks to the public.

Officer (2006) provides two explanations for the causes of liquidity shortcomings. An information disparity between unlisted firms and public markets is one explanation. Secondly, there appears to be an information shortage caused by the agency problems between shareholders and managers that may lead to decreased liquidity. The cost for liquidity can arise from only one or the combination of these two explanations. Despite the price, findings indicate that liquidity is highly appreciated in the M&A market. Especially when the transaction includes selling or buying unlisted assets liquidity is always under examination. (Officer 2007: 572-573).

3.1.2. Target's ownership structure and acquirer returns

Previous evidence states that on average acquirers of unlisted targets gain positive returns around the announcement date whereas public-to-public acquisitions hardly break even. Although, it could be stated that these abnormal acquirer returns are not sustainable in the long run. (See e.g. Ekkayokkaya et al. 2009). Few previous studies offer findings about the long-term wealth effect of acquisitions. Thus these findings are hardly ever statistically significant. Due to the data limitations and the uncertainty of previous long-term findings the focus of this study is on the announcement period.

Most previous studies researching the success of mergers and acquisitions and whether these transactions can create value to shareholders use an event study methodology to measure abnormal acquirer returns. As the market is assumed to be efficient the public

announcement of the transaction should immediately reflect on stock prices. Table 1. presents previous literature studies on cumulative abnormal acquirer returns. Most of these papers are conducted with a US based data set and the most common event window in use is three days. (Anderade et al. 2001.)

Table 1. Previous papers on abnormal acquirer returns on public-to-public deals and private-to-private deals

Study	Origin	Time Period	Event Window	Public target <i>Abnormal returns</i>	Private target <i>Abnormal returns</i>
Hansen & Lott 1996	US	1985-1990	-14, +5	0.98	1.15
Koeherns 2004	US	1984-1997	0, +1	-0.53**	1.30**
Faccio & Mahulis 2005	US	1990-2003	-2, +2	-1.48**	0.76**
Draper & Padyal 2006	UK	1981-2001	-1, +1	-0.41**	0.81**
Capron & Shen 2007	Global	1988-1992	-20, +1	-1.70	1,00
Officer et al. 2008	US	1995-2004	-1, +1	NA	3.80**
Ekkayokkaya et al.	UK	1991-2007	-1, +1	-0.045**	1.423**
Mateev 2016	Europe	2002-2010	-1, +1	-0.15**	0.99**

The studies are ranked first by publishing year. All abnormal returns are abnormal cumulative return (CARs) for the acquirer. One * refers to significance level at the 5 percent level, respectively ** indicate significance level of 1 percent.

As can be easily detected from Table 1, acquirers of private targets performed better than those acquirers of public targets in every one of these studies. Even though the empirical evidence of these previous findings shows similar wealth effects on average, the value creation of M&A transactions is not a clear cut. Fuller et al. (2002) underline the extreme variation in acquirer returns. This variation is not easily detectable from these empirical findings presented in Table 1. as these results are average figures of hundreds if not thousands abnormal acquirer returns and therefore do not show the full potential of losing or winning in the M&A game.

Muhlerin and Boone (2000) conducted a study with a data set from the nineties covering 1305 acquisitions. They measure combined stock price reactions at the announcement and find that both divestitures and acquisitions create wealth. They use a three day event window around the announcement day and report an average 20.2 percent return for the target firm, and a slightly negative thus insignificant bidder return. Muhlerin's and Boone's (2000) results state that the relative size of the target compared to the ac-

quirer is significantly related to the combined bidder and target returns. They state that the wealth effects of the bidder and the target can be directly related to size of the takeover and that the wealth effect can be explained with synergies of the transaction. (Muhlerin et al. 2000).

Various other studies prior to Muhlerin's and Boone's are mostly in agreement with findings on the acquirer returns of public-to-public deals. Bradley, Dessai, and Kim (1988) compare acquirer returns over decades and found that the average 4 percent return in the 1960s fell to an average 1.3 percent in the 1970s and in the 1980s sank as low as -3 percent (all of these figures are statistically significant). For the combined gains that consider both the outcomes of the target and the bidder, the study found positive and statically significant results for all the decades mentioned. However, all the data sets under surveillance only included US based deals. (Fuller et al. 2002: 1767; et al. 1988). Likewise to Mulherin et al. (2000) most of the studies listed in Table 1. report positive wealth effects when returns for the acquirer and the target are combined. Nevertheless almost all of the previous studies listed in the table find that acquirer returns on public-to-public deals are on average negative.

The results that indicate negative gains for acquirers raise a question why do firms make acquisitions if the returns are not on average positive. Several possible explanations have been expressed. In a competitive corporate control market where firms are expected to earn "normal" returns from their operations, these zero returns are typical. Bruner (2001 p.14) found that on average "60 to 70 percent of all M&A transactions are associated with financial performance that at least compensates investors for their opportunity cost". In addition, even though on average acquirer returns are small, there exists a huge variation in these returns and it can be stated that all of the firms on the bidding side of acquisitions are trying to be the one that wins. (Weston 2001: 221; Bruner: 2001: 14; Faccio et al 2002: 1767).

In addition, estimating bidder returns contains many difficulties. If the target is relatively small compared to the acquirer the acquisition may only have a small impact on the bidder's stock price even though the takeover would be successful. Secondly, it has to be noted that bidder's stock price reaction only reflects the surprise component arising from the takeover. If it is a known fact in the market that the bidder is engaging in an acquisition, the stock price reaction to an acquisition announcement is only the distinguished difference on how the acquisition was anticipated to go and how it actually went. Furthermore, if the takeover process stretches out due to a resistance of the target,

it makes the outcome of the takeover more uncertain, and it becomes harder to isolate the market's perception of the deal. (Fuller et al. 2002: 1767).

Abnormal acquirer returns of private target acquisition are much less studied subject than the wealth effect of public-to-public deals. As can be detected from table 1. many previous findings show that the market reacts more favourably to acquisition of unlisted targets compared to acquisition of listed firms. Finance scholars have labelled this phenomenon as *The Private Firm Discount*. This means that compared to public firms bidder can buy private targets at a relatively cheaper price. The discount makes the split of value between the target and acquirer more advantageous for the buying side. Koeplin et al. (2002) state that unlisted firms are on average bought 18 percent (book multiples) or 20-30 percent (earnings multiples) cheaper than equivalent listed firms. Kooli, Kortas and L'Her (2003) find even higher discount for private targets, averaging to 20 percent measured with cash flow multiples and 34 percent with earnings multiples. However, it is good to take into account that these studies suffer from theoretical and methodological difficulties. (Capron et al. 2007: 873; Koeplin et al. 2000; Kooli Kotras and L'Her 2003).

Where the existence of private firm discount has been proven, the explanation on what causes the discount is not as clear. In addition, measuring the private company discount is a difficult process, as the private firms do not have an observable market price as objective measure of their market value. As mentioned before the most well-known explanation used to explain the discount associated with private targets cover the price of liquidity and information availability. (Fuller et al. 2002; Capron and Shen 2007: 893).

The existence of active stock exchange market makes it possible for owners of public targets a readily available option to cash out their stock in the market rather than sell them to a possible acquirer. Whereas the selling of restricted stock is more difficult as they don't possess the similar access to the financial markets. If a private firm owner wishes to cash out, often the only and rather disadvantageous option is to find an acquirer willing to buy the company. Empirical studies have not found to support the liquidity discount hypothesis, which indicates that it is not the core of the superior performance found to be attached to acquisition private targets or at least liquidity effect on its own cannot explain the abnormal positive returns linked to public-to-private acquisitions. Most previous empirical studies agree that the private firm discount is a combination of liquidity factors and information availabilities. The role of information is not only a factor in the selection process of the target, the characters of the information have

an impact on the value-creation process in many different phases of the takeover transaction. In addition, the private nature of the target also affects the bargaining power between the seller and the buyer. (Faccio et al. 2006; Capron and Shen 2007).

3.2. Method of payment

There are multiple factors can affect acquirer's stock prices. One of the most important and studied factors in understanding effect of M&A's is the method of payment in which the takeover is financed with. Acquirers, which assets are publicly trades i.e. are listed have the option to choose from several means of financing a takeover. Regularly used payment methods are cash, newly issued notes, full voting right shares, inferior voting right shares, non-contingent liabilities and any combination of these. To simplify, the methods of payment in M&A research these methods are often divided in tree groups; stock offers, cash offers or mixed offers. When only common stock is used as a payment this financing category is referred as STOCK. When the price is paid solely on cash, cash and straight debt, or cash combined to the target firm's liabilities, the term CASH is in use. Whereas the term MIXED refers to any type of mix to these prior two. (Martin 1996: 1235).

3.2.1. Choosing a payment method

From the perspective of the acquirer stock financing can be seen as two simultaneous corporate events: as a merger and as an equity issue. Equity issues on average are linked to negative abnormal returns ranging around -2 to -3 percent around few days from the issue. Most models explaining this phenomenon focus on information differences between outside investors and managers of the equity-issuing firm. Simply this means that managers are more likely to issue equity when they might think their stock is overvalued than undervalued in the market. In other words the perceive information that is negatively correlated with the share price that has not yet reach the market. Simultaneously investors who are keen on investing to equity issue bid down the share price of the issuing firm. There for is recommended to separate equity financed mergers from the ones that are financed with cash when observing the wealth effect, especially for the shareholders of the acquirer. (Anderade et al. 2001: 111).

Another way to look at the method of payment is to evaluate how contributes of acquiring firm, target firm and the acquisition itself impact to the financing decision. Important issue in Martin's study (1996) is to find out the motive for the acquirer to use stock instead of cash. Martin found that there is a relationship between the likelihood of stock financing and lower managerial ownership, thus this relationship is non-linear. Vice versa stronger the institutional block holders the bigger change there is that cash is used instead of stock financing. This so called agency theory is introduced further on. (Martin 1996: 1227,1229).

Hansen (1987) offers explanation where "contingency pricing effect" is introduced. When common stock is used it forces the target's shareholders to carry part of the risk that arises from the possibility that acquirer overpaid for the deal. If the target has more information of the actual value of its company than the bidder acquirer can use stock payment as a way to force the target to carry the wage of the possible post-acquisition effects that could lead to revaluation. Here for using stock as a method of payment instead of cash can be seen as a risk-sharing tool between the two parties. (Martin 1999:1230; Hansen 1987)

Ragozino and Reuer (2001) also state that using stock instead of cash is a way to diminish risk arising from information asymmetry. This way the target is forced to share the misfortunes and fortunes that take place after deal is closed. They also offer reasons why stock financing may be a favourable option for seller side; when the seller side believes it holds important information about the value of their resources but are not able express this value to the buyer in credible manner in the negotiations. In other words stock financing offers the seller side to benefit from their "silent" information after the deal is closed. (Ragozino and Reuer 2011: 878).

Although choice of payment is in many ways strategic decision cash availability plays a role. Mayers (1984) offered a pecking order theory where he states that managers follow a pattern when it comes to financing. First choice is internal finance, followed by borrowing and only after then external equity financing is considered. There for high cash balances may lead to more likely change to use cash as an acquisition currency. This means that firms with adequate depth ratios, good cash balances or generous cash flows are often tempted to use cash while acquiring. Martin (1996) supports this hypothesis all though he only found the cash availability variables to be significant at the 0,05 level. Martin's findings indicate that bigger the cash balance of the acquirer in compari-

son to the deals size, greater the change is that the acquisition is financed with cash. (Jensen & Ruback 1986: 30- 33; Mayers 1984: 1231).

As stated, choosing cash financing is not necessary a strategic decision. Among others Servaes (1991) provide evidence that firms with excess cash flows choose to acquire with cash and this respectively can lead to overbidding and destructs the value of the deal. This use off excess cash is a sign of managerial empire building. Even though using excess cash to reinvest to M&As have been shown to be value destructing activity. Bruner (1988) states that by pairing slack-poor and slack-rich firms can create value. Thus here the cost of the acquirer returns is a lowered depth ratio. (Georgen and Renneborg 2004: 12; Servaes 1991; Bruner 2001: 10).

Faccio and Masulis (2005) concentrate on the European M&A market. Their evidence is consistent with the Anglo-American studies as they find that target and deal characteristics play a significant role when acquirers make a choice in the method of payment. Unlike most studies they also evaluate the choice of payment method from the point of view of the seller. Receiving stocks instead of cash has more tax benefits, but the trade-off for stock financing is the liquidity and risk-minimizing factors of cash consideration. Thus, the trade-off between risk bearing that arises from becoming a minority owner of the bidder firm and tax benefits for accepting stock is hard to measure due to a data limitations. (Faccio and Masoulis 2005: 1345-1346).

The choice between stock and cash is also often a choice between equity and depth, as cash often requires depth financing. Also the structure of corporate governance has essential impact on a bidder's financing choice. When stock is used as a merger currency it alters the voting power of the shareholders of the acquiring firm. Bidder management prefers cash financing if they are reluctant to diminish their control. This appears especially in cases where the targets ownership structure is very concentrated. The most vulnerable are bidder's acquiring firms where the largest shareholder of the target has voting power between 20% -60%. When stock is used as a payment method, this level of concentrated ownership might mean a makeable loss of control for the buyer side. The more diffusely owned the target is the less the controlling block of the bidder is threatened. (Faccio & Masulis 2005: 1347.)

