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Master Thesis

Do Acquiring Firms Gain from Takeovers?

Empirical evidence from the Norwegian stock market with a focus on the payment method

Navn:	Thea Marie Gravdal, Eline Haugetun Kokkersvold

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Abstract

The objective of this thesis is to examine the economic effect when announcing a takeover in the Norwegian stock market. The research investigates acquisition announcements between 2009 – 2018, where the goal is to see the impact that the payment method has on the abnormal returns. This research has applied event study methodology, finding that the acquiring firm on average experience a negative abnormal announcement return of -1,38%. However, when checking for cash and stock as the payment method, the research finds that cash has a positive significant abnormal return of 2,34% and stock have a negative significant abnormal return of -3,01%. Hence, we find evidence of higher abnormal return when using cash as the method-of-payment. Furthermore, cash is robust and holds when controlling for different measures of payment methods, deal characteristics and firm characteristics. In conclusion, the acquiring firm creates value for its shareholders under certain conditions.

1.0 INTRODUCTION

Two of the most crucial factors for companies today is to innovate and grow. Companies with a strategic focus on growth have several options on how to act. Today, one of the most common ways to grow in the corporate environment is through mergers and acquisitions (M&A). Operating with M&A seems like the ideal way to grow your company from the outside, but unfortunately, many acquisitions end up in failure. This means that the company will end up with lower operating performance than expected (Ismal et al., 2011). M&A activities is somehow an "easy" way to grow a company, compared to other strategies (Datta & Grant, 1990). When a company acquires or merge with another firm, they quickly expand their scope and scale (Harrison et al., 2001), while retrieving new knowledge, technology, and capabilities with a tremendous amount of control (Ranft & Lord, 2000).

Far from all acquisitions turn out to be successful. What people associate the word "successful" with, differs when discussing the performance of a company, leading to a vauage result of the failure rate after an acquisition. The company-performance in event studies is estimated using abnormal returns, which are the difference between the actual return and the expected return of a company. The studies of Christensen, Alton, Rising & Waldeck (2011), indicates that the rate of failure in an acquisition is somewhere between 70 and 90%. Deutsch & West (2010), however, claims that the failure rate is between 66 and 75%. Both studies are indicating that the rate of failure is extremely high, which is mainly because of the poor integration process after the acquisitions.

Berk and DeMarzo (2017, p. 994) contend that because of the complexity of the deals and the money at stake, decisions concerning M&A are some of the essential choices financial managers make. In an M&A deal, the acquiring company can pay with cash, stocks or other payment methods which the parties agree upon. Researchers, like, Loughran and Vijh (1997) show that combinations developed with cash offers, gain significantly higher returns than those acquisitions related to stock offers. One of the reasons why cash offers can be associated with better post-acquisition is a result of the post-combination of the operating performance for cash offers that may present better than the observed post-combinations associated with stock offers (Linn & Switzed, 2001).

The acquiring firms usually have limited cash and liquid assets to pay for the target. The consequences are typically a higher debt when cash is used as the method-of-payment. Hence, the acquiring firm is indirectly facing the choice between debt financing or equity financing. This contains a trade-off between issuing equity with corporate control concerns on one hand and rising financial costs of issuing debt on the other. Hence, the debt capacity and the existing leverage can influence the bidder to choose the payment method (Faccio and Masulis, 2005). In contrast with the bidder, the targeted firm can face a trade-off between risk-minimizing and better liquidity with cash payments on one hand, and tax benefits of stock payments on the other. When accepting stock as a payment method, the targeted firm can defer their tax liabilities, but on the other hand become a minor shareholder in a firm with concentrated ownership, thus avoiding the accompanying moral risk problems. If they accept cash as the method-of-payment, they get paid immediately, while avoiding the risk related to the stock offered.

Standing theories regarding capital structure states that debt capacity is a negative function of asset volatility, whilst contributing as a positive function of growing income, tangible assets and asset diversification (Hovakimian, Opler and Titman, 2001). A firm with a considerable amount of tangible assets can borrow more in the bond market. Larger firms usually diversify their assets more than smaller firms. The diversification makes the risk lower concerning bankruptcy at a specified leverage ratio, in addition to getting a better debt capacity. These examinations regarding financial constraints and bankruptcy risk can reduce the amount of cash that the lender is willing to finance the acquiring firm with, mainly when the deals are more extensive.

Research question

This thesis examines the relationship between acquisition and the abnormal return of the acquiring firm and whether the company is offered stock or cash as the method-of-payment. We claim that this master thesis is decidedly relevant and provides meaningful insights for research in the Norwegian M&A market. One of our main drivers is to find useful insights that will empower investors,

policymakers and financial managers to make more informed decisions in the future.

We, therefore, aim to answer these following research questions:

1) *Do corporate acquisitions have a significant influence on the abnormal return for the acquiring firm in the Norwegian stock market?*

2) *Does cash or stock as the method-of-payment in an acquisition transaction have a significant influence on the abnormal return for the acquiring firm?*

2.0 LITERATURE AND BACKGROUND

2.1 Motives for M&A

There is a wide range of theories to justify the source of value creation or value destruction in a company after a takeover. One of the most fundamental questions in the takeover literature is whether the acquisition creates a more efficient resource allocation and thus creates value for the shareholders. The three main theories, according to Berkovitch and Narayanan (1993), are 1. Efficiency and synergy gains, 2. Hubris, also known as the winner's curse, and 3. Agency problems.

Efficiency and synergy gains are often the most common economic argument when carrying out mergers and acquisitions. A value-creating motive assumes that both the managers of the acquiring firm and the managers of the targeted firm wish to maximise the wealth of their shareholders. Consistently, an acquisition will only take place if both companies' shareholders end up gaining profit (Berkovitch and Narayanan 1993). Synergy gains can come from economies of scale, for example, by improving the economy or by increasing operational efficiency. The synergy is usually calculated by adding the return of the bidder and the target. In a US study of transactions from 1990 to 1999, Mulherin and Boone (2000) report an average overall abnormal return of 3.56%.

The Hubris hypothesis, introduced by Roll (1986), states that it is irrationality that arises when the transfer of wealth occurs from the buyer to the seller. The central prediction of the hypothesis is that the total combined takeover gain to the target and the acquiring firm shareholders is non-positive. Roll claims that the acquiring firms' managers are afflicted with hubris (excessive pride) in corporate takeovers. The managers look at the targeted firm and assume that they can run the company better than the current target managers. Consequently, believing that they are smarter than all market participants because they "know" the true value of the target. This often leads towards an overpayment of the target, and the acquiring firm faces the winner's curse. An acquisition can be predominated by hubris when the total gain is non-positive, simultaneously with a transfer of wealth from the shareholders of the acquiring firm to the shareholders of the targeted firm (Roll, 1986). Hence, a diversified shareholder will end up with a net effect equal to zero.