Stultz (1988) reported statistically significant negative relationship between acquirer's manager ownership measures and stock financing. The same findings are confirmed by Travos (1987). Martin's study (1996) is one the only ones that include privately held

targets to the analysis while other studies only use sample of listed targets when evaluating the link between ownership structure and the method of payment. Thus, Martins sample is a mix of privately and privately owned companies he does not differentiate the result between these two groups. (Martin 1996, Stultz 1988, Faccio & Masoulis 2005.)

Although in this thesis the focus is on choosing between cash or stock financing there are alternative method payments for M&A's. One way to alter the ownership still taking into consideration the risks acquirer faces is to use so called Earn-out contracts. In merger negotiations disagreements between the acquirer and the target about the target value are more than common. This valuation differences become even more evident if the target value is attached to its human resources, such as key target managers who may not be willing to stay in the company after the transaction has taken place. This problem is solved with two-part payment where the target receives to first payment at the time of merger announcement, and second payment when the target side full fills certain contract bidden obligations, this second part can be referred as the earn-out. The earn-out gives the parties change to close a deal even when they disagree about the valuation; target with high expectations of its future prospects is willing to accept contingent payment, while the acquirer with limited information is willing to sift part of the risk to target. (Koherns & Ang 2000: 445-446.)

In addition, Martin (1996) builds an investment opportunity hypothesis. This theory links corporate borrowing activity to firm's prospective growth opportunities. His theory is strongly based on the assumption that value of future investments defines the value of the firm. His findings indicate that acquirers with high growth prospects are more reluctant to use cash as an investment currency. This is probably because the want to use free cash flows to finance their growth opportunities, in other words they rather finance the mergers with stock. In the same study Martin (1996) evaluates if business cycles have an impact on the method of payment. He finds that greater use of stock financing when stock market is booming. (Martin 1996: 1229, 1233.)

3.2.2. Method of payment and acquirer returns

What makes the method of payment interesting is that previous studies document that acquisitions often cause negative price reactions to acquiring firms share price. In other words destroy shareholders value. For instance Travlos (1987), Serveas (1991), and

Martin (1996), Anderade (2001) all report that on average acquirer's gain negative returns while acquiring. Studies on M&As show that the method of payment plays a crucial role explaining the stock returns of the bidding firm. Even the early results of Travlos (1987) show that firms financing a takeover with common stock simulate negative abnormal returns whereas deals financed with cash this negative price reaction for bidder loses its existence. (Chang 1998:773.)

These results do not take the characteristics of the target into consideration. More specific research shows that the ownership status of the target has a crucial role when evaluation the wealth effects. Further, private-targets acquisition seem to have an opposite wealth reactions to stock financing compared to acquisition of public firms. As can be seen from Table 2. previous findings indicate that on average bidders acquiring private targets with common stock experience positive abnormal return. This highly in contrasts with the negative abnormal return earned when acquiring public targets with stock offers. When private-target deal is closed with cash most studies indicate average zero abnormal returns. (Chang 1998.)

Table 2. Previous studies on abnormal acquirer returns and the payment method effects

Study	or- gin	time period	event win- dow	Public CAR (%)			Private CAR (%)		
				cash	stock	mix	cash	stock	mix
Travlos 1987	US	1972- 1981	-10, +10	-0,13	-1,6	NA	NA	NA	NA
Serveas1991	US	1972- 1987	-1, NA	3,44	-5,86	-3,7	NA	NA	NA
Chang 1998	US	1981- 1992	-1, 0	-0,02	-2,46**	NA	0,09	2,64**	NA
Koherns 2004	US	1984- 1997	0, +1	0,46	1,70**	-0,12	1,05* *	0,92**	2,07* *
Anderade et al. 2001	US	1973- 1998	-1, +1	0,40	-1,50**	NA	NA	NA	NA
Praper & Padyal 2006	UK	1992- 1998	-1, +1	-0,32	2,20*	NA	0,64*	0,84*	NA
Ekkayokkaya et al. 2009	UK	1991- 2007	NA	1,245 **	- 2,206* *	- 1,094 **	1,141 **	2,258* *	1,997 **
Mateev 2016	EU R	2002- 2010	-1, +1	1,08	- 3,83** *	NA	0,47* **	3,68** *	NA

Key: One * refers to significance level at the 5 percent level, respectively ** indicate significance level of 1 percent. NA equals to not available.

Also Koherns (2004) agree that the negative stock reaction found with acquirers using stock as method of payment applies only for public target acquirers whereas this nega-

tive value reaction does not extend to acquirers of private targets. Notable remark is that owners of private firms are often willing to accept lower premiums when they get some cash as a part of the transaction, this applies to both mixed offers and cash offers. Previous cross-sectional studies also show that the superior performance of private target acquirers do not come as expense of the target firm returns and vice versa. (Koherns 2004: 1160-1164.)

Studies in Table 2. are ranked firstly by publishing year. Origin refers to the area where the data is gathered. As can be seen most of these results are based in US and UK. Mateev (2016) study cover Europe thus his sample only include firms from Continental Europe. Most abnormal return presented in table 2. abnormal cumulative return (CARs) of the acquirer based on an event study. Capron's and Shen's results are exception as the results are approximate figures. Also approach Ekkoyokkaya et al. (2008) and Praper & Padyal (2006) is different compared to other studies presented in the table as they use an buy-and-hold method in framework of Jense's Alpha to calculate the abnormal returns instead of an event study.

In section 3.2.3. it is stated that acquirers of private targets perform better than acquirers of listed firms. When more detail information about the deal as the method of payment is given it can be marked that in both cash and stock financing private-target deals the returns are positive and significant. From table X it can be seen that this is a sharp contrast to findings related to public-target acquisition. Chang (1998) report a positive abnormal return of 2,64% in a case of equity financed private-target deals. Later researches follow with similar result, indicating the superior performance of stock financing in a case of acquiring unlisted targets. However, there is a existence of result showing higher returns for cash financed deals. For example Koherns (2004) find that more positive stock reactions is generated with cash instead of stock. Explanation for these differences may rely on differences in sample selection criteria or with authors' definition on method of payment.

As most previous studies agree that stock financing is the more beneficial option while acquiring unlisted targets. The focus here is on causes driving these results. Chang proposes that the positive wealth effect arising for acquiring private targets is related to monitoring activities done by shareholders of the target, and to some level to reduced information asymmetries. Draper and Paudyal (2006) call this phenomenon as the *Corporate Monitoring Hypothesis*. This Hypothesis rely on the assumption that private targets are often owner by a small group of shareholders. When these shareholders become

shareholders of the new entity due to the stock financed deal they can form effective blocks to monitor the activities of the firm and its managerial performance. Block holders can also make the takeover process less complex. On the other hand, block holders may also cause damage to the firm value; more concentrated ownership structure may allow managerial entrenchment, which can make takeovers more costly. (Chang 1998: 774; Draper and Paudyal 2006.)

Thus, the monitoring hypothesis helps to explain the positive return in stock financed deals, it does not provide an answer on why are these returns positive in a first place. Another reasoning offered to explain this phenomenon is different tax implications of cash and equity financed deals. In cash offers the target side owners faces immediate tax obligations after selling their stake. While in deals where the owners of the target receive shares, the tax obligation only follow if they liquidate these assets i.e. sell the shares forward. When the owners of the target value this option they may be more willing to except stock instead of cash and the bidder may use this as an advantage and make an offer with a 'taxation discount' and so on capture a higher returns from their stock offer. (Travlos 1987; Fuller et.al 2002.)

Further, information asymmetry and signalling theories are linked to abnormal acquirer returns. The more concentrated ownership structure of the target also diminish the asymmetric information in takeover. If a shareholder has a significant stake in the firm, he or she has a greater motive to perform a thural research on the bidder assuming she or he will become an owner of the firm after the deal is closed. The willingness for the target to become a stake holder of the acquiring firm signals good news to the public witch may lead to positive price reaction in the acquirers' stock price. (Draper and Padyal 2006).

As for the reasons of negative stock price reaction of stock financed public target acquisitions it can be noted that when a firm buys publicly traded target and pays the deal with common stock it resembles a public equity offering. So the wealth effect for the acquisition can assumed to be similar to equity issue announcements. Public equity offerings are found to cause negative share price reactions to the releasing firm. (see for example Smith 1986 study about the equity issue announcement and the wealth effect related). (Chang 1998: 773.)

The signaling hypothesis of information asymmetry assumes that the management of the bidding company has superior information about the true value of the target company. This theory suggests that because of imperfect market, the method of payment con-

veys information about the assumed value of the target firm. Managers are expected to act in the best interest of their shareholders. According to the signaling theory, they will therefore use cash as a method of payment when they assume target firm to be undervalued because their aim is to preserve all gains for their current shareholders. When managers believe the target is overvalued, they will choose stock as a method of payment because in that way current shareholders of the bidder will share risk and losses of the acquisition with the shareholders of the target company. After the announcement, market participants usually interpret stock offers as an unfavorable signal and cash as a favorable one. (Majluf and Myers, 1984)

3.3. Targets geographic scope

Deal counterparties' geographic distance from each other has been associated with monitoring costs; closer they are to one another the lower the costs are. Geographic proximity might also open a possibility for a potential monopoly. Grote and Ueber (2006) suggest that in the case of M&A there is more unspoken information available to acquirers that are geographically close to the target. Their evidence shows that greater gains are earned from nearby acquisitions. This can be partly explained by information availability. Their sample consists of US based firms; in this study it is further tested if this holds within north European firms. (Grote and Ueber 2006.)

There is also a stream of evidence that support the claim that investors prefer to certain part of their portfolios to be invested in close by firms. Coval and Moskowitz (1999) explain this phenomenon as follows: "Local investors talk to employees, managers, and suppliers of the firm; they may obtain important information from the local media; and they may have personal ties with local executives — all of which may provide them with an information advantage in local stocks". (Ragozino and Reuer 2011: 879; Coval and Moskowitz 1999; 2006.)

Later Coval and Moskowitz (2001) found that investment decision made based on geographic distance provide superior profits. This holds even when diversifications benefits are lost when geographical proximity is considered. Their findings highlight the importance of geographic scope when their results hold even in markets where one would not expect that location would not play a vital role. (Coval and Moskowitz 2001.)

3.4. Attributes combined

The pre-takeover ownership structure of private target is often very concentrated compared to listed targets Chang (1998) argues that in stock financed deals the prior deal owners of the private target may possess a block ownership in which it can be used as a monitoring tool for manager activities of the newly established firm. This should lower the future agency costs of the new firm. Whereas cash payment cannot lead to such monitoring due to fact that the target owner won't become shareholders of the new firm. This suggests that the targets ownership structure (public or private) interacts with the financing (cash or stock) choice. (Ekkoyokkaya 2009: 1216).

In a nutshell previous findings indicate that in short run i.e. around the merger announcement acquirers of unlisted targets gain the abnormal returns when paying with stock and that this gain is significantly lower when cash is used, whereas mixed payment stands somewhere in the between the two. The high gains of equity financed private target takeovers supports corporate monitoring hypothesis. In addition, the target side acceptance of stock supports the idea that unlisted-target owners possess unadapt information that is further reflected to the deal performance. In other words their stock acceptance signals good news. (Ekkayokkaya et al. 2009: 1217).

Mix payment in public-to-private deals shares attributes in both stock and cash deals. Ekkayokkaya et al. (2009) state that the long term negative returns of mixed paid private-target deals imply that equity financed part of the deal is not enough to convince the market that the manager/owners of the target believe in the deal and its good quality, but in fact the acquisitions are done with false motives such as managers who pursue to empire building. (Ekkayokkaya et al. 2009: 1216).

According to Ekkayokkaya et al. (2009) the announcement period returns of listed-target acquirers also depend on the method of payment. In opposite to unlisted-target acquirers the public-to-public deals generate more abnormal returns when financed with cash and suffer from significant losses when stock or mixed payment is used. This supports the idea that managers of the bidder are more willing to use their shares as payment when they think their stock is over valued in the market. Also the synergy gains of stock payment in public-to-public deals are not often enough to cover the bid premium. Like in the case of new equity issues, the losses suffered from stock paid deals are

also in line with the idea that issuing equity to the public signals bad news for the stock price. (Ekkayokkaya et al. 2009: 1218).

As a conclusion, it is obvious that target ownership status and method of payment are strongly linked. In addition, the combination of these factors, public or private, cash or stock, has an evident impact on abnormal acquirer returns. However, the short-term announcement period results seem to vary significantly from the long-term findings. In general the result indicate that in a short-run unlisted-target acquirers gain more than listed-target acquirers in both stock financed and mixed financed deals. Whereas the losses are greater for the private-target acquirers in a long run when cash or mixed method payment is used. This is compared to public-target acquirers. The differences in acquirer returns between acquirer gains can be if not only at least partly explained with information asymmetries. Next chapters will move on testing does these results hold in the case of Nordic M&A deals. (Ekkayokkaya et al 2009: 1218-1219).

4. MERGERS AND ACQUISITIONS

Merger can be described as an event where the merging firm's assets and liabilities are incorporated to a separate firm (the merged company). The exiting body loses its identity and merging firm's shareholders become owners of the merged firm. In the process of merger two or more organizations join together with an aspiration to meet some strategic objective. These firms can merge parts of their firms or their whole operations. Thus when two companies merge one company acquires the assets and liabilities of the other company whereas the merged company (or companies) loses its existence. (Vazirani 2015: 4).

Acquisition on the other hand is a corporate event where one company (the acquirer) buys another company (the target) partly or as a whole in order to receive control of the assets and liabilities of the target firm. The objective of an acquisition is often growth. When a firm wants to expand its existing operations or enters a new area it may be more beneficial to buy a company or its operations rather than build these operations from scratch. Acquisitions are often divided in two groups, hostile takeovers and friendly takeovers. (Vazirani 2015: 4).

4.1. Motives of M&A

The purpose to carry out any business is to maximise shareholder value, in other words increase long-term wealth of the firm. One way to achieve growth is to increase assets, sales and market share by acquiring another firms. McGrath (2011) states that hardly any other business endeavours create such an opportunity for growth than mergers and acquisitions. However, these transactions also involve a vast risk of failure. According to McGrath's (2011) study over half of M&A deals fail to achieve their objectives after or even before the deal closes. (Miroslav 2017: 191; McGrath 2011).

Previous empirical research on M&A's is limited in explaining why mergers occur. Most commonly mentioned merger motives in the corporate literature research include use of free cash flow, synergies of operating/financial performance, hubris by the bidder side management, or correction of managerial failure. Value creation motives such as synergies can be categorized in two groups. The so-called operating synergies consist of creation of scale or scope of economies. Whereas informational synergies provide ad-

vantages when the new combined merged entity has a higher value than these firms would have if their individual values would be summed up. An example of an informational synergy is a new internal capital market, where slack-poor firms with good growth opportunities can be acquired by slack-rich firms that possess more narrow investment opportunities. (Anderade et al 2001: 10; Goergen and Renneboog 2004:12; Koherns 2004: 1152).

These explanations can be applied to mergers in general; most of them focus on public-to-public mergers and leave out the private target takeovers out from the equation. However, it is possible that the motivation of doing private target acquisitions differ from their motives of other acquisitions. The hubris, for example may play a smaller role in private target takeovers compared to deals where both counterparties are listed, as the publicity is often a key factor causing hubris-like behaviour. As a conclusion, it may be stated that the diminished tendency to hubris type of motivations in private target acquisition also diminishes the risk of overpaying. Also when these value decreasing motivation are left out from the equations it leaves more space to synergy- related merger motives that often pay off. (Koherns 2004: 1152).

One interesting question that widely remains unanswered in M&A studies is the motives of acquisitions and if these motives differ between private and public target acquisitions. Since private target deals are often smaller in size and value than public target acquisitions these acquisition may possess less value and as a result decrease merger motivations such as hubris or empire building. This reasoning assumes that the private deals have relatively less publicity than takeovers of public targets because of the size factor, leaving fame and glory of the deal out from the picture. Furthermore, it is stated that public deals suffer less from agency problems than private target deals. (Koherns 2004: 1152).

4.2. M&A activity

It's a well-known fact that M&A activity comes in waves. One of the first researches to study the patterns of these waves is the study of Globe and White (1993). The amount of waves is controversial. Still, it is without a doubt that in corporate development mergers and acquisitions are highly popular. As an example in year 2004 over 30 000 were recorded globally. This means that every 18 minutes a takeover deal is completed, bringing the combined value of these transactions to astonishing 1,900 billion dollars, this over exceeds the GDP of many large countries. (Cartwright and Schoenberg 2006).

The explanation on what causes merger waves varies widely. Where the existence of merger waves is obvious the causes of low and high merger activity periods can be described as a puzzle. For example, during the period 1968-1969 there was approximately 10,500 acquisition announcements, while in years 1936-1964 the corresponding amount of acquisition announcements were 3,311 in total. This is considered to be the first significant merger wave. This phenomenon has repeated itself over the years, and most financial institutions agree that the financial market is now at the midst of the seventh M&A wave. (Cartwright and Schoenberg 2006).

Where in the past 100 years there have been six reported waves of rapid merger activity in the US M&A market. The waves have been reported to be less evident in Europe until the 60s. The year 1986 has said to be the construction of Single Market in Europe and it was followed by the first truly sharp M&A wave experienced in Europe in the 80s. The new wave took place in late 90s. The sixth worldwide boom ended short, in 2007, when the financial crisis started in the US. (IMAA 2017)

The wave of mergers and acquisitions that Europe experienced in the late 80s (1987-1991) represented the first truly European M&A wave. This fifth worldwide wave was the time that cross-border deals exploded to new dimensions. The fifth takeover wave is also the one where the European capital markets were catching up to their US and UK counterparts in M&A activity levels. The next M&A (mergers and acquisitions) wave took place in the late 90s (1997-2000), the last wave began around 2003, but ended quickly in 2007, when financial crisis got started in US.

Maksimovic, Phillips and Yang (2013) make a comparison between public and private firms to see if there is a difference in how they participate in M&A activity during merger waves. The findings show a clear difference. Private firms buy and sell assets at much lower intensity than public ones. The likeliness for public firms to buy or sell assets over the wave years doubles, whereas transactions of private firms are much more saddle during these times. Maksimovic et al. (2013) suggest that in large extent public firms mostly drive M&A waves. This statement appears to be true even when firm size and productivity is taken into consideration. (Maksimovic et al. 2013: 2177-2178)

There is also a link between productivity and acquisitions. Valuation and efficiency both have an impact in the making of acquisition decisions. It is more likely that firms with high productivity buy assets than firms with low productivity to sell their assets.

Also the relationship between productivity and acquisitions seems to be stronger for public firms compared to private firms. Stock market condition influence more on listed firms than in private ones. Misevaluation (or unexplained valuation) of an acquiring firm might trigger the “need for” asset shopping. (Maksimovic et al. 2013: 2178.)

Additional reason why private firms are less active in acquisitions is that credit spreads do not have as big of an impact in unlisted firms. While productivity plays a vital role, the financing constraints might be too strong for unlisted firms to break even in a time of high liquidity. Furthermore, Maksimovic et al. (2013) find that the most sensitive to merger waves are public firms with an easy access to debt or equity financial. On the other hand, public firms that have a poor credit rating act like private firms. In addition, results shows that the difference in acquisition activity between public and private firms is not simply caused by public firms superior access to financial markets. Both during and off the wave acquisitions are found to improve efficiency of the acquiring firm. It even seems that productivity increases are stronger for on-the-wave mergers. (Maksimovic et al. 2013: 2178- 2179, 2215.)

Similarly to Rhodes-Kropf and Visvanathan (2004), Maksimovic et al. (2013) results show that firms with high (unexplained) valuation compared to their current fundamentals are more willing to buy assets. To conclude this, it is stated that firms cannot seem to differ overvalued stock from high productivity of their peer firms and therefore high valuations make acquisitions bloom, even though the price might be wrong. (Rhodes-Kropf et al. 2004; Maksimovic et al. 2013: 2179- 2180.)

Given that high stock market valuation has been show to correlate with high merger activity it is crucial to understand the stock market valuation in order to shed light on merger activities and acquirer performance during blooming financial markets. The question here is that are acquisitions and acquisition returns driven by market misevaluation. Petmezas et al. (2008) paper focuses on investor sentiment (optimism) during hot markets and they find that investors’ optimistic beliefs are a significant factor of acquisition returns. If the financial markets are bullish the market participants may be over optimistic about the possible synergy gains and they may bid up the stock of the merging firms. (Petmezas et al. 2008: 55.)

The key factor for public firms dominating merges waves may not only rise from coexistence of efficiency and valuation. Firms that originally have high expectations of their future growth and have a high productivity are more likely to go public and later take

part in acquisitions when the opportunity presents itself. To conclude, productiveness of the firm is positively correlated with the decision to go public. Furthermore, the public status drives later participation in the corporate asset market. Thus, it is noted that prior listing characteristics of the firm set platform to the firm financing policies in the future. (Maksimovic et al. 2013: 2215.)

5. SAMPLE SELECTION AND DATA

5.1. Sources

In this chapter a detailed description about the data of this study and how it is gathered will be presented. Furthermore, a specific description of the sample selection is provided. The takeover data is gathered from a platform provided by University of Vaasa. The takeover data covers over three thousand Nordic takeover deals that have taken place between years 2005 and 2015 providing specified information about each deal. This information includes: announcement days, value of transactions, percentage of shares acquired, percentage owned after the deal, target's nation, acquirer's nation, target industry, acquirer's industry and type of payment (cash/ stock /mix) of the transactions.

To carry out the event study a measurement of acquirer performance is required. A stock price movement of each acquirer firm is used to evaluate the impact of the takeover transaction. The stock price data for each firm is gathered using Yahoo Finance and Bloomberg. The market performance is measured with OMX Nordic 40 index which is provided by NASDAQ.

5.2. Methods of collecting

The initial sample consist of 3,061 Nordic based takeover deals from January 2000 to December 2015. All of these takeovers take place in Finland, Sweden, Norway, Denmark or Iceland. Both domestic and cross-border deals are taken into consideration. Only two transactions from Iceland survived the sample screening. Only deals with available deal values are included. This immediately excludes over half of the deals from the initial sample, leaving us with 1,212 deals. The deal values are expressed in domestic currencies (EUR, NOK, SEK, DKK) and US dollars (USD). Furthermore, to screen the sample the following criteria's are used:

1. Deal value is known
2. Only deals with completed deal status
3. Only deals where the acquirer is a listed company.
4. Ownership of the bidder will have to increase at least 50%.

5. Only deals based in Nordics are taken into consideration. Nordic countries include Denmark, Finland, Iceland, Norway and Sweden.
6. Deal value is more than 2 million dollars.
7. The announcement day of the deal took place between 1th of January 2000 and 31th of December 2015.
8. Clustered takeovers are excluded
9. Deals where the targets or acquirers macro industry is financial are excluded.
10. The takeover is financed with *CASH* only, *STOCK* only, or with a *MIX* of cash and stock.

Only a fraction of all M&A deals ever gets completed as most fall through in the negotiations as the deal counterparties do not reach terms that both can agree on. Similar to Chang (1998) and Fuller et al. (2002) this study only considers takeovers that are classified as completed. This eliminates almost thousand deals from our sample and leaves us with 2,190 deals.

The daily stock price of the acquirer needs to be available around the announcement and from the observation period. At least one of the deal participants (in this case the acquirer) has to be a publicly traded company on a Nordic stock exchange. This obviously excludes the private acquirers from the deal. As later presented, the stock price changes are used to define the cumulative abnormal returns, which are in the center of this event study.

For the target to be a significant addition for the firm, the acquirer needs to buy a large enough part of the target firm. Hence, ownership of the target has to increase at least with 50%. In other words, this means that at least half of the target is acquired. 597 firms from the initial sample meet this criterion. Small value deals are excluded from the sample, to monitor the size factor. Also it can be assumed that deals with such small value can only cause minor market reactions to the acquirers share price.

Also firms that previously owned a part of the target firm are not eliminated from the sample. The possible earlier transactions have already signaled information about the value of the transactions to the market. It is good to note that the wealth effect in the market may be more influenced by the success of transactions taken place earlier than the actual event under evaluation.

As the focus of this study is on the Nordic takeover market, all takeovers must take place in geographical and cultural region in Northern Europe. These countries consist of Finland, Sweden, Norway, Denmark and Iceland. Both domestic and cross-border deals in this region are taken into consideration. The final data distributes and the size of each subsample based on method are presented in Table 3. As can be seen from Table 3. Sweden is obviously the most active country in the M&A market of the Nordic countries whereas, only two deals from Iceland survived the sample screening.

In order to avoid dealing with the special regulatory environment and accounting issues related to financial institutions the study excludes banks, savings banks, unit trusts, mutual funds and pension funds from the sample. The exclusion of firms which macro industry is financial eliminates 53 companies from the sample. The study focuses only on transactions classified as mergers or acquisitions of majority interest, that is, it excludes all the cases defined as an acquisition of assets, an acquisition of certain assets, a buy-back, or a recapitalization.

Similarly to Fuller et al. (2007) the study handles clustered takeovers with the assumption that those may make the findings unbiased. Acquirers that make many acquisitions in short time period are left out from the sample because defining a clean period for these acquirers is not possible. More specified description of the clean period is provided in section 6.3.4. To summarize, when a clean period of a takeover transaction is overlapping with another event it is impossible to isolate the normal performance of a stock. Therefore all firms that do not possess a clean period of two hundred days are eliminated from the sample. (Fuller et al. 2007.)

Second reason why clustered takeovers must be treated with care is that firms that constantly participate in takeover transactions may possess takeover motives that are different from other acquirers. If M&A are in a core business and strategy of a firm the wealth effect of a takeover announcement is likely to be different because constant takeover announcements can be expected by the market. (Chang 1998: 775.)

Also it has to be noted that there are other corporate events that may impact stock return calculations. When expected stock returns are calculated the ex-dates of dividends and other corporate events such as stock splits are treated with care to get the most reliable results. Information about corporate events concerning firms in the sample presented in here is provided by Euroclear Bank and Yahoo Finance.