Research by Malmendier and Tate (2008) concerning the hubris hypothesis, found that overconfident managers are 65% more likely to make value-destructive acquisitions.

Jensen and Meckling (1976) specify the agency hypothesis. They say that agency problems arise when there is a conflict of interest between the owners (principal) and the managers (the agents) in a company. Asymmetric information permits the managers to expropriate the company owners, for example, by taking personal advantage of running a larger company and overpay in an acquisition. The targeted firm is expected to get a positive gain when the acquisition is dominated by the agency, while the net effect is ambiguous (Berkovitch and Narayanan, 1993). Consequently, there is a reason to argue that the leaders want to maximise their utility at the expense of the shareholders'.

2.2 Literature review

This part is meant for investigating leading and related theories within the subject of our research. First, we will look at studies where the operating performance varies in different event windows, and whether this has a significant effect around the announcement date. In event studies, operating performance is evaluated by looking at the abnormal returns during the event. Secondly, we will focus on studies that have sought to establish the relationship between operating performance and the payment method.

Abnormal return

Ever since Fama, Fisher, Jensen and Roll (1969) did their research on stock splits, event studies have been the authoritative methodology when estimating the abnormal return in an event (Boehmer et al., 1991). Mulherin and Boone (2000) examined 281 US acquisitions between 1990-1999. They found that the acquiring companies, in a three-day event window, are experiencing a negative insignificant average announcement return of -0.37%. Another study by Andrade et al. (2001), investigate a sample from 1973 to 1998 of 3 688 US acquisitions. Their research found that acquiring firms achieved an insignificant negative abnormal return in the range of -0.7% to -3.8%. Bradley and Sundaram (2006) use a four-day event window to find an insignificant average abnormal return of 1,4%. This research looked at a sample of 12 476 US acquisitions in the period between 1990 to 2000. Considering these

studies, one can conclude that abnormal returns are not systematically different from zero concerning the acquiring firm. Empirical evidence is consistent with this, indicating that the market expects the acquiring firm to earn its cost of capital (Copeland et al. 2005).

Price behaviour around the announcement day of an acquisition reflects the combined effect of all information that is released (Halpern, 1983). Moeller et al. (2004) claim that smaller acquirers will exceed larger acquirers at any time, independent of the organisational form of the target nor the payment method. The article split its sample into different sections where they look at small and large acquirers in a three-day event window. Their findings show that small acquirers experience a significant positive abnormal return on 2.32% and a significant value creation to shareholders of $ 1.7 million on average. Contrary, large acquirers experience a small abnormal return on 0.08% and a considerable value decrease on $ 47.9 million on average. Moeller et al. (2004) use a sample of 12,023 US acquisitions between 1980 and 2001, where their findings state that acquiring firms in general experience a positive significant equally weighted abnormal return of 1.1%.

There has been extensive research done on abnormal returns associated with acquisition announcements, and the question about which variables to include when finding the successful acquisition method. Huang and Walkling (1987) claim that abnormal returns are related to the payment method, the type of offer and the degree of resistance at the time of initial acquisition announcements. They state that these characteristics have an interdependence, which is essential to maintain. On the contrary, Moeller et al. (2004) study the size effect between small and large acquirers and define this as the difference between the abnormal returns of small acquirers and large acquirers. Other researchers claim that knowing about the target firm's industry can more likely reduce the period of integration. Consequently, they can further improve the post-acquisition process (Harrison et al., 1991).

Besides, many researchers arguing whether the abnormal return has any significant relationship with the focus of the target industry. Ghosh (2001) finds a decrease in the operating performance when the acquiring firm focuses on the sector of the target, while the opposed argument is a broad stream of research purpose that there is

no significant relationship between the abnormal return and the industry focus (Fowler & Schmidt, 1989; Martynova & Renneboog, 2008). Lastly, some researchers report an increase in the operating performance (Healy et al., 1992; Heron & Lie, 2004), which makes one conclude in inconsistent evidence on industry focus so far.

In an acquisition, the deal is categorized as friendly or hostile. A takeover is seen as friendly if the managers of the target propose a deal or do not reject an already proposed bid (Morck et al., 1988). Acquisitions categorised as hostile are either an undisclosed agreement between the managers or an agreement directly addressed to the shareholders. Huang and Walkling (1987) find that hostile acquisitions are associated with insignificant higher returns compared to friendly acquisitions. They also check for relatedness between the form of payment and type of offer. The research finds no significant abnormal returns between tender offers and mergers. Contrary, Jensen and Ruback (1983) find a significant weighted abnormal return of 16,3% for mergers, and 30,9% concerning tender offers, which is consistent with other researchers. Most acquisitions are categorised as friendly due to the integration process post-acquisition, which is more effective with good cooperation from both parties (DePamphilis, 2010; Morck et al., 1988;).

The acquiring company often has to offer a purchase premium, which is the difference between the purchase price and the target share price before share purchase (Haleblian et al., 2009). The purchase premium generally includes all possible synergies minus the cost of the acquisition. (DePamphilis, 2010; Morck et al., 1988).

The article conducted by Ghosh (2001) claims that previous studies of abnormal return following corporate acquisitions in a firm are likely being biased. The study re-evaluates other scientists results by examining 100 of the most significant US acquisitions done over a 15-year horizon. He argues that acquiring firms usually are more extensive than industry-median companies and claims that the acquiring firm engages in the M&A activity after an outstanding performance, which provokes the returns. After checking firms on their firm size and historical performance, Ghosh finds no evidence for abnormal returns post-acquisition.

The impact of the payment method

Empirical studies have found a significant effect of the payment method as an important explanatory factor concerning abnormal returns. Linn & Switzer (2001) studied the correlation between the change in the abnormal return of merging firms and whether the acquiring firm offered cash or stock as the payment method. Linn & Switzer (2001) and Gosh (2001), amongst others, claims that the change in the abnormal return of the acquiring firm is significantly higher when the company offered cash compared to other payment methods. Linn & Switzer examined 413 combinations consisting of two overlapping samples. The difference between the samples is that one has a weak restriction on the number of years, while the second looks at the companies available with five or more years of data before and after the acquisitions. Both tests provide the same result, claiming that the abnormal return in a company is significantly more significant for cash offers compared to stocks offers. These research results are in accordance with the explanations of Fishman (1989) and Berkovitch & Narayanan (1990), who explain why cash is paid instead of shares.

Andrade et al. (2001), and other researchers find that when the acquiring firm use the stock as the payment method, it reduces the firm's gain when the acquisition is public. Furthermore, they found significant positive abnormal return when the acquisitions were paid with equity or cash, which indicates a non-reversible payment method over time. Andrade et al. (2001) and Myers and Majluf (1984) claim that the acquiring firm has tendencies to offer equity when their stocks are overvalued and cash when their stocks are undervalued. This claim is consistent with the pecking order theory, which states the same. Myers and Majluf (1984) also argue that cash payment gives a signal to the market that the management of the acquiring firm expects a value increase in the post-acquisition period. Hence, there will be a higher abnormal return on all cash offers, while a negative abnormal return on the day of the announcement of all equity offers (Travlos 1987, Walker 2000, Heron and Lie 2004, Dong et al. 2006).

On the contrary, we see that in more recent studies, some researchers claim that acquiring firms' abnormal return is not dominated by the payment method. Betton et al. (2008) argue that the main factors for abnormal returns in a takeover are the status of the targeted company, as a public or non-public company, and the size of the

acquiring firm. The research used a selection of American acquisitions during the period 1980 to 2005 with a three-day event window. A combination with stocks as the payment method, a sizeable acquiring firm, and a public target constituted the worst-case scenario. On the other hand, the best-case scenario combined payments with only shares, a small acquisition company and a private target company. The findings coincide with Bradley and Sundaram (2006) who received positive abnormal returns on the purchase of private target companies and negative at public target companies. Bradley and Sundaram (2006) also found positive abnormal returns when equity was used as the payment method in private target companies while in public companies, the findings were still a negative abnormal return. Hence, due to the different results, there is inconsistent evidence concerning the payment method.

3.0 HYPOTHESIS AND METHOD

3.1 Hypothesis

The objective of this thesis is to find the acquiring firm's economic effect of an acquisition announcement in the Norwegian Stock Market. The main research is that acquiring firms' abnormal returns from acquisition announcements are affected by the payment method.

First, we want to prove that there are indeed abnormal returns following acquisition announcements.

$$H_{A1}: CAR \; acquisition \; announcement$$
$$\neq 0 \; (Abnormal \; returns \; are \; significant)$$

With this hypothesis, we can observe abnormal returns different from zero during the days around the event. If we reject the null hypothesis then the abnormal return is significantly different from zero at one of the coefficient intervals.

Lastly, we wanted to test the differences between the abnormal returns surrounding the announcement of cash offers versus the returns surrounding the announcement of stock offers.

$$H_{A2}: CAR \; with \; cash \; as \; the \; method \; \neq 0$$

$$H_{A3}: CAR \; with \; stock \; as \; the \; method \; \neq 0$$

With these hypotheses, we want to find out whether the average cumulative abnormal return for the acquiring firm is different when the payment method is cash versus stock around the announcement date. We can reject the null hypothesis if the abnormal returns from a cash or stock payments, separately, are significantly different from zero at one of the coefficient intervals. Further, we compare the payment methods to check if one of them is more significant than the other. Consequently, we can confirm whether the method-of-payment have any remarkable effect on the abnormal return.

3.2 Methodology

The primary objective of this study is to understand, identify and measure if acquisition announcements create any abnormal returns and whether the payment method has any effect on this. In our investigation, we deploy the event study methodology. The procedure was developed in the 1970s and is widely acknowledged in the regimen of evaluating M&A effects (Duso et al., 2010). An event study is used to analyse security and the pricing around significant firm-specific events, such as M&A. It is based upon the essential idea that the price of the firms' security represents a company's future profits. Consequently, market reactions to acquisition announcements can be used for estimation of the profitability of the acquisition.

The day of the acquisition announcement is the time of the event, which is also known as the day the deal becomes public information. The event window is the interval periods that are chosen for the studies, where 0 is the announcement date. The event window estimates the parameters of the benchmark expected return, which permits us to determine the abnormal returns in the event window. Our study uses the same event window as Moeller et al. (-1,0), (-1, +1) and (0, +1). Bodie et al. (2011) claim that stock prices can be affected by leakage of information before the announcement date, which makes us include a new event window of +/-10. The control event window is used to investigate whether our sample is significantly affected by the eventual leakage in the pre-event period. The post-event period is included due to any delays in the information that is being disseminated (Peterson 1989).

3.2.1 Estimating the abnormal returns

The abnormal return of security *i* is determined using the difference between the actual return and expected return of the different companies around each event. *(Equation 1)*

$$AR_{it} = R_{it} - E(R_{it})$$

The expected return for security *i* at time *t* is calculated using the Market Model (MM). MM has proven to be more effective than other models (like the capital asset pricing model or the market adjustment model) when estimating the expected return (Brown & Warner (1985) and Cable & Holland (1999)).

(Equation 2)

$$E(R_{it)} = \alpha_1 + \beta_i R_{mt} + \varepsilon_{it}$$

Where

$$E(\varepsilon_{it}) = 0 \ Var(\varepsilon_{it}) = \sigma_{\varepsilon t}$$

We used a logarithmic approach to estimate the returns, as it is more likely to be normally distributed and conform to the assumptions associated with statistical techniques, such as variance error terms (Strong, 1992).

The sample in this study consists of companies that are listed on the Oslo Stock Exchange (OSE). This index was also applied when the market return was estimated. We have used excel to run our model using a rolling window. This determined the covariance between the market return and the return of each stock and the daily variance of the market return. Consequently, we can find the beta for every company and estimate the sensitivity to the market. α_i will then be the average rate of return the stock would realise if the market return was zero.

To determine the abnormal return in a broader event window, we need to calculate the cumulative abnormal return (CAR). Which is the sum of the average abnormal return each day from time t_1 through time t_2.

(Equation 3)

$$\overline{CAR}_i(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} \overline{AR}_{i\tau}$$

3.2.2 Testing the hypothesis

When testing the hypothesis of abnormal return at the given event windows, we pursue the approach of MacKinlay (1997) with a two-sided t-distribution. Our null hypothesis states that the mean CAR is equal to zero around the acquisition announcement. We have used the following test estimator to test our null hypothesis, which states that the mean cumulative abnormal return is significantly different from zero:

(Equation 4)

$$\theta_1 = \frac{\overline{CAR}_{(\tau_1,\tau_2)}}{VAR(\overline{CAR}_{(\tau_1,\tau_2)})^{1/2}} \sim N(0,1)$$

Where

(Equation 5)

$$VAR(\overline{CAR}_{(\tau_1,\tau_2)}) = \sum_{\tau=\tau_1}^{\tau_2} VAR(\overline{AR}_\tau)$$

Where we use a sample variance estimator $\hat{\sigma}\varepsilon_i^2$ from the market model regression because the variance of the abnormal return is not known from equation 5 (MacKinlay, 1997).

(Equation 6)

$$\sum_{\tau=\tau_1}^{\tau_2} VAR(\overline{AR}_\tau) = \frac{1}{N^2} \sum_{i=1}^{N} \sigma_{\epsilon_i}^2$$

3.3 Limitations and econometric issues

When applying an event study, you must be aware of certain limitations and issues. The most perceptible is the assumption regarding market efficiency, whereas, in a short period of time, the stock prices are presumed to reflect all of the new information. One possible result when predicting the market efficiency hypothesis is possible anomalies (Fama, 1998). Fama claims that if the hypothesis holds, then both overreaction to the information should be just as usual as underreaction. Also, the post-event extension from the abnormal returns from pre-event observations should be observed as frequently as the post-event reversal. Consistently, for our results to be valid, one must assume that the market efficiency hypothesis holds.