To carry out the regressions on the impact of method of payment we need to be able to classify the payment method. Few transactions of the original sample were deleted as the currency in use was not expressed. The initial sample had few deals where the deal was closed as asset swap transaction. This is a typical takeover transaction in industrial material companies. The dollar value of these assets was undisclosed, and therefore these deals were excluded from the sample. Also profit related payments were taken out from the sample because in this case the value of the target firm is attached to the future prospects of the firm and cannot be measured.

5.3. The Final Sample

The final sample consists of 203 observations, see Table 3. Nearly 70 percent of all transactions have a Swedish acquirer while the rest of the deals are equally distributed between Finland, Denmark and Norway. 152 of the 203 takeovers are intercountry deals meaning that the acquirer and the target are based in the same country, while 51 of the deals are classified as cross-border. A major part of the transactions is financed with cash, while mix payments follow with 19 %, leaving stock offers a piece of 12%. Interesting statistic can be found when method of payment is compared with the two different geographic scopes. Only three of the cross-border deals are financed using only common stock.

Table 3. Sample distribution by country and by method of payment

Country	Acquirers	CASH		STOCK		MIX	
		No.	%	No.	%	No.	%
Finland	39	21	53,85	7	17,95	11	28,21
Denmark	22	20	90,91	1	4,55	1	4,55
Norway	30	25	83,33	3	10,00	2	6,67
Iceland	2	1	50,00	1	50,00	0	0,00
Sweden	110	74	67,27	12	10,91	24	21,82
Whole sample	203	141		24		38	
%	100 %	69 %		12 %		19 %	

Key: The whole sample of 203 observations firstly ranked alphabetically by country and next by Method of payment.

This sample screening allows us to answer two hypotheses concerning the geographical distance between deal counterparties. Hypothesis H3a states that acquisitions are more likely to be financed with cash when the acquisition is cross-border. As less than 6%

percent of all cross-border deals are financed with common stock we verify that this phenomenon holds also in the Nordic takeover market. In the second hypotheses concerning geographical distance between the firms focal point is on the ownership structure of the target: The hypothesis H3b states: *“In cross-border acquisitions the target is more likely to be listed than private”*. From the sample of 203 only one deal meets the criteria of being cross-border deal with listed target and acquirer.

To polish the sample from size factors previous similar studies use a scale of three to five million dollars (deal value including the net debt of the target). Nordic firms tend to be smaller compared to US or UK peers, so only deals valuing less than two million USD are excluded from the sample. 597 takeover announcements meet this criterion. The average value of the deal including the debt of the target is listed in Table 4.

Further the data is divided into sets to compare public-to-public & public- to private deals. Firm’s official name and Bloomberg was used to identify the ownership structure of the target firms. From the whole sample of 203 takeovers 11 of the target firms can be classified as public and 192 as private.

Table 4. Descriptive statistics

TARGET	Deals No.	Total value of transactions million	Average value of a deal million
Private	192	\$ 10 064,64	\$ 52,42
Public	11	\$ 1 685,42	\$ 153,22
Whole sample	203	\$ 11 749,64	\$ 57,88

Average closing prices in public-to-private deals is 52 million dollar equivalent figure for public-to-public deals is 153 million. Comparing the deal values in different sub-samples based on payment method it is found on average the most valuable deals are closed with combination of stock and cash as the average value of mixed deals is bit over 73 million. In comparison, the average deal value for cash financed deals is 56mil. \$. and 44mil. \$. for deals closed with stock only.

5.4. Limitation of the data

The aim of a highly specified sample screening is to produce as accurate and reliable results as possible. The screening causes us to have limited amount of observations

which can cause harm to the reliability of the findings presented later on in this study. For example MacKinley (2007) notes that in studies where the results are based on a limited amount of event observations, it has to be noted that the empirical result may be strongly influenced by few or even on one or two firms. Knowledge of this strong influence of a narrowed sample is a key when evaluating the importance of the results. Ideally the results will provide insights that help to understand the sources and causes behind the effects of the event under screening. When a critical analysis and competing explanation are added the study becomes less biased. (MacKinlay 2007: 15).

Also, the event study methodology requires a use of daily data, which includes many potentially difficult issues. When an individual security's daily stock data is viewed its movements may contain considerable differences from normality that are non-existent when monthly data is observed. The evidence is based on a suggestion that assumes daily stock returns to be fat-tailed compared to normal distribution. The same problem exists in the case of daily excess returns as the excess returns are the cross-sectional sample mean. (Fama 1976: 21.)

To diminish the problem linked to the use of daily stock price data Brown and Warner offer The Central Limit Theorem. This theory states that if the securities in the cross-section are independent and identically distributed description of limited variance distribution and the distributions of the sample mean excess return will convert to normality when the number of securities in the data increases. The concern here is the sample size and figuring out if the amount of observations is great enough to capture the evidence of excess return and its true level. (Brown and Warner 1984.)

The nature of Nordic firms brings additional problems to the sample screening. As these companies are quite often small compared to US and UK peers, the volume, which these equities are traded is substantially small. Some of these stocks do not get traded daily, meaning that they do not have a viewable daily price data. So even though these stocks are publicly traded some of them are highly illiquid. This makes it impossible to detect normal distribution of the stock price movements and we are not able to detect the effect that that transaction has on acquirer firms' stock price performance.

6. RESEARCH METHODS

6.1. Event Study Methodology

Event study methodology's universal applicability has led to its general and wide use in financial studies. The history of event studies goes back to the thirties, when Doley (1993) examined nominal price effects of stock splits. Since this pioneering study, modifications have been offered to overcome violations of the statistical assumptions used in early studies to generate more specific answers to more complex hypothesis. The framework that is most commonly in use today/nowdays is offered in two papers by Brown and Warner published in 1980 and 1985. This approach is also used in this study. (Campbell, Lo and MacKinlay 1997; Brown and Warner 1985).

Event study is a typical method used to evaluate effects of an economic event, such as an earnings announcement or a merger. Examining financial market data such as stock price changes around the announcement day, the event study measures the impact of the announcement (or some other specific event) on the value of a firm. One underlying assumption is that if the marketplace is rational, the effects of the event should be reflected immediately to security prices in unbiased and efficient manner. (MacKinlay 1997:13).

The core of this study is to do a straightforward event study on acquirer returns and to test research hypotheses presented in section 2.2. The event study enables the examination of the behaviour of firms' stock prices around the corporate event. First the acquirer returns from public-to-public and public-to-private deals are measured and further compared to each other to evaluate if there is abnormal returns for acquiring private targets. Further the impact of the method of financing is evaluated in both groups to solve if target's ownership structure (private or public) and a specific choice of method of payment generate abnormal returns for the acquirer. (Kothari and Warner 2006: 4).

Moreover, a measurement of normal returns is required. These normal returns can also be named as expected returns. These are the returns that would occur if the event, in this case the takeover, would not happen. The expected returns are denoted for each day (t) in the event window for each firm (j) in the sample. There is a numerous amount of ap-

proaches available to calculate the normal returns of a stock. These approaches can be roughly divided in two categories. First, *statistical models* follow statistical assumptions when it comes to the behaviour of the asset returns under the expectation that these returns are not dependent on any economic factors. The second group – *economic models* recall assumptions such as behaviour of the investors, and these models are not solely based on statistical data. However, it should be noted that in practise the use of economic models require additional statistical assumptions. The economic models needed for statistical assumption are rather tools to gather more precise measures of normal performance than a limitation of these models. (MacKinlay 1997: 17).

6.2. Variables

The dependent variable in this study is the acquirer's abnormal returns. An event study methodology is used to estimate abnormal returns for the acquirer. The standard approach provided by McWillimas and Siegel (1997) is used to calculate the cumulative abnormal returns (CAR). The announcement date information is available in the original data. (McWillimas et al. 1997: 628- 629).

Following the guidelines of Capron et al. (2007) independent variables of the acquirer return model are created. First independent variable of this study is the ownership structure of the target. Two subsamples are created as follows: private ownership is considered to be equal to one (1) if the target firm is privately held and otherwise zero (0) meaning that the target is a listed firm.

Second group of binary variables includes the payment method of the deal. All deals are classified into categories that contain only cash (*CASH*), only stocks (*STOCK*), or a mixture of cash and stocks (*MIXED*). Finally the geographic distance between the deal counterparties are divided in two subsamples where cross-border deals are considered to be equal to one (1) and otherwise zero (0) meaning that both the acquirer and the target are based in the same country. (Faccio and Masouli 1939).

6.3. Approach and model

Econometrics textbook by Campbell, Lo and MacKinlay (1997) outline the structure of an event study. This approach is applied in this study. First, the event window is defined. This is the period of interest where the corporate action is assumed to have an

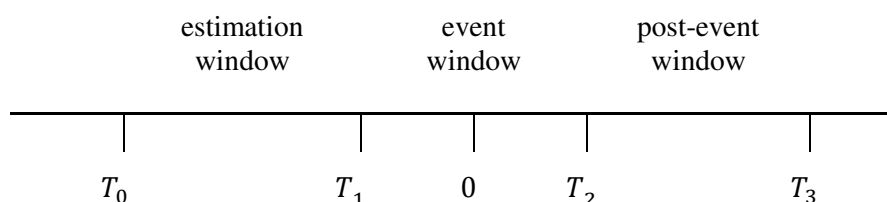
impact on the security prices. In this case the actual event is the announcement day of the takeover deal. In practise the event window is stretched out to three or two days. The event window includes the day prior the event and also the day after the event in order to capture the price effects that arise from the announcement which occur after the stock market closes on the event day. (MacKinlay et al. 1997: 150- 152).

Similar to Andrade et al. (2001), a three day event window is used in this study. Such a short event window excludes noise from the data such as another events and ensures more punctual results. The event day, day 0 is the announcement day and day prior (-1) and day after (+1) are included to the event window. Announcement dates of the takeovers deals are provided in the initial data. (Anderade 2001).

In addition, an estimation period (also known as the clean period) is needed in order to be able to compare the possible price effects arising from the takeover announcement. Normally the event window itself is excluded from the estimation period to block the event from impacting the parameter used to calculate the normal performance of the security under surveillance. (Chang 1998.)

Similarly to Chang (1998) an estimation period of 200 days is chosen to measure the average normal daily return of acquiring firms stock. To eliminate the event from the estimation window, the estimation period is started eleven days prior the event (T_1), where $t = 0$ is the announcement day, and stretched out to 210 days (T_0) prior the event day (see Figure .1 for the timeline of the study).

Figure 1. Timeline of an event study



To capture the events' impact a measure of abnormal returns is required. The abnormal return is calculated by viewing the actual ex post returns of the share during the event window and eliminating the normal return of the stock over the event window. Normal return can be defined as the return the firm would have had if the event would have not taken place. Simplified, the abnormal return is the actual return (event included) minus

the normal expected return (event excluded). For each firm i and event date t it can be denoted as

$$AR_{it} = R_{it} - E[R_{it} | X_t], \quad (3)$$

where AR_{it} is the abnormal return. Abnormal return can be used as a straightforward measurement of the unanticipated change in shareholders wealth associated to the take-over announcement. R_{it} is the actual, and $E[R_{it}]$ is the normal return, in respect to time period t . X_t is the information adapted to the normal performance model. (MacKinlay et al. 2007: 150-152; Kohtari and Warner 2006: 9-10).

Before abnormal returns can be defined a model for normal returns is required. There are different ways to model normal returns i.e. expected returns. First, there are models that assume the expected returns to be unconditional on the event but dependent on other information. Whereas in other models like the *Market Model*, the X_t , represents the market return. A stable linear relation between the given security return and the market return is expected in this model. (Kohtari et al. 2006; MacKinlay et al. 1997: 150- 152).

In this study, three different models are chosen to evaluate the expected return of the stock. This way the findings on abnormal returns can be considered as unbiased as possible if all the models signal similar findings. These models differ from one another from the perspective of information that is adapted to the calculation of normal performance of the security. In *The Constant Mean Return Model* the X_t is constant and this model assumes that the return of a specific security is constant over time. *The Market Adjusted Return Method* on the other hand relies on market efficiency when defining the normal return. Finally, the most sophisticated model, *The Market Model* adapts information about both the performance of the individual security and the market. (MacKinlay et al. 1997).

6.3.1. The Constant Mean Adjusted Return Model

The Constant Mean Adjusted Return model, also known as the mean adjusted returns model, focuses on each security's return around the announcement date i.e. the event window. The goal is to examine if the returns on the individual stock are statistically different during the event period from the same security price performance during the

estimation period. T-test is used evaluate the significance of the results. (Brown And Warner 1980: 213).

To observe the excess return the study uses arithmetic return $R_{i,t}$ for security i at time t . $A_{i,t}$ is defined as the excess return for the stock i at time t . For every stock, the excess return is calculated for each day in the event period using the following procedures:

$$A_{i,t} = R_{i,t} - \bar{R}_t, \quad (4)$$

where \bar{R}_t is simply the average of security's (i) daily return. Like in the study by Chang (1998), the clean period starts from $t = -210$ and continues to ten days prior the event $t = -11$. It can be denoted as

$$\bar{R}_i = \frac{1}{200} \sum_{t=-210}^{-11} R_{it} \quad (5)$$

This model only employs data about the given security and do not take market changes into consideration. In the mean adjusted method the abnormal performance for a given stock in the event related period is simply the difference between its realized return on the each day of the period compared to the average mean return of the same security under the clean period. This difference in returns ($R_{i,t} - \bar{R}_t$) is standardized by the estimated standard deviation of the returns in the clean period. (Ahern 2006: 6; Brown & Warner 1980: 252).

For security i , the mean \bar{R}_t , and the standard deviation $\sigma(R_t)$ of the securities return in the clean period are estimated as:

$$\widehat{\sigma}(R_i) = \left(\frac{1}{200} \sum_{t=-210}^{-11} (R_{it} - \bar{R}_i)^2 \right)^{\frac{1}{2}} \quad (6)$$

From here we can denote that the excess standardized mean return for the security arising from the event is:

$$A_{i,t} = (R_{i,t} - \bar{R}_i) / \widehat{\sigma}(R_i) \quad (7)$$

6.3.2. The Market Adjusted Return Method

In this model it is assumed that previous (ex ante) expected returns are the same across securities, but not certainly constant for a given security. Here a market index is used to predict the returns for every asset. Simply, the model assumes that the predicted return of each firm's security (i) for each day (t) is the same as the market return for that day:

$$\hat{R}_{i,t} = R_{m,t}, \quad (8)$$

This means that the ex post abnormal return on any asset (i) is the difference between its actual return and its market portfolio return:

$$A_{i,t} = R_{i,t} - R_{m,t}, \quad (9)$$

where $R_{m,t}$ is the weighted market index return. The market adjusted return method is consistent with Asset Pricing Model where it is assumed that all the securities in the sample have the same systematic risk. (Brown and Warner 1980: 208; Brown and Warner 1984: 7).

6.3.3. The Market Model

The Market Model takes into consideration the fact that firms' security prices are sensitive to both the market factors and for firm specific factors. The same clean period of two hundred days is used and the model can be described with the following equation:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \quad (10)$$

However, according to the rules of efficient market theory the returns cannot constantly differ from the predicted ones. Therefore, the expected value of the ε_{it} , that is, the component describing unexpected movement of the security return in the regression cannot differ from zero. As ε_{it} is equal to zero, the regression forms to:

$$\bar{R}_{it} = \bar{\alpha}_i + \bar{\beta}_i R_{mt}, \quad (11)$$

where $\bar{\alpha}_i$ is the part of the returns that cannot be explained by the market. β_i is specific security's sensitivity to the market. The marked index return for day t is referred as R_{mt} . (Brown and Warner 1984).

The standard market model is the most widely used method in previous studies in which acquirer returns are observed (see for instance Chang 1998 or Fuller et al. 2002). However, this model also involves some problems. Drapel and Padyal (2006) make a notion that this model does not take into consideration that the clean period may be contaminated as some acquirers might be involved in several deals in the sample, which can have an impact on the reliability of the findings. In this paper this problem is treated by eliminating clustered takeovers, thus this still does not close out the possibility that the estimation period is contaminated by other firm specific information or market information that is not taken into consideration while modelling expected returns.

6.3.4. Analysing Abnormal returns

As the mean adjusted return model, the market adjusted model and market model are used to evaluate normal returns we also need to measure the returns of the event window to find is there is difference between these two i.e. an existence of abnormal returns. (MacKinlay et al 1997: 157).

By employing the three previously introduced models, the abnormal returns (AR) of the event window on each stock on day t can be calculated:

$$AR_{i,t} = R_{i,t} - \bar{R}_{i,t} \quad (12)$$

Here R_{jt} is the actual observed return for firm j on day t and \bar{R}_{jt} is the predicted return for the same firm at the same time. The residual of these two is the procedure of the event that is the takeover announcement. For every acquirer the residual i.e. the difference between R_{jt} and \bar{R}_{jt} is summed for the whole event window, in this case for three-day period, giving us cumulative abnormal (CAR) returns for each acquirer:

$$CAR_i = \frac{1}{200} \sum_{t=-1}^{+1} AR_{it} \quad (11)$$

After the cumulative abnormal return for each acquirer's stock in the sample is calculated these CARs are summed and divided to get the average CAR of the 203 firms in the sample:

$$\overline{CAR} = \frac{\sum CAR_{i,t}}{203} \quad (13)$$

This average CAR shows the existence of abnormal returns over the whole sample including all the deals over the time period. In addition, we create different subsamples including only specified deals such as only public-to-private or public to public. Furthermore, we define even more specified subsamples based on the method of payment. In addition to average values, a median cumulative abnormal return is calculated to outline the most drastic findings.

When a performance is evaluated with measure like CAR, a test statistic has to be computed to compare the distribution of the results it is assumed to have under the null hypothesis. In this case the average cumulative abnormal return is expected to be zero. The following test statistic is used to measure statistical significance of the average CAR over the three day event period:

$$t - stat : \frac{\overline{CAR}}{\hat{s}(\overline{CAR})} = \frac{\sum_{t=-1}^{+1} AR}{\sqrt{3} \hat{s}(AR)} \quad (14)$$

In this formula, the AR is the average abnormal return across the whole sample for each day t and the standard deviation of the sample's abnormal returns $\hat{s}(AR)$ can be classified as:

$$\hat{s}(AR) = \left[\frac{1}{200-1} = \sum_{t=210}^{-11} (AR_t - \overline{AR}) \right] 1/2 \quad (15)$$

In the following formula \overline{AR} is simply the average abnormal return of the whole sample over the clean period (200 days):

$$\overline{AR} = \frac{1}{200} \sum_{t=210}^{-11} AR_t \quad (16)$$

More precisely, the null hypothesis can be rejected when the test statistic given in t- stat equation exceeds the given critical value. The most typically used values correspond to

the 1% and 5% tail region, meaning that the size or test level equals to 0.01 or 0.05. A random variable like this is chosen for the test statistics because it can be assumed that the abnormal returns are measured with an error. This error is a combination of two factors. First, the realized returns by a single firm at the time of the event can be influenced by other unrelated factors than the event under evaluation and this component may cause the fact that the cross-sections do not literally average to zero. Second, unconditional expected returns of the security are not precise. (Kohtari et al. 2006: 12).

This t- statistic presented in here is the most simplified way to test statistical significance of the findings, in this case the statistical significance of the fact that abnormal returns vary from zero over the event period. If the ARs and the CARs over the event period are found to significantly different from the estimation period the null hypothesis will be rejected. (Kohtari and Warner 2006).

As the market model is bit more complex than the two other models presented some adjustment needs to be made to test the significance of the findings. The market model has a higher estimation error in the regression coefficient than the other two models. This is because it includes both the variation of the firm itself and the market. By standardizing the ARs and CARs found with the market model the results become more reliable. (Dodd and Warner 1982: 431).

The ARs and further CARs of the market model have to standardized by taking a square root of all of the for each stock combining both the systematic and firm specific risk: test the normal distribution of both the market and the stock. This can be accomplished with following equation (Dodd and Warner 1983):

$$SAR_t = \frac{AR_{it}}{S_{it}} = \frac{R_{it} - (\bar{\alpha}_i + \bar{\beta}_i R_{mt})}{S_{it}} \quad (16)$$

Further, from here we can calculate the average standardized cumulative abnormal return:

$$ASCAR_{-1,+1} = \sum_{t=-1}^{+1} ASAR_t \quad (17)$$

Following the guidelines of Dodd and Warner (1983) and assuming normal distribution of the findings, we can calculate the Z-Scores used to test statistical significance of the Market Model stardarlized ARs and CARs:

$$Z_{t=1} = \sqrt{203} ASAR_t \quad \text{and} \quad Z_{t=203} = \sqrt{203} / \sqrt{3} ASCAR_{-1,+1} \quad (18)$$

Additionally, from here we can calculate the statistical difference between two different cumulative abnormal returns. The Z-score of two different CARs takes the following form:

$$Z = \frac{ASCAR_1 - ASCAR_2}{\sqrt{\frac{3}{N_1} + \frac{3}{N_2}}} \quad (19)$$

ASCAR1 and ASCAR2 are the standardized cumulative abnormal return of different subsamples, and N1 and N2 are number of observation in each subsample.

7. EVENT STUDY ANALYSIS

7.1. Bidder returns: whole sample

As presented earlier, the goal of an event study is to measure the impact of an event relative to the value of the firm. The value of the firm is measured with firm's market value and the change to this value is measured with alteration in firm's stock price. As described in section 6.3. three different methods are chosen to carry out the event study in this paper. The acquirer announcement returns are measured with a three day event window (-1, +1). The event period starts eleven days (-11) prior to the announcement date and continues ten days (+10) after the announcement date. The estimation period length is 200 days, making the clean period to stretch from day -11 to day -210 relative to the event day zero (0).

The summarized findings on announcement returns in Nordic takeover are presented in Table 5. In this table all of the 203 deals in the sample are first taken into consideration and then these results are divided into subsamples according to the method of payment. The percentages are cumulative abnormal returns over a three day window calculated with three different methods presented in the previous chapter.

Table 5. Average Cumulative Abnormal Returns – All Deals

MODEL	ALL	METHOD OF PAYMENT		
		CASH	STOCK	MIX
The Market Model	1,99 %	0,84 %	1,02 %	2,87 %
Z - Score	0,81	0,61	0,23	1,1
Market Adjusted Return	1,58 %	0,97 %	-2,54 %	2,56 %
T - Test	1,29	1,17	1,85*	2,10**
The Mean Adjusted return	1,89 %	0,85 %	1,08 %	2,42 %
T - Test	0,72	0,56	0,23	0,89
No. of deals	203	141	24	38
%	100 %	69 %	12 %	19 %

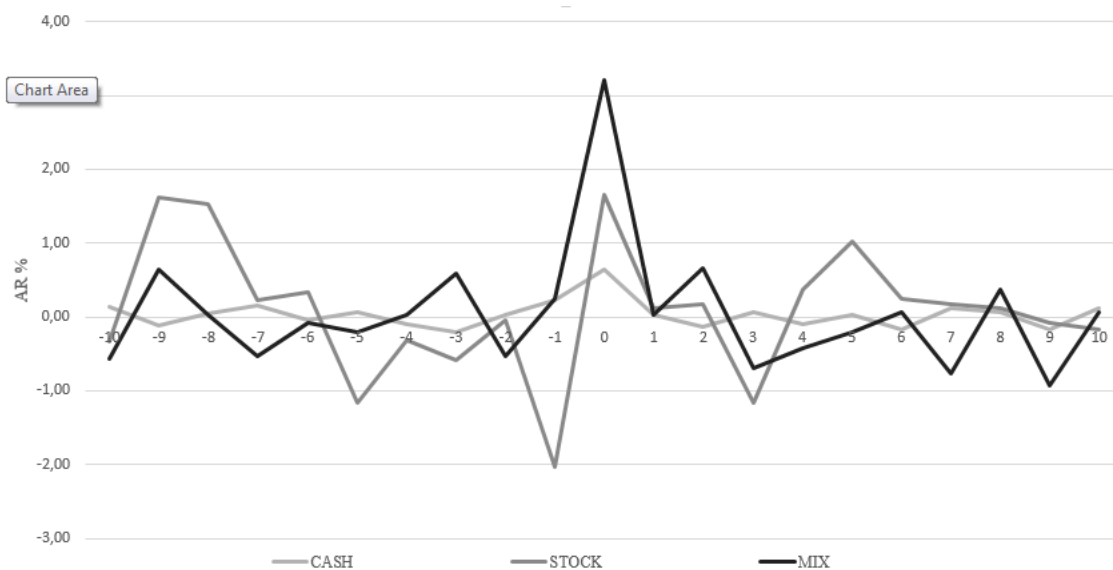
Key: Positive one-tailed test is used to evaluate the significance levels of the findings *, ** and ***, indicate significant CAR at the 10 percent level, 5 percent level and 1 percent level, respectively

Table 5. also presents the significance levels of the findings. For the market model the z-statistics are used as a describer in chapter 6.3.4. As for the two other models a standard t-statistics are used to evaluate how relatively different the event window findings

are from the mean. As can be seen, only the findings based on the market adjusted return are significant at the 10%, 5% or 1% level, respectively. However, when these results on announcements returns are later divided into more specified subsamples the statistical significance of the CARs calculated with all different methods increases. Moreover, although the announcement returns of the acquirer are found to be insignificant in many cases there appears to be a statistically significant difference between the CARs of different subsamples consisting categorically different types of deals from one another. This will be demonstrated further on.

The results shown in Table 5. implicate that overall acquisitions are a positive net present investment for the acquirer. Even so, these positive CARs are mainly insignificant so the abnormal acquirer returns do not statistically differ from zero. Thus, it can be noted that at least the average findings for the whole sample do not reveal any information about the destruction of value for the acquirer. Surprisingly the most positive acquirer returns are found in deals which use a mix of cash and stock as a method of payment.