Assumption concerning of the normality of the data is very crucial in econometrics. Although we find deviations in our data, the sample is sufficiently large enough for us to rely on the central boundary theorem (Kothari and Warner 2007). In econometrics, due to volatility, the variance is often undervalued. In

event studies, this applies to specific event time clusters, which affects the test statistics upwards and the null hypothesis is rejected more often than necessary. MacKinlay (1997) has suggested a test estimator that we use to adjust this problem.

Lastly, we should carefully interpret the cross-sectional regressions based on company characteristics. In the case of abnormal returns, heteroscedasticity is an apprehension that we solve using White's adjustment. Acquisitions are endogenous events, and it reflects the choice of event for the acquiring company, which reflects the inside information of the acquisition (Kothari and Warner, 2007).

4.0 DATA

This thesis investigates the effect of an acquisition on stock prices and whether the announcement of acquisitions on the Norwegian market generates an abnormal return for the acquiring company. We examine acquisitions announced between January 2009 and December 2018. The source of our sample is the Zephyr database constructed by Bureau van Dijk (BVD). While we obtained information about the transactions from Zephyr, we also checked if some of the dates in our event window were on a holiday or the weekend. If so, the next or previously available trading date was applied, collected from the Bloomberg terminal. All mergers and acquisitions included in the sample must satisfy specific screening criteria.

4.1 Descriptive statistics

The total of all acquisitions in our sample are distributed over the time period 2009 until 2018 in table 1. We will in this section document pronounced time trends in the method-of-payment. The sample contains 3849 transactions in total, where we got 971 deals where the payment method was stated.

Table 1 - The table consists of all the descriptive statistics with deals between 2009-2018 with firms listed on the Oslo Stock Exchange. It is informed 971 transactions with the given payment method. 89% cash transactions and 11% stock deals of the reported transactions. 75% of the sample is categorized as undisclosed.

Year	Stock	Cash	Undisclosed	Total deals
2009	13	98	365	476
2010	16	90	472	578
2011	15	72	465	552
2012	10	101	419	530
2013	11	80	394	485
2014	10	72	234	316
2015	3	45	150	198
2016	9	82	96	187
2017	9	126	155	290
2018	9	100	128	237
Total	105	866	2878	3849

In figure 1 we can see that the number of transactions is relatively steady from 2010 through 2013. There is a 61,3% reduction in the number of takeovers from 2013 until 2016. Following, we see a sharp rise in 2016 to 2017, but it is still lower than it was during the first part of the sample period. The number of takeovers has subsequently levered off. For the descriptive statistics, we include a higher number of transactions than in the later event study and regressions, due to lower screening criteria.
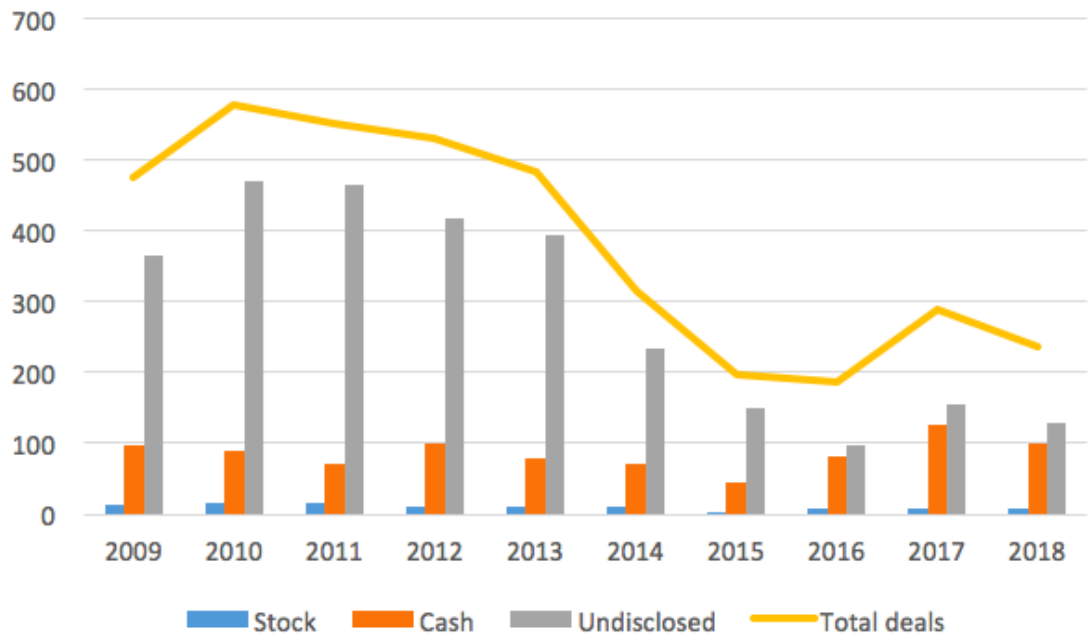

Figure 1 - Comparison of cash and stock acquisitions together with the undisclosed and the total number of acquisitions listed Norwegian firms between 2009 and 2018.

Further, we compare cash acquisitions to stock acquisitions. The most popular method of payment in an M&A deal on the Norwegian capital market is cash payment, which is a simple purchasing action. Cash payment means the acquiring corporation purchases a certain number of assets or stocks from the target company, by paying a certain amount of cash. At their peak in 2017, cash payment represented more than 40% of the sample but decreased thereafter. The fraction of stock deals declined gradually with the sample period.

4.2 The sample

Further, we had to make certain limitations for the regression to have accurate results. First, each combination consists of target and bidder pairs, where a tender offer led towards an acquisition deal. The deal must classify as an acquisition, which includes all transactions where the bidder ends up with more than half of the target's equity. When the deal classifies as an acquisition, other various corporate control transactions from our data is effectively excluded. The foundation for the classification requirement is to isolate the effects that come with an acquisition. The isolation will make our sample more specific, and the danger of potential bias from other various transaction forms will not be a part of our data. Additional research on M&A payment methods is equivalent to this, such as Karampatsas et al. (2014).

We depend upon the deal to have recorded payment method segmentation. Zephyr requires compacted information on the deal payment in order to include it in the database, which makes a substantial number of deals disappear in this step. The acquisition was excluded from our sample if the method-of-payment involved security other than stock or cash. The acquisition also needed to be classified as completed.

Further, we imposed the geographical restrictions on the deals included. Both target and bidder must be a part of the Norwegian market. Consequently, we used the criteria where both the target and acquirer are companies with shares listed on Oslo Stock Exchange. Even though the importance of the operating performance applies to all firms and shareholders involved in an acquisition, independent of the home country, we chose to focus on Norway. The Nordic markets have some unique characteristics compared to other economies around the world. For instance, Norway has different corporate governance structures, dividend policies and income distribution on the general population.

We only include acquisitions with sufficient information. Included transactions for each hypothesis are reported in table 2.

Table 2 – The sample. This table contains all completed acquisitions between 2009-2018 with firms listed on the Oslo Stock Exchange. The companies in this sample satisfy different criteria fitted for our study. HA1 is our first alternative hypothesis, whereas we focus on the abnormal return on the Norwegian market, while our second alternative hypothesis, HA2, focuses on the payment method effect concerning the abnormal return.

Hypothesis	Included transactions	
H_{A1}	121	
	Cash	Stock
H_{A2}	87	26

5.0 EMPIRICAL RESULTS

5.1 Trend plots

Following the methodological event study approach, we have calculated the average abnormal return for our sample. The average abnormal returns have been estimated using the market model in a [-10, +10] event window.
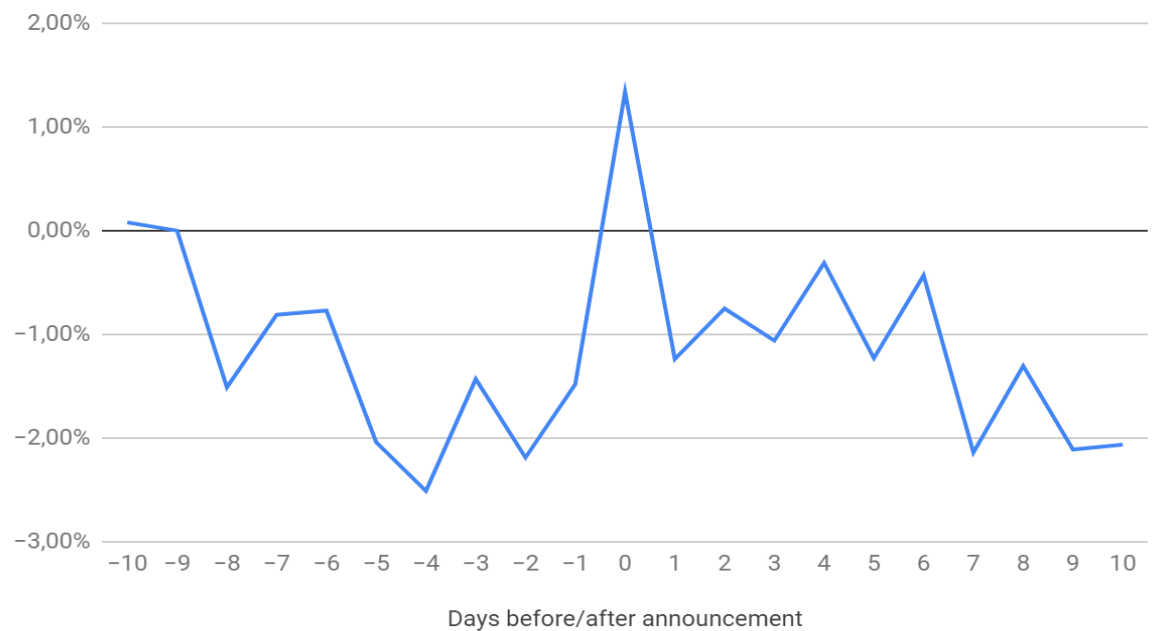

Figure 2 - Average abnormal return over 20 days. The horizontal axis represents the timeline around the event date (ten days before and ten days after the announcement date) where the event date is time 0. The vertical axis represents the abnormal return in percentage. The blue line shows each day's average abnormal return, calculated as the difference between expected return predicted by the market model and the actual return.

Figure 2 shows the abnormal return chart and a pattern that may resemble a random walk on the days absent from the event date. However, there is a significant increase in abnormal return at day 0, indicating that there was no leakage of information into the stock market before the announcement date. The abnormal return is significantly different from zero on the day of the announcement, with a 95% confidence interval. Since there is a significant difference concerning takeovers on the announcement day in the Norwegian

market, we further look at the event window (-1, + 1) when focusing on cash and stock payments. With this focus, it will be easier to see if one of the payment methods makes a more significant difference in our sample than the other.
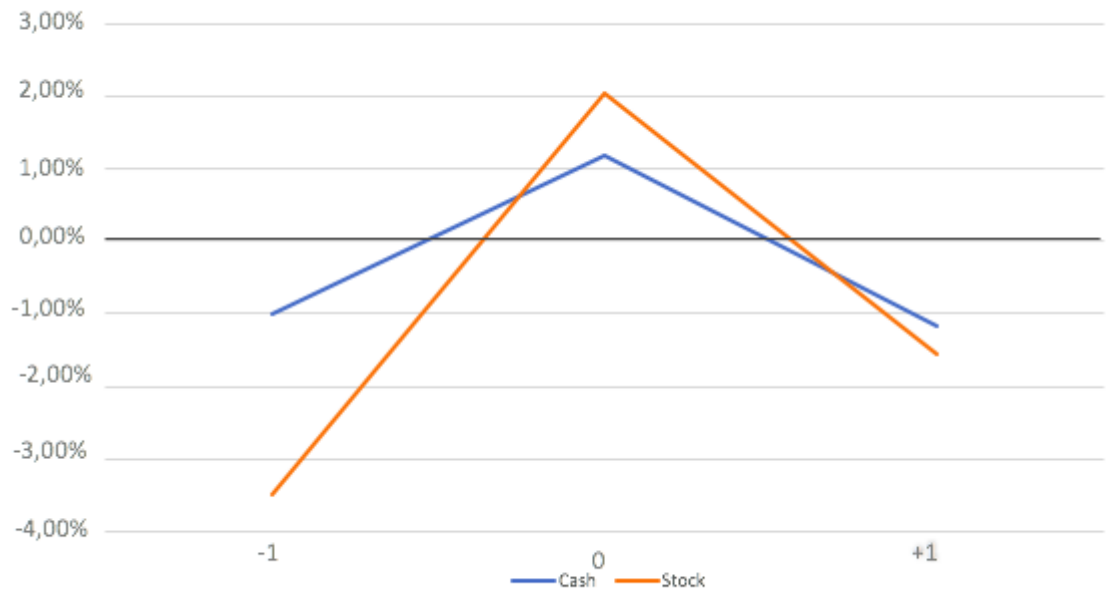

Figure 3 - Average abnormal return concerning cash and stock payments. The horizontal axis represents the timeline around the event date (one day before and one day after the announcement date) where the event date is time 0. The vertical axis represents the abnormal return in a percentage. The orange line represents the average abnormal return during the event window when the acquisition was paid with stocks, whereas the blue line represents the same paid with cash. The average abnormal return is calculated as the difference between the expected return predicted by the market model and the actual return.