Figure 2. The Market model ARs by method of payment



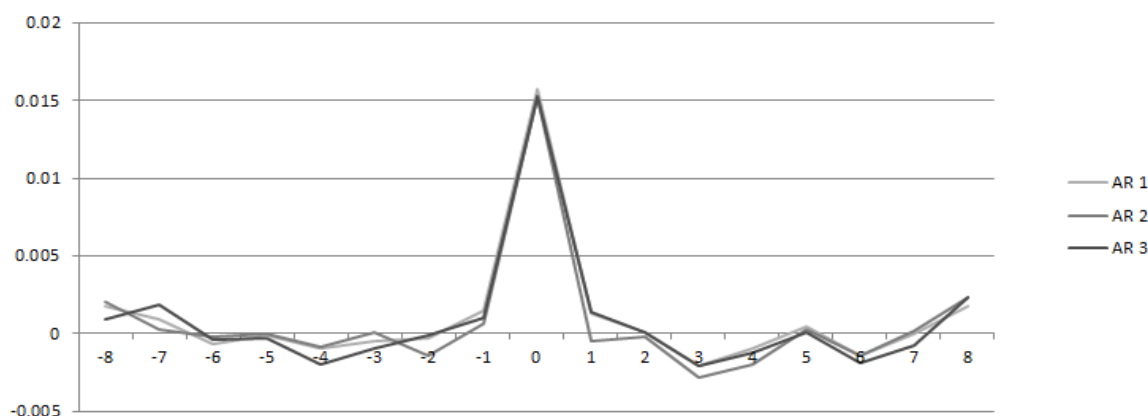
Key: AR represent the daily abnormal return of the acquirer starting from day -10 to day +10 relative to the event.

Figure 2 shows the average ARs around the takeover announcement. The deals are divided in three categories according to the method of payment. From this graphic display it can be noted there is an evident drop in those acquirer's stock performance that use

stock as method of payment. Then again it can be seen that in all three subsamples the average stock prices of the acquirer stars cumulating abnormal returns a day before (-1) to the announcement. As the deal should not be public information until the day zero that is the announcement this could be sign of information leakage. (Chang, Shekhar, Tam & Yao 2016.)

Looking at the Table 5 the only value that is not in line with the corresponding figures is the subsample STOCK cumulative abnormal return based on the market adjusted model. This model is clearly the most simple from the three models. However, it is also the most unstable as it does not reflect the overall market performance or the historical performance of a individual stock. The market adjusted model is sensitive to market fluctuations as it merely expects the expected (normal) return of the stock to be equal to the market performance on that day. This could partly explain why it signals negative -2.54 % CAR for stock offers. We do not completely ignore this as the figure is significant at 10% level. However, in this study we weight the figures calculated with the market model as it uses both the market returns and individual performance to capture the true level of expected (normal) returns. (Brown and Warner 1985.)

Figure 3. Average cumulative abnormal returns over 21- day period



Key: Line AR1 is return based on The Constant Mean model, AR 2 return is the Market Adjusted return and AR 3 uses The Market Model to calculate expected returns.

The empirical evidence on cumulative abnormal returns for the whole sample range from positive 1.58 % to positive 1.99 % and this shows that all of the three models used to define expected returns and further abnormal returns provide relatively similar results. Figure 3. shows the average abnormal returns from 10 days prior the announcement to 10 days after the event including all deals in the sample. The graphic display

highlights the effect that the announcement has on acquirer's stock price. We can clearly see from here that the results are not dependent on the methods by which the expected returns are defined as all three models in use signal similar outcomes. Figure 3 proves that all three models signal highly similar result no matter how the expected returns of the stock are defined. Later the findings presented in this study are mainly based to the market model.

Table 6. Average Market model ARs and CARs with 21- day event window

DAY (t)	ALL			CASH			STOCK			MIX		
	AR %	CAR %	Z- Score	AR %	CAR %	Z- Score	AR %	CAR %	Z- Score	AR %	CAR %	Z- Score
-10	-0,02	-0,02	-0,01	0,14	0,14	0,10	-0,33	-0,33	-0,15	-0,57	-0,57	-0,28
-9	0,14	0,12	0,07	-0,12	0,03	0,02	1,62	1,30	0,58	0,64	0,07	0,04
-8	0,18	0,30	0,16	0,05	0,08	0,05	1,53	2,82	1,27	0,03	0,10	0,05
-7	0,09	0,40	0,21	0,15	0,23	0,16	0,23	3,05	1,37	-0,54	-0,43	-0,21
-6	-0,07	0,33	0,18	-0,05	0,18	0,13	0,33	3,38	1,52	-0,08	-0,51	-0,25
-5	-0,02	0,31	0,17	0,06	0,24	0,17	-1,16	2,22	1,00	-0,20	-0,71	-0,35
-4	-0,09	0,22	0,12	-0,10	0,14	0,10	-0,31	1,91	0,86	0,03	-0,67	-0,33
-3	-0,05	0,17	0,09	-0,20	-0,06	-0,04	-0,59	1,31	0,59	0,60	-0,08	-0,04
-2	-0,03	0,14	0,07	0,03	-0,02	-0,02	-0,04	1,28	0,57	-0,53	-0,60	-0,30
-1	0,14	0,28	0,15	0,23	0,20	0,14	-2,03	-0,75	-0,34	0,25	-0,35	-0,17
0	1,58	1,86	1,00	0,65	0,85	0,59	1,65	0,90	0,40	3,20	2,85	1,41
1	0,13	1,99	1,07	0,02	0,87	0,61	0,12	1,02	0,46	0,03	2,87	1,42
2	0,01	2,00	1,07	-0,13	0,75	0,52	0,18	1,20	0,54	0,66	3,53	1,75
3	-0,21	1,79	0,96	0,07	0,82	0,57	-1,16	0,04	0,02	-0,69	2,84	1,40
4	-0,09	1,70	0,91	-0,10	0,72	0,50	0,38	0,42	0,19	-0,43	2,41	1,19
5	0,05	1,75	0,94	0,02	0,74	0,51	1,02	1,43	0,65	-0,21	2,20	1,09
6	-0,14	1,60	0,86	-0,17	0,57	0,40	0,25	1,68	0,76	0,06	2,26	1,12
7	0,00	1,60	0,86	0,13	0,70	0,48	0,17	1,85	0,83	-0,77	1,49	0,74
8	0,17	1,77	0,95	0,06	0,76	0,53	0,12	1,97	0,89	0,37	1,87	0,92
9	-0,35	1,42	0,76	-0,17	0,60	0,41	-0,08	1,90	0,85	-0,93	0,94	0,46
10	0,18	1,60	0,86	0,12	0,71	0,49	-0,17	1,72	0,78	0,06	1,00	0,49

Key: Z- scores presented test the statistical significance of cumulative abnormal returns

As expressed earlier the 3-day event window is the most commonly used in event studies measuring abnormal acquirer returns. 3- day event window is also the primary event period of this study. Nevertheless, several studies such as Travlos (1987) and Anderade

(2004) make a use of a longer window beginning several days before the announcement and ending when the merger is closed. Likewise to these studies we provide daily abnormal returns (ARs) and cumulative abnormal returns (CARs) covering ten days before and after the announcement (-10, +10). The first column of Table 6. covers the whole sample of 203 Nordic takeover deals in the. The other columns of table 6. represent the ARs and CAS based on subsamples arranged by the method of payment.

It was also stated earlier that the 3-day event window is the most informative as it relies on the efficient market theory and expect the market to react quickly to new information. Table 6 confirms this statement as it is easy to detect from here that the effect of the takeover announcement is quickly adapted to market prices. The use of a longer window does not provide us new information about the acquirer performance around the announcement of the takeover. (Anderade 2004.)

7.2. Bidder returns: private targets

Table 7 presents the results of cumulative abnormal returns (CARs) for firms taking over private targets. 192 takeovers transactions from our sample are classified as those where the target is an unlisted firm. The empirical findings in Table 9 provide evidence that average private target acquisitions have a positive net present value as an investment .The acquirer CARs for the all 192 private target deals show a positive average return from 1.25 % to 1.67 % depending on the model in use.

TABLE 7: Avarage Cumulative Abnormal Returns - Public to Private Deals

MODEL	ALL	METHOD OF PAYMENT		
		CASH	STOCK	MIX
The Market Model Return	1,67 %	0,81 %	-0,30 %	2,49 %
Z - Score	0,90	0,52	0,13	1,28
Market Adjusted Return	1,25 %	0,90 %	-3,67 %	2,21 %
T - Test	1,07	1,09	2,84**	1,94*
The Mean Adjusted return	1,55 %	0,78 %	-0,28 %	2,03 %
T - Test	0,05	0,52	0,06	0,78
No. of deals	192	134	22	36
%	100 %	70 %	11 %	19 %

Key: *, ** and ***, indicate significant CAR at the 10 percent level, 5 percent level and 1 percent level, respectively.

CARs of public-to-private deals are divided into three subsamples based on whether the target was acquired using cash, stock, or with a combination of both. Table 7 provide

evidence that the CARs of acquirers using mix financing are the highest. The negative cumulative abnormal returns for cash financed signal that these deals on average are not positive investment. Moreover cash financed transactions destroy acquirers' shareholder value.

None of the CARs for the private target acquirers based on the Market model are statistically significant. But when we move on comparing CARs in the different subsamples we can denote that the difference in these CARs is statically significant. For example comparing the positive average CAR of 0.81% found on cash deals and the negative CAR of 0,3 % in stock financed deal the z-score of these two figures is 2,79. This is a strong evidence that the choice of method of payment has an impact acquirer returns in the Nordic takeover market. Similarly to findings associated to the whole sample also the subsample of private target takeovers show evidence on superior performance for acquirer firms using combination of stock and cash as a method of payment.

7.3. Bidder returns: public targets

As 95 percent of the deals in our data are private targets the subsample of public-to.-public deals is notably small. Even though the sample size is small the performance of these investments is remarkable: looking at individual deals only one deal from the eleven deals was unsuccessful when simply measured with stock performance of the acquirer.

Table 8: Avarage Cumulative Abnormal Returns - Public to Public Deals

MODEL	ALL	METHOD OF PAYMENT		
		CASH	STOCK	MIX
The Market Model Return	6,06 %	2,92 %	15,80 %	7,34 %
Z - Score	2,86***	1,45	10,84***	3,77***
Market Adjusted Return	6,29 %	7,16 %	13,66 %	6,57 %
T - Test	5,79***	6,99***	14,81***	4,47***
The Mean Adjusted return	6,28 %	6,80 %	16,20 %	7,24 %
T - Test	2,90***	2,82***	10,83***	3,69***
No. of deals	11	7	2	2
%	100 %	64 %	18 %	18 %

Key: *, ** and ***, indicate significant CAR at the 10 percent level, 5 percent level and 1 percent level, respectively.

The findings presented in table 8 show that the market reacted favorably to public-to-public deals on average favorably in all three sub samples. Nearly all of the cumulative abnormal acquirer returns are statistically significant at 1% level.

Table 9. The Market Model Return on a 10- day event window

Panel A: Average cumulative abnormal bidder returns in public-to-public deals												
	MIX				STOCK				CASH			
	AR %	z- score	CAR %	z- score	AR %	z- score	CAR %	z- score	AR %	z- score	CAR %	z- score
5	0,74	0,38	0,03	1,41	1,77	0,02	4,65	3,19	0,80	0,34	2,82	1,19
4	0,14	0,07	0,03	1,48	-0,97	-0,06	3,68	2,52	-0,53	-0,22	2,29	0,97
3	-0,08	-0,04	0,03	1,44	-0,65	0,03	3,02	2,08	-0,26	-0,11	2,03	0,86
2	-0,85	-0,44	0,02	1,01	0,48	0,02	3,51	2,41	-0,38	-0,16	1,64	0,70
1	-0,14	-0,07	0,02	0,93	2,22	-0,08	5,73	3,93	0,02	0,01	1,66	0,71
0	3,33	1,71	0,05	2,65	12,1	1,05	17,90	12,29	1,09	0,46	2,75	1,17
1	2,19	1,13	0,07	3,77	-2,11	0,00	15,80	10,84	0,16	0,07	2,92	1,24
2	-0,27	-0,14	0,07	3,63	3,09	0,14	18,88	12,96	-0,09	-0,04	2,83	1,20
3	-0,72	-0,37	0,06	3,26	1,57	0,01	20,46	14,04	0,95	0,40	3,77	1,60
4	1,37	0,71	0,08	3,97	-0,14	0,00	20,31	13,94	0,22	0,09	3,99	1,69
5	0,03	0,01	0,08	3,99	-0,20	-0,02	20,11	13,81	0,46	0,20	4,45	1,89