As shown in figure 3, we see a more significant difference in the abnormal returns were the acquisitions is paid with stocks, compared to those paid with cash. The acquisitions paid with stock is significantly different from zero at the 5% level and have an average abnormal return of -3.493%. However, crucial external information in the market concerning each independent company in one or more of the companies could have affected this. Some of the companies included in our dataset do not necessarily have managers who focus on the increase in shareholders' value. This is sign of the agency problem, and the result of this may have an impact on the average abnormal return in our dataset. Addressing Jansen

et al. (2012), smaller firms make more synergy-driven acquisitions, and larger firms are making acquisitions driven by agency and motives.

5.2 Results from comparative event studies

For the cumulative abnormal return, we present different event windows in our study. Furthermore, when we look at the robustness of the tests, we will focus on the event window of (-1, + 1).

5.2.1 Abnormal return in the Norwegian market

To check whether the payment method has an impact on the abnormal return in a takeover, we tested the results against samples of abnormal returns in the Norwegian market. In addition to creating robustness, the example from the Norwegian market can give more confidence in our results, especially if these findings are consistent with previous studies. The test regarding the abnormal return on the Norwegian market will be the basis for further analysis concerning the payment method. Here, we include all available values as described earlier in the data section. The support in our data has a small deviation due to the exclusion of companies that lacked CAR during the given sample period.

Our first alternative hypothesis is that the abnormal return from acquisition announcements are significantly different from zero from the acquiring firm's perspective. We test our data sample for cumulative abnormal return before conducting the paired t-test to check for significant differences. The p-value for each event window is reported, which is the probability from the paired t-test. Consequently, if the p-value is significant, then there is a difference in the average cumulative abnormal return of our sample.

Table 3 - Acquisitions in the Norwegian market. CAR(-1,0) represent the two days event window of the day before the announcement day and at the actual day, CAR (-1,+1) the three-day event window before and after, and (0,+1) the two days event window after the announcement day and at the actual day. All the CAR's are calculated using the market model. The calculations and tests for significance of CAR are calculated in accordance with the methodology section.

Acquisitions on the Norwegian market				
	Average abnormal return	t-stat	N	P-value
CAR (-1,0)	-0,140 %	-0,535	121	0,826
CAR (0,+1)	0,100 %	0,157	121	0,875
CAR (-1,+1)	-1,380 % **	-2,170	121	0,032

Acquirer cumulative abnormal returns from acquisition announcement. ***, ** and * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

The equally weighted CAR (-1, +1) is negative significantly different from zero at the 5% level, respectively. Consequently, we can reject the null hypothesis of abnormal returns equal to zero for this event window. The value is negative, but still significantly different from zero, inconsistent with Moeller et al. (2004), who finds that the acquiring firms equally weighted CAR are positively significant.

Neither CAR (-1,0) or (0, +1) shows a significant difference from zero in the 1%, 5% or 10% level, respectively. We cannot reject the null hypothesis for abnormal returns equal to zero for these two CARs. An explanation for this may be the lack of acquisitions. The test consists of a sample of 121 acquisitions in the Norwegian market, whereas some companies are more significant in the collection. The reason for the latter is that larger companies often influence the total return because of their many acquisitions with different attention than the smaller acquiring firms. CAR (-1,0) is consistent with Andrade et al. (2001) who finds an

insignificant positive abnormal return for the acquiring companies in a sample from 1973 to 1998 of 4256 transactions.

There is a significant difference in the p-values, as CAR (-1, +1) has a low p-value, indicating strong evidence against the null hypothesis, which allows us to reject the null hypothesis on a 5% level. The other p-values are smaller, suggesting that we cannot reject the null hypothesis of the abnormal return different from zero at these event windows.

5.2.2 Abnormal return regarding cash and stock as the method-of-payment

Our second and third alternative hypothesis is that the cumulative abnormal return is different from zero with cash and stock as the payment method, separately. We use the same dataset as in our first hypothesis and continue to use the same event windows as Moeller et al. (2004), as these give us the right insight. In table 4, the findings of the comparative study concerning the cash as the method-of-payment are presented.

Table 4 - Acquisitions from the Oslo Stock Exchange, with cash as the method of payment. CAR(-1,0) represent the two days event window of the day before the announcement day and at the actual day, CAR (-1,+1) the three-day event window before and after, and (0,+1) the two days event window after the announcement day and at the actual day. All the CAR's are calculated using the market model. The calculations and tests for significance of CAR are calculated in accordance with the methodology section.

Method-of-payment: CASH			
	Average abnormal return	t-stat	N	P-value
CAR (-1,0)	0,200 %	0,314	87	0,754
CAR (0,+1)	2,340 % ***	3,679	87	0,000
CAR (-1,+1)	1,350 % **	2,123	87	0,037

Acquirer cumulative abnormal returns from acquisition announcement paid with cash. ***, ** and * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively

First, we see from table 5 that the average CAR concerning cash payments are significant at the 5% level for the event window (-1, +1) and the 1% level for the (0, +1) event window. CAR (-1,0) is positively statistically insignificant, which points towards that there has not been a leakage of inside information into the market. Further, we will look at stock as the payment method.

Table 5 - Acquisitions from the Oslo Stock Exchange, with stock as the method of payment. CAR(-1,0) represent the two days event window of the day before the announcement day and at the actual day, CAR (-1,+1) the three-day event window before and after, and (0,+1) the two days event window after the announcement day and at the actual day. All the CAR's are calculated using the market model. The calculations and tests for significance of CAR are calculated in accordance with the methodology section.

Method-Of-Payment: STOCK			
Average abnormal return	t-stat	N	P-value
CAR (-1,0) -1,450 % **	-2,280	26	0,031
CAR (0,+1) 0,480 %	0,755	26	0,457
CAR (-1,+1) -3,010 % ***	-4,733	26	0,000

Acquirer cumulative abnormal returns from acquisition announcement paid with stock. ***, ** and * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively

We see from table 5 that the average CAR (-1,0) is negative and significant at the 5% level while CAR (-1, +1) is negative and significant at the 1% level. These results support our hypothesis as the stock payment gives a negative CAR, and cash payment gives a positive CAR for the event windows with a significant difference from zero at any level. Our findings are consistent with Linn & Switzer

(2001) and Gosh (2001) who finds that the average cumulative abnormal return is significantly higher when the acquiring company offered cash, compared to other payment methods. Consequently, as mentioned in the literature review, this is also consistent with Fishman (1989) and Berkovitch & Narayanan (1990) who explain why cash is paid instead of shares in their research.

As Myers and Majluf (1984) argue, cash payments give a signal to the market that the management of the acquiring firm expects an increase in the company value in the post-acquisition period. The statement is consistent with our findings concerning cash payments, as the positive significantly different CAR occurs when we include the day after the announcement (+1). The same does not appear with the stock offers, which is compatible with Travlos (1987), Walker (2000), Heron and Lie (2004) and Dong et al. (2006) indicating that there will be a higher cumulative abnormal return on all cash offers and a negative for stock offers.

On the other hand, our findings are inconsistent with Betton et al. (2008) who argue that the method-of-payment is not one of the main factors for abnormal return in a takeover. We will go deeper into this claim by checking for robustness and other variables, which could have affected our results.

5.3 Robustness and discussion

Following Huang & Walkling, claiming that the form of payment depends on other variables when estimating the abnormal returns, we included the degree of resistance and the type of offer in a regression model.
(Equation 7)

$$Y_i = \alpha_0 + \beta_1 \alpha_{1i} + \beta_2 \alpha_{2i} + \beta_3 \gamma_{1i} + \beta_4 \gamma_{2i} + \beta_5 \pi_{1i} + \beta_6 \pi_{2i} + \mu_i$$

Where
$\alpha_1 = 1 \; if \; the \; form \; of \; acquisition \; is \; a \; tender \; offer$
$\alpha_2 = 1 \; if \; the \; form \; of \; acquisition \; is \; undisclosed$
$\gamma_1 = 1 \; if \; the \; form \; of \; payment \; is \; cash$
$\gamma_2 = 1 \; if \; the \; form \; of \; payment \; is \; undisclosed$
$\pi_1 = 1 \; if \; target \; management \; is \; friendly \; to \; the \; offer$
$\pi_2 = 1 \; if \; target \; management's \; attitude \; is \; undisclosed$

The coefficients of the regression equation can be used to test three various hypotheses. First, if the cumulative abnormal returns of tender offers exceed mergers, second whether cash offers exceed stock offers and finally, if the cumulative abnormal return is higher when the target management's attitude is friendly rather than hostile.

We assess the robustness of our results by submitting additional deal explanatory variables and by introducing alternative proxies for some of the variables discussed in previous sections.

5.3.1 Tests

H_{A1}: $B_1 \geq 0$: Tender offers versus mergers as the acquisition type

H_{A2}: $B_3 \geq 0$: Cash offers versus stock offers as the payment method

H_{A3}: $B_5 \geq 0$: Hostile offers versus friendly offers as the management's attitude

The alternative hypothesis submits no difference in cumulative abnormal return. The three null hypotheses are complementary and should be examined together. Higher abnormal returns for a sample of tender offer could exist due to a higher degree of hostile preferably than the type of acquisition. Historically, tender offers have been combined with cash payments; mergers have been associated with stock payments. Consequently, abnormal returns related to tender offers could imply including a premium associated with the payment method preferably than the type of acquisition (Huang and Walkling, 1987). The corresponding importance of payment method, target management's attitude and kind of the acquisition remain to be tested.

When testing the robustness, we found 711 mergers and acquisitions between 2009 and 2018, listed on the Norwegian Stock Exchange.

Table 6 - Degree of resistance and distribution of characteristics for initial acquisition announcements over the period 2009 to 2018 listed on the Oslo Stock Exchange. Classification is based on information gathered at the Thomson Reuters Eikon platform. The sample size is 711 and cell sized for variables explicitly or implicitly coded in equation 7 are indicated with asterisks.

Type of Acquisition	Managerial reaction	Form of payment			
		Cash	stock	Not disclosed	Totals
Merger	F	14	1	53	68
	H	0	0	0	0
	U	5	2	9	16
		19	3	62	84*
Tender offer	F	148	10	120	278
	H	66	3	44	113
	U	44	8	44	96
		258	21	208	487*
Not disclosed	F	22	1	27	50
	H	14	4	22	40
	U	16	1	33	50
		52	6	82	140*
Totals		329*	30*	352*	711

Coding and subtotals for the degree of resistance are F= friendly (N=396), H= Hostile (N=153), U=undisclosed (162).

Table 6 presents the distribution of announcements over the sample and assorted classifications. Cell measurements for the nine categories explicitly or implicitly coded in equation 7 are symbolized with an asterisk. The smallest of these cell sizes are 30 shares offers announcements. Investigations of table 6 acknowledge the overall sample, target management usually expresses a friendly attitude (55%). In the initial announcement, 22% of management expresses hostility, while the last fraction (23%) of management maintains an undisclosed position.

Further, 40% of shares offer to involve friendly managerial reaction, while 56% of cash offers are friendly. Mergers involve a fraction of 81% friendly reaction, while 57% of tender offers are associate as friendly. In accordance with conventional wisdom, it is more likely a hostile acquisition is undertaken through a tender offer than through a merger. A merger needs approval from target

management, therefore, merger announcement is expected to cite friendly target reactions (Huang and Walkling, 1987).

Cash as payment method represents 46% of the entire sample, compared to only a small fraction (4%) stock offers, while 50% of the announcements not revealing specific acquisition type. The percentage of tender offers involving cash is substantially higher 53%, and only 4% are associated with stock offers. 23 % of the merger subsample consists of pure cash offers, and 4% stock transactions, undisclosed cases accounting for the remainder.

5.3.2 Regression results

All regressions discussed below are estimated after adding the new dummy-variables in which the dependent variable is the cumulative abnormal return CAR (-1, +1).

Table 7 examines the correlation between cumulative abnormal return and the various explanatory variables. The "tender offer" and the "cash" variables correlate positively with abnormal returns at the 1% level, respectively. The variable "Friendly" also correlates positive to abnormal returns, but at a 10% level. The variable "Undisclosed" concerning the type of acquisition, correlates negatively with the abnormal return at a 5% level, while the variable "Undisclosed" concerning the payment method correlates negatively at a 1% level. The last variable relating to the target management's attitude is negatively insignificant. The explanatory variables have a higher correlation than 0.5 among some of each other. Hence, we must consider multicollinearity as a possible outcome.

Table 7 - Correlation matrix. The table shows the Pearson correlation between the variables. The first variable "Tender offer" is a dummy-variable and equals 1 when the acquisition type is a tender offer. The following variable "Undisclosed" belongs to the kind of acquisition and is one if it is not stated what kind of type the acquisition is. "Cash" is a dummy-variable that gets the value one if the acquisition is paid with cash and 0 otherwise. The same here, "Undisclosed" equals one if the payment method is unknown. Acquisitions are categorized after the manager's attitude towards the deal. The variable "Friendly" equals one if the manager's attitude is friendly and are categorized after the manager's attitude towards the deal.