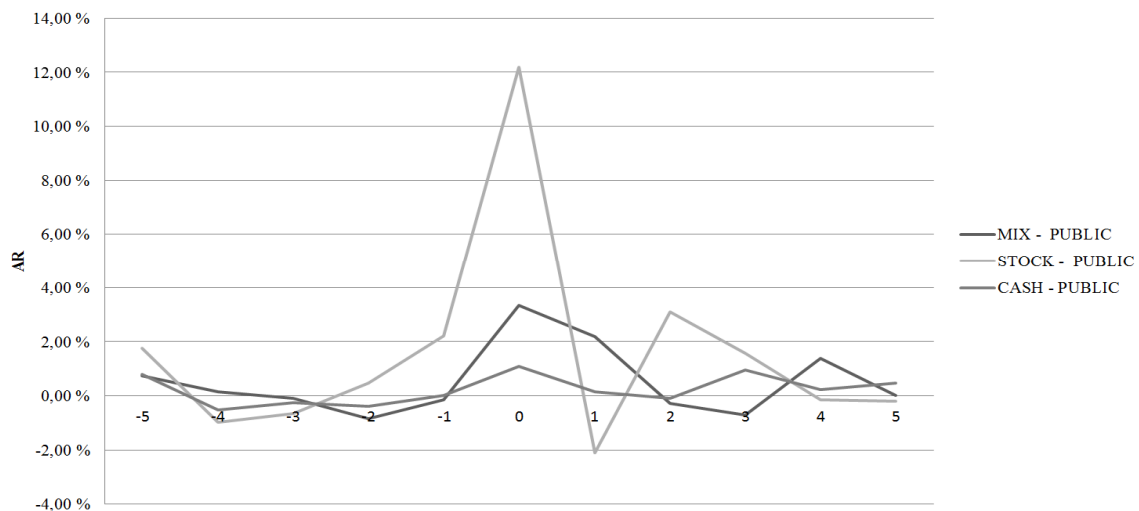
Panel B: Average cumulative abnormal bidder returns in public-to-private deals												
	MIX				STOCK				CASH			
	AR %	z- score	CAR %	z- score	AR %	z- score	CAR %	z- score	AR %	z- score	CAR %	z- score
5	-0,24	-0,09	-0,85	-0,34	-1,31	0,02	1,83	0,41	0,04	0,02	0,16	0,11
4	0,02	0,01	-0,83	-0,33	-0,23	-0,06	1,60	0,36	-0,08	-0,05	0,09	0,06
3	0,60	0,24	-0,23	-0,09	-0,54	0,03	1,06	0,24	-0,19	-0,14	-0,11	-0,07
2	-0,48	-0,19	-0,71	-0,28	-0,08	0,02	0,98	0,22	0,05	0,03	-0,06	-0,04
1	0,26	0,10	-0,45	-0,18	-2,21	-0,08	-1,23	-0,28	0,21	0,15	0,15	0,11
0	3,02	1,21	2,58	1,03	0,63	1,05	-0,60	-0,13	0,62	0,44	0,78	0,54
1	-0,09	-0,04	2,49	0,99	0,30	0,00	-0,30	-0,07	0,03	0,02	0,81	0,56
2	0,67	0,27	3,16	1,26	-0,08	0,14	-0,37	-0,08	-0,15	-0,10	0,66	0,46
3	-0,66	-0,26	2,50	1,00	-1,29	0,01	-1,67	-0,37	0,07	0,05	0,73	0,51
4	-0,50	-0,20	2,00	0,80	0,39	0,00	-1,28	-0,29	-0,11	-0,08	0,62	0,43
5	-0,21	-0,08	1,79	0,72	1,03	-0,02	-0,24	-0,05	0,01	0,01	0,63	0,44

In table 9 the ARs and CARs of public-to-public and public-to-private deals are presented together. The results presented in table 9. are based on the market model. An eleven day (-5,+5) event window is chosen to truly capture the differences in wealth effects of the two subsamples.

The graphic displays in Figures 4 and 5 show the abnormal acquirer returns of the two subsamples. The opposite wealth effect of public-to-public and public-to-private deals

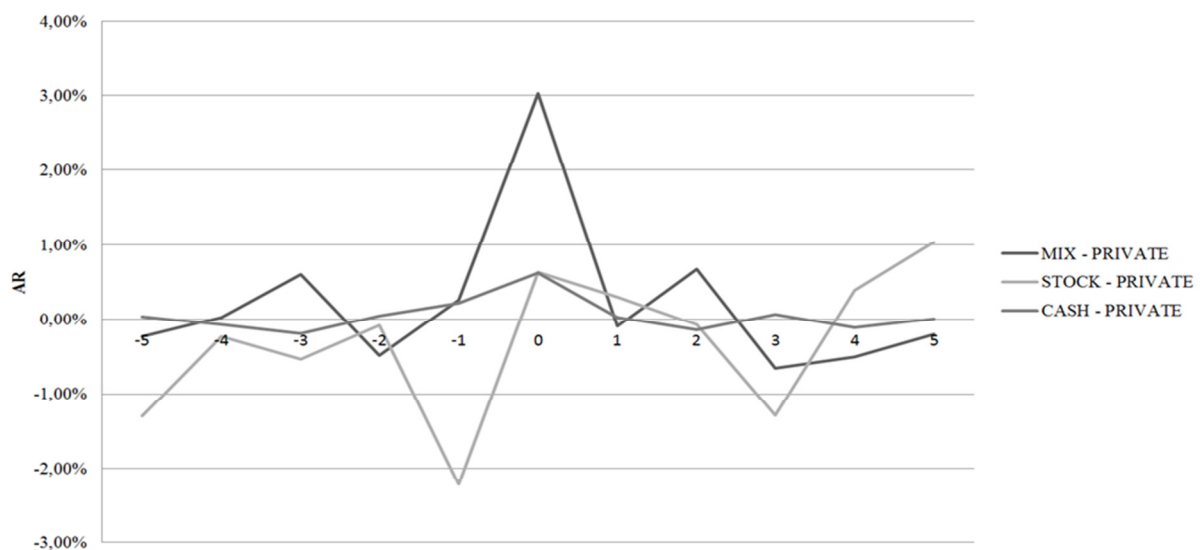
are easy to detect from here. Ignoring the magnitude of these ARs (and further CARs) the findings show that for public target acquirers the stock financing is evidently the most favorable alternative as no remarkable returns are reported for cash deals. Whereas, for the private target acquirers more positive abnormal returns are found on mix and cash deals as the stock financed deals seem to have negative wealth effect for the acquirer.

Figure 4. The Market Model ARs for public-to-public takeovers on a 10- day event window



Key: All average ARs in figure 4 scale from positive 17.9% to negative 2.21%

Figure 5. The Market Model ARs for public-to-public takeovers on a 10- day event window of



Key: All average ARs in figure 4 scale from positive 3,60% to negative 2.10%

8. FINDINGS & DICUSSION

8.1. Expected results

Previous results from the UK and US market show fundamental differences in acquirer returns when comparing public-target and private-target acquisitions. Especially, the bidder return gains from private target deals well exceed the bidder returns gained from acquiring listed targets. (Koherns 2004: 1164.)

Empirical findings from the US, UK and continental European takeover market (see for instance: Koherns 2004; Anderade et al. 2001; Capron et al. 2007) mainly reach the same conclusion when combining the target selection (public or private) and the method of payment of the transaction (cash, stock, or mix) as a source of abnormal acquirer performance. These findings can be summarized as follows: (1) for the acquirers of private targets stock financing is found to be a more favorable option and cash financing is found to gain cumulate negative returns, (2) for the acquirers of public targets cash financing earns more positive cumulative returns while the stock financing is a less favorable option.

8.2. Actual findings

In Chapter 2.2. various hypotheses concerning the acquiring performance were presented. These hypotheses were chosen based on the phenomenon detected in earlier US and UK M&A research over the years. After executing empirical research with data consisting of carefully selected 203 Nordic takeover deals we can show if these hypothesis hold in the Nordic takeover market.

Findings on positive acquirer returns

The main purpose of this study was to resolve if mergers and acquisition overall add value for the acquirer in the Nordic takeover market. The first hypothesis took form:

H1: M&A transactions have on average a positive net present value as an investment

The average net present values of all the transactions in our sample have on average positive ARs and CARs around the announcement day measured with all three methods presented. The average CAR measured with the market model compares the actual return during the event to both the expected market return and to the individual stock's past performance. The market model CAR for the whole sample sets to 1.99 percent. Therefore, we can state that the hypothesis H1 holds. It has to be underlined that this does not mean that all the acquirers in our sample reached the level where their investment could be considered to have a positive net present value. Looking at all of the 203 observations of this study there is a variation from positive 16 percent CAR to negative 17 percent CAR for a single transaction. In order to prevent the result from being biased by those acquirers that performed exceptionally well or exceptionally poor the median results are presented in Table 10. The median results of the whole sample do not differ much from the average results, still these median values are slightly lower.

Table 10: Average and Median Cumulative Abnormal Returns - All Deals

MODEL	ALL AVERAGE	ALL MEDIAN
	CAR	CAR
The Market Model	1,99 %	1,44 %
Z - Score	0,81	0,77
Market Adjusted Return	1,58 %	1,44 %
T - Test	1,29	1,26
The Mean Adjusted return	1,89 %	1,35 %
T - Test	0,72	0,65
No. of deals	203	203

Key: *, ** and ***, indicate significant CAR at the 10 percent level, 5 percent level and 1 percent level, respectively.

None of these positive figures presented in Table 10. achieve a level where the results could be considered statistically significant. This is in line with previous findings (see for instance Anderade et al. 2001, Mitchell and Stafford 2000; Mulherin and Boone 2000) that have demonstrated that mergers in general create value to the acquirer, but find that average ARs and CARs are close to zero or slightly positive and statistically insignificant.

Finding on ownership structure of the target

The second hypothesis focuses on comparing public-to-private deals and public-to-public deals:

H2: Ownership structure of the target has an impact on acquirer returns

The aim of hypothesis H2 was to review if there is a statistically significant difference found between deals where both the acquirer and the target are listed firms compared to those deals where the acquirer is listed, but the target is a privately held firm. In Table 13. the whole sample is divided into two subsamples. The amount of listed targets' acquisitions is quite limited and only five percent of all the observed transactions have a target that can be classified as listed.

The average cumulative abnormal return of those acquirers that acquire private targets sets around 1.82 % as the corresponding CAR of acquirers of public targets is 6.21%. Table 13. shows that positive CAR attached to public targets is highly significant at 0,01 level. These findings show that the acquirer of public targets gained on average 4.5 % higher cumulative abnormal returns than acquirers acquiring private targets.

Table 11: Average CARs – subsamples of private and public targets

MODEL	PRIVATE TARGET	PUBLIC TARGET
	CAR	CAR
The Market Model Return	1,67 %	6,06 %
Z - Score	0,90	2,86***
Market Adjusted Return	1,25 %	6,29 %
T - Test	1,07	5,79***
The Mean Adjusted return	1,55 %	6,28 %
T - Test	0,05	2,90***
No. of deals	192	11
% of all deals	95 %	5 %

Key: *, ** and ***, indicate significant CAR at the 10 percent level, 5 percent level and 1 percent level, respectively

From the empirical findings presented in Table 13 we can state that hypothesis H2 holds on the Nordic takeover market. Ownership structure of the target has a substantial impact on the acquirer performance. Also the additional hypothesis H2a: “*Abnormal acquirer returns are positive when the target is private*” and H2b: “*Abnormal acquirer returns are positive when the target is public*” can be confirmed as no negative returns can be linked to either of the subsamples.

Based on the empirical findings we reject the H2c: “*Acquirer returns are on average higher in public-to-private deals than on public- to-public deals*” and confirm H2d:

“Acquirer returns are on average higher in public-to-public deals than on public-to-private deals” in the Nordic M&A climate.

Also the difference between the cumulative abnormal returns of the private and public target acquirer returns is statistically significant. The statistical significance of the two CARs is calculated as presented in Chapter 6.1. Based on the market model the test statistic of private target CARs and public target CARs is 8.16, and it is highly significant on 0,01 level.

Our findings do not support the earlier findings about the exceptionally high abnormal acquirer returns of the public-to-private deals found in the US, UK nor Continental European M&A markets. Various explanations for the superior performance of private target acquirers in the US and UK are provided by earlier studies. The difference between the two subsamples (public vs. private) has been explained with factors such as liquidity, agency problems or lack of them, the nature of information, limited competition, publicity factors, and valuation of assets.

These same theories could provide explanations why public target acquirers perform better in the characteristically different North European financial market. One of the core differences between Nordic and global firms is the concentration of ownership. The Nordic countries' ownership structure is somewhat more concentrated compared to global enterprises. The limited amount of owners possibly calm down the agency problems as well as limit the information asymmetries.

Immonen (2014) states that especially following the latest financial crisis issues about the “short-termism” ownership structure of institutional shareholders have been pointed out. He suggests that many corporate governance models are failing due to lack of inadequate monitoring by the scattered shareholders. This suggests that more concentrated ownership could provide better corporate governance platform for publicly traded firms. As corporate governance impact the firm's ability to make investment decision, theories of first-rate corporate governance in Nordic firms could partly explain why Nordic firms perform remarkably well in the M&A market.

Maksimovic et al. (2013) talk about the link between productivity and acquisitions. Firms that originally have high expectations of their future growth and have a high productivity are more likely go public and then later take part in acquisitions when the opportunity presents itself. This productiveness that is attached to public firms can easi-

ly be labelled as a positive factor. Productiveness of public firms may partly explain why buying a public target is a good investment decision.

Findings on method of payment

Earlier findings (for example Draper et al. 2006 and Raggiozino et al. 2011) suggest that acquirer returns are dependent on how the takeover transaction is financed. In this study both univariate and multivariate regressions are completed to test if there is difference to be found on the level of abnormal acquirer returns in three different subsamples classified as Cash deals, Stock deals and Mix deals.

H3: Method of payment has an impact on acquisition returns

When the whole sample of 203 observation is considered there is no strong evident difference between the performance of the acquirers that financed the deal with cash or stock. Using the market model method the cumulative abnormal returns of the whole sample vary from 2.87% (mix deals) to 0.84% (cash deals). Based on these statistics we still can't reject hypotheses 3. As table 12. shows when the deals are divided into subsamples according to the target's ownership structure we find strong evidence that the method of payment is a factor of the acquirer performance.