		CAR (-1,+1)	Type of acquisition		Payment method		Target management's attitud	
			Tender offer	Undisclosed	Cash	Undisclosed	Friendly	Undisclosed
	CAR (-1,+1)	1						
Type of acquisition	Tender offer	0,1299 ***	1					
	Undisclosed	-0,0957 **	-0,73010687 ***	1				
Payment method	Cash	0,1786 ***	0,19826706 ***	-0,09066539 **	1			
	Undisclosed	-0,1612 ***	-0,200459023 ***	0,089764 **	-0,918946811 ***	1		
Target management's attitud	Friendly	0,0744 *	0,041199544	-0,19181886 ***	0,004312819	0,022365349	1	
	Undisclosed	-0,0543	-0,057504066	0,216897034 ***	-0,046555542	0,039960206	-0,565043694 ***	1

***, ** and * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively

Table 8 shows the regression results for equation 7. Regressions 1 to 3 is the results of single-factor regression, where regression 1 reveals that abnormal return is 13,3% higher if the type of acquisition is tender offers than for mergers. The t-statistics are equal to 2,359 and therefore significant at 5% level. These findings are consistent with Jensen and Ruback (1983), which finds a significantly weighted average abnormal return of 14,6% higher in the form of acquisition is a tender offer instead of a merger. It is interesting to see such significant difference since tender offers often are for less than 100% of the shares to the target firm and a merger is an exchange of all the shares in the target firm (Huang & Walkling, 1987).

Comparison of abnormal returns in cash and stock offers are shown in regression 2 and reports an 18,9% higher return for cash offers, the t-statistic is 2,085 and also significant at the 5% level. Results from our comparative event study find a significant CAR when cash is the method-of-payment, which makes this result more accurate. Huang & Walkling (1987), along with other researchers, also find that abnormal returns associated with cash as the payment method, are significantly higher than the abnormal returns associated with stock offers. For the latest single-factor regression (3) presenting the comparisons of the friendly and hostile attitude of the target, management is not significant at conventional levels, although friendly acquisitions returns are associated with a 6,2% higher return.

The significant difference between the abnormal return of tender offers and mergers when the form of payment is included (regression 4) shows an insignificant 8,7% higher return for tender offers than for mergers, however a significant 18% higher return for cash than for stock offers. In regression 5, the abnormal return to tender offers and mergers is tested simultaneously with variables considered target management's attitude. The indicated regression exposed the abnormal return for tender offers to be significant 15,2% higher than for mergers. When controlling the difference between cash and stock for the target management´s attitude in regression 6, cash offers remains a significant 17,7% higher abnormal return compared to stock offers. Regression 7 shows the full analysis, which controls the type of acquisition for the payment method, and target management's attitude. The complete analysis confirms significant higher

abnormal return for tender offer than for mergers, yet for cash offers compared to stock offers.

As specified, regression 1 presents tender offers involve a significant higher abnormal return than mergers. Regression 7 that includes every variable confirms these findings. Consequently, the null hypothesis of equal abnormal returns for merger and tender offers is rejected. Additional, regression 2,4 and 6 show a significant difference between abnormal return for cash and stock offers. This, together with the full analysis, we reject the hypothesis that there is no difference between the groups. The last null hypothesis states that cumulative abnormal returns that are surrounding the announcement of hostile offers equal from those surrounding friendly offers. We find no significant evidence of this matter, which is consistent with the findings of Huang & Walkling (1983).

Table 8 - Cross-sectional regression analysis. Results of regressions of cumulative abnormal returns enclosing acquisition-related announcements made between January 2009 and December 2018.

Regression 1 use cumulative abnormal returns as the dependent variable, and Type of acquisitions as an independent variable. Regression 7 T-statistics are shown in italics. The number of observations is 711 in all regressions.

| | | | | Independent variables | | | | | | |
| | | Type of acquisition | | Method of payment | | Target managment's attitude | | | |
Regression	Intercept β_0	Tender β_1	Undisclosed β_2	Cash β_3	Undisclosed β_4	Friendly β_5	Undisclosed β_6	R^2	F
1	0.028	0.133	-0,002					0.017	6,083
t-stat		*2,359***	*-0,033*						
2	0.023			0.189	0,018			0.032	11,682
t-stat				*2,085***	*0,196*				
3	0.088					0,062	-0,022	0,006	2,050
t-stat						*-1,413*	*-0,396*		
4	-0.034	0.087	-0,024	0.180	0,028			0.042	7,646
t-stat		*1,53*	*-0,368*	*1,998***	*0,311*				
5	-0.023	0.152	0,033			0,063	-0,018	0.022	3,985
t-stat		*2,648****	*0,483*			*1,438*	*-0,326*		
6	-0.003			0.177	0,006	0,068	-0,008	0.037	6,848
t-stat				*1,960***	*0,069*	*1,553*	*-0,147*		
7	-0.077	0.104	0,008	0.169	0,018	0,066	-0,005	0.046	5,675
t-stat		*1,796**	*0,110*	*1,876**	*0,196*	*1,509*	*-0,087*		

The intercept β_0 implicitly represents cases where the type of acquisition is a merger, the method of payment is stock, and the target management's attitude is hostile.

***, ** and * indicate statistical significance at the 0.01, 0.05, and 0.10.

6.0 CONCLUSION AND CRITIQUE

In this thesis, we study the abnormal return of takeovers for acquiring firms in the Norwegian stock market, with a focus on the payment method. We find that firms listed at the Oslo Stock Exchange (OSE) lose on average a significant cumulative abnormal return of -1,38%, in a two-day event window (0, +1). The research finds evidence that corporate acquisitions have a significant influence on the abnormal return for the acquiring firm.

However, there is evidence that cash-payments on average, gained a significant cumulative abnormal return of 2,34% in a two-day event window and 1,35% in a tree day event window. Contrary, stock-payments lost on average a negative significant cumulative abnormal return of -3,01% in a tree day event window. Hence, the research finds evidence that cash and stock as the method-of-payment in an acquisition transaction have a significant influence on the abnormal return for the acquiring firm.

From the cross-sectional regression, the research has identified a significant higher abnormal return when cash is used as the payment method. This is following our comparative event study, which strengthens the main thesis focus. This study has also discovered evidence of compellingly higher abnormal return for tender offers as the acquisition type instead of mergers. The last regression, including all the variables, confirms these findings. Hence, we reject the hypothesis that the abnormal return is equal for cash and stock as the payment method and reject the hypothesis where merger and tender offer equal to each other. However, the study has not located any evidence that the target management attitude has any impact on the abnormal return.

We find evidence that corporate takeovers change the abnormal return for the acquiring company, both with cash and stock as the payment method. The evidence is robust and holds when controlling with different characteristics, which makes the research evidence more reliable. Acquisitions have an influence on the acquiring firm, only under certain conditions.

Although we feel confident that our thesis fulfils standards for scientific research satisfactorily within the field, there are some concerns. Firstly, the samples consist

of acquisitions where our restrictions made the regressions vulnerable due to a probability of omitted variable bias. It can not be guaranteed that the study did not miss any transactions, or that the databases used in the research provided distorted or misleading information. Obtaining the data from Zephyr was somehow challenging, as companies dropped out of the database when they got unlisted from the Oslo Stock Exchange. Consequently, some companies were not included in the original range. Second, if the study obtained a larger number of explanatory variables, the thesis could have explained the effects of the abnormal return more thorough. It would have been interesting to carry out several tests and investigate our detailed analysis closer, while receiving a high explanatory power and the significant results for the explanatory variables.

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