Additionally, the method of payment is considered from the perspective of positive net present investment:

H3a: Abnormal acquirer returns are positive when the deal is financed with cash

H3b: Abnormal acquirer returns are positive when the deal is financed with stock

H3c: Abnormal acquirer returns are positive when the deal is financed with mix payment

The finding of this study show positive abnormal acquirer returns for all three types of deals. Table 14. shows the 3-day AR and CAR ranked by the method of payment and divided into subsamples according to the ownership structure of the deal.

Panel A shows that for private target acquirers financing the deal with mix payment i.e. with combination of stock and cash is the option that achieves the highest abnormal returns as the 3-day CAR sets to 2.49 percent. The least favourable option for private target acquirers is stock financing that shows an average return of -0,3 percent. The statis-

tical difference between these two CARs is 2.19% with a z-score of 6.32. In addition, cash can be recognized as a more favourable method of payment when buying private targets.

Table 12: Summary findings based on the Market Model returns

	MIX			STOCK			CASH		
	AR %	z-score	CAR %	AR %	z-score	CAR %	AR %	z-score	CAR %
Panel A: Average Ars and CARs in private target deal									
-1	0,26	0,10	-0,45	-2,21	-0,08	-1,23	0,21	0,15	0,15
0	3,02	1,21	2,58	0,63	1,05	-0,60	0,62	0,44	0,78
1	-0,09	-0,04	2,49	0,30	0,00	-0,30	0,03	0,02	0,81
Panel B : Average ARs and CARs in public target deal									
-1	-0,14	-0,07	0,02	2,22	-0,08	5,73	0,02	0,01	1,66
0	3,33	1,71	0,05	12,17	1,05	17,90	1,09	0,46	2,75
1	2,19	1,13	0,07	-2,11	0,00	15,80	0,16	0,07	2,92

Panel C: Difference between average cumulative abnormal returns between the subsamples and statistical difference of the two different CAR's

	MIX		STOCK		CASH	
	CAR1 - CAR2	z-score	CAR1 - CAR2	z-score	CAR1 - CAR2	z-score
-1	0,47	4,49	6,96	12,97	1,51	2,81
0	2,52	2,48	18,50	34,45	1,98	3,68
1	2,41	2,350	16,09	29,97	2,11	3,92

Key: the values in panel C are absolute differences between CARs of private target acquirers and CARs public targets.

Panel B shows that public-to-public deals financed with stock have a highly positive return of 15.8%. However, it has to be noted that the sample size of this subsample is very small and there is a risk it is only a coincidence that the two deals in this subsample performed exceptionally well. As a result, we cannot reliably generalize these findings.

We do not completely ignore the superior performance of the stock financed public-to-public deals as there are logical explanations offered that explain this phenomenon. All market fluctuations are based on new information received by the market. When the owners of the target are willing to accept large block of shares from the acquirer it may signal positive information as it is expected that they possess silent information of the

bidder firm and value it high as they are willing to receive these shares as a means of payment. (Martin 1996.)

Furthermore, when all of the eleven public-to-public deals are considered the level of CARs are still higher in all three subsamples compared to private target acquisitions. Panel C. shows the difference in CARs between private target and public target acquisitions. The Z.-score used to test statistical significance for the difference between two average cumulative abnormal returns are calculated as presented in Chapter 6.3.4.

From Panel C. we can infer that on average public target acquirers perform better than those who acquire private firms. One explanation for this is the size factor. As the private targets are often smaller than public ones the target is a less significant addition to the acquiring firm and as a result the market does not react as strongly to the takeover announcement (Koherns 2004).

Other factors explaining high cumulative abnormal returns for public targets acquirers compared to private targets are differences in *valuations of assets, information availability* and differences in the *negotiation process*. All these factors and theories related to them are presented in Chapter 3.1.1.

Findings supporting the block holder hypothesis

According to Chang (1998) and others following, the superior performance of private firm acquisitions financed with stock can be explained with enhanced monitoring power. When the deal is financed with common stock the sell side might become a large blockholder of the combined entity, in other words the ownership becomes more concentrated. Hence, the blockholders may monitor the management more closely and add value to the combined entity.

H4: acquirers of private target's gain more when the deal is closed with common stock

We can reject the hypotheses 4 in this form as evidently more profitable private target takeovers are closed with cash. Even higher positive returns are accomplished with deals that are closed with mix payment. This indicates that using a combination of common stock and cash may launch a more favourable market reaction. It diminishes the risk that market would react unfavourably to acquirer sides' willingness to hand out their shares. Using only stock as the method of payment can signal that the acquirer

finds their stock overvalued. This way when the stock is combined with cash this unfavourable signalling theory diminishes.

One explanation for the poor performance of cash financed deals can be that these are one-shot type of transactions meaning that the target is out of the picture after the deal is closed. This may cause a problem of asymmetric information as the target side is likely to withhold information. This problem can be diminished by using stock as additional currency, since this means the target will become owner of the combine entity. (Ragozino et al. 2011).

Even though the findings of this study are in contrast to previous findings on the same theories presented in earlier studies, these findings can be used to explain why deals in specified subsamples perform better than others. The Nordic firms have a high level of concentrated ownership structure regardless of whether the firm is private or public. This means that the blockholder hypothesis is supported even in cases where the target is listed. The magnitude of blockholders creation may even be stronger in cases where a listed target has a limited amount of owners as the value of these public deals is often greater compared to private target transactions.

8.3. Reliability of the findings

The conventional event study method presented by Brown and Warner (1985) requires a long estimation period that is free from the event under scrutiny. In other words the definition of normal or standard returns have to be defined before it is possible to know what can be considered as abnormal. Defining the normal level of returns is a complex process as stock prices are rarely normally distributed. To make the findings as reliable as possible this study uses three different methods to define expected returns as well as ARs and CARs.

Although the average findings of the whole sample are not statistically significant when *the constant mean model* or *the market adjusted model* are used these models offer us valuable insight. The findings of these two models are in line with the significant results measured with *the market model* making them more reliable.

When considering the findings' reliability the sample size has a crucial role. As noted earlier the sample size is limited in this study especially when considering certain sub-

samples. There was only 11 public-to-public deals that took place in the Nordic takeover market in last decade that also met the criteria for the sample screening of this study. To expand the amount of observations a longer timeline could be applied. As the financial market cannot be considered to remain the same over decades expanding the timeline is not often endorsed. Other option is to loosen the sample screening. As described in Chapter 5.3. every restriction applied for the initial sample is justified. Additionally, most of the limitations in sample screening are based on limitations in data availability.

8.4. Suggestion for further research

The focus of this study is in short-term acquirer performance, whereas we completely ignore the long term wealth effect of the takeover transaction. In their UK based study Ekkayokkaya et al. (2009) state that even though unlisted-target acquirers seem to achieve abnormal profits after the announcement day, the long run results indicate something else. They even suggest that acquisitions of unlisted targets cause substantial losses in the end, whereas the long term performance of listed target acquirers are more positive in the UK. Hence, a suggestion for future research is to measure the long term performance of the Nordic acquirers as not a single study on the subject was found.

Ekkayokkaya et al. (2009) also claim that the gains experienced after the announcement are an outcome of investors' excessive optimism which is a product of biased and limited information. To test whether these claims hold in the Nordic takeover market different approaches to measuring stock performance would be required. Hence, the long term performance of an acquisition is hard to measure, because in a longer period it is impossible to isolate the impact of the merger from other factors influencing firm performance. For this reason long-term studies have gained some negative feedback for delivering results that are hard to define as statistically significant. (Anderade et al 2009).

Pre- and post-merger profitability of the acquirer is also a topic that could require more examination. If takeovers actually create value this should be seen in an actual operational performance of the acquiring company i.e. the wealth effect should at some point correspond to the cash flow of the firm. These studies commonly focus on accounting data such as return on asset and operating margins while measuring profitability.

Two best-known studies that particularly measure operating performance of the acquirers are Ravenscraft and Scherer (1989) and Healy, Palepu and Ruback (1992). While the first study finds a positive link between mergers and productivity with their industry divided data, the other comes to a conclusion that mergers destroy value on average. Hence, these authors reach very different conclusions about the actual acquirer gains in mergers. Additionally, both of these studies are based in the US and also suffer from data limitations. A study about operational pre- and post-merger of Nordic public-to-public deals could provide us insight if these transactions can truly be considered as a profitable investment.

This paper, like most studies before this, focuses on the acquisitions done by listed firms. However, this does not mean that unlisted firms do not participate in the takeover market. The reason for the lack of research is evident, and that is a lack of data availability. The performance of the private-to-private deals is difficult to measure as there is not stock price data that could be used to define abnormal returns. The performance of these transactions could be evaluated with historical accounting data. This would require a lot of hand collecting and critical evaluation of the information as the accounting regulations are not universal.

8.5. Conclusion

In this paper, we examine the acquirer returns of Nordic takeovers over the years 2005 to 2015. We present empirical evidence on abnormal returns for both public-to-public and public-to-private acquisitions. Furthermore, we analyze how the acquirer's choice of financing method impacts the profitability of the transaction

We report that acquisitions, on average are positive net present investments for acquirers in the Nordic market. Later, we find strong evidence for positive abnormal returns for bidders that acquire public targets with stock, whereas acquirers acquiring private targets with shares come dangerously close to destroying their own share value in these transactions. For public-to-private acquirers the combination of cash and stock is clearly the most favorable method of payment.

Our findings are in sharp contrast to previous findings (see for instance Chang 1998) where more positive abnormal acquirer returns are found from public-to-private deals

financed with common stock and where cash is strongly found to be the best payment method for public-to-public acquirers.

Table 13: Comparable findings about CARs between different markets

	PUBLIC TARGET		PRIVATE TARGET	
	UK & US	Nordic	UK & US	Nordic
CASH	<i>positive (low)</i>	<i>positive (low)</i>	<i>positive (low)</i>	<i>positive (low)</i>
STOCK	<i>negative (low)</i>	<i>positive (high)</i>	<i>positive (high)</i>	<i>negative (low)</i>
MIX	<i>NA</i>	<i>positive (low)</i>	<i>positive (low)</i>	<i>positive (high)</i>

Key: the words *negative* and *positive* refers to various finding where the cumulative abnormal returns (CARs) are found on average positive or negative.

To clarify these opposite findings between the US and UK markets and the Nordic M&A market we simplified the main findings in Table 13. The most favorable option for each group is bolded. We can see from here that the effect of public target acquisitions in the Nordics resembles earlier findings linked to public-to-private deals.

Our findings show that acquirers of public targets experience abnormal and positive returns regardless of the payment method. Even more, abnormal positive returns are recorded for deals financed with common stock instead of cash, whereas for public-to-private acquires the use of only stock is the least favorable option.

As public-to-public acquirers performed better in all three subsamples based on the payment method our study shows no evidence on liquidity discount of private targets existing in the Nordic takeover market. One could make a proposition that liquidity is a problem concerning both the public and private firms in the Nordic market diminishing the impact of this factor in the Nordic market.

Earlier discussion about liquidity short comes also to suggest that shareholders of public firms wanting to cash out always have an option to sell their stock to the market. This is not always the case in Nordic corporations where managerial ownership is common even for public firms. The selling of their own shares is often limited by firm policies (silent windows etc.) or even by law. Additionally, if these managers/owners start selling large blocks of their stock to the public it may signal negative information to the market and cause a drop in the market value of their own firm. Therefore, for public

firms with concentrated managerial owners the only possible way to cash out is to sell their firm. However, this is all a speculation as no earlier M&A studies offering this theory was found.

As the empirical results of this study are not in line with earlier finding it raises the question of why? One explanation could be the ownership structure of Nordic firms. Nordic firms compared to firms acting in a global financial market still have relatively high levels of concentrated ownership and managerial ownership. One could state that even Nordic public firms possess qualities that are normally associated to private target in bigger markets such as US, UK and continental Europe.

We suggest that high performance of public-to-public acquirers may rise from ideal corporate governance models linked to Nordic firms. The earlier statement of Maksimovic et al. (2013) support this claim by stating that because of the more efficient corporate governance public firms make superior acquisition decisions compared to private firms measured by efficiency gains. This seems to hold even though conflict of separation of ownership and control causes more stress in public firms than in privately owned which often have concentrated ownership. They indicate that easy access to capital for public firms may be more valuable than the possible value lost from the separation of ownership and control. (Maksimovic et al. 2013: 2216.)

Moreover, the Nordic public firms are not often faced with the trade-off between separation of ownership and access to capital as even public firms operating in the Nordic market have relatively high levels of concentrated ownership compared to the US, UK and continental European markets. This reasoning makes the exceptional corporate governance of Nordic firms a convincing explanation for high performance of public-to-public acquirers in the Nordic takeover market. (Immonen 2014.)

Our findings show that for the public-to-private deals the higher CARs were found on mixed payment deals. The lack of earlier research focusing on mix payment deals may tell us more about the difficulties in isolating the effects from one another than for the lack of evidence that mix payment deals perform well. We suggest that mixed payment deals may include the positive influence from both the cash and stock payments. Hence, the problems linked to only cash and only stock deals may decline when these are combined.

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