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# **Mergers & Acquisitions**

*-Is the past the future?*

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## Abstract

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The main purpose of this study is to examine if the relationship between a target and an acquiring company's abnormal return prior the transaction can affect the outcome in the future. Furthermore, our secondary purpose is to see if Swedish companies have a higher success rate compared to what earlier studies have shown about these phenomena. Finally our third purpose is to try to identify if there is a specific period that is superior to others. A quantitative examination method was used, where DataStream was used to collect data. The Buy and Hold abnormal return method was applied to our calculations. The merger and acquisition market have expanded during the years, but earlier studies have questioned if the transaction creates value or not. Studies have shown that over 50 % fails to create value. The factors for this outcome differ from studies even though many point out cultural differences to be a key reason. Even if our results are not significant we can see a pattern between the relationship of the abnormal return for the target and acquiring company and the outcome of the merger or acquisitions. Our strongest relationship that we observed was that 75 % of the transaction had a negative outcome when the abnormal return was negative for both the target and acquiring firm post the transaction. Another result that differed from earlier studies was the success rate when the target had a positive abnormal return and the acquiring had a negative, the success rate was 65 %. We observed difference in the sectors, but also differences between conglomerates transactions, which had a success rate of 75 %, whereas vertical and horizontal was at 25 %. Even though we circumvent the cultural differences the total result for the transactions was, as earlier studies proven, more than 50% negative. Finally we did not observe a specific period that was superior to another.

Keywords: Merger and Acquisition, Abnormal Return, BHAR, Swedish stock market.

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## Acknowledgement

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Lund, June 2011

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Semir Pavlica

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Pontus Persson

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# **1. Introduction**

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*In the following chapter, we will provide the reader all necessary information about our study. First we will introduce the background which will be the foundation for our problem discussion and formulation. Later on we will state our purpose, limitations and target group. In the end we will present outline.*

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## **1.1 Background**

Since 1985 merger and acquisitions transactions have increased dramatically, more than 12 times from 3500 to 43 000 according to IMAA (2011). It has been a popular way to expand and increase the firm value.

Mergers are when two or more firms together create one new firm. Acquisition is when a company buys capital stock from other firms. The transaction is normally made by cash, securities, or through exchange of stocks. Mergers are known as “many into one” while acquisition is more known as “one-to-one” (Richads Gilman and Peng S. Chan, 1967).

Things like operating synergies, financial synergies, diversification, bankruptcy avoidance and financial slack are motives behind mergers and acquisitions. Those factors mentioned above can decrease the risks and increase shareholders wealth (Ross, Westerfield and Jaffe, 2005). Other motives behind a merger and acquisitions can be hubris and self interest, which are value destructive for the shareholders wealth (Berk and DeMarzo, 2007; Goergen and Renneboog, 2004). According to Garbuio, Lovallo, Horn (2011) the aim in mergers is to create sustainable growth for the future.

Earlier studies and statistics have concluded that some mergers create value while some do not. Cartwright and Schoenberg (2006) found that 50 percent do not create any economical wealth for the shareholders.

## **1.2 Problem**

Earlier studies are clearly divided in terms of results, as they show different outcomes from mergers and acquisition. Some states that mergers and acquisitions create economic wealth while some state the opposite. Cakici (1996) and Kiymaz (2003) argue that mergers and acquisition are beneficial for the shareholders wealth and that it also creates a positive abnormal return for the shareholders in the acquiring company. There are other studies that show exactly the opposite, that merger and acquisitions do not create any wealth for the

shareholders (Brockhaus, 1975; Lubatkin & Lane, 1996; Cartwright & Schoenberg, 2006, Lori, 2003). Datta and Puia (1995), Eun, (1996), Corhay and Rad (2000), Aw and Chatterjee (2004) have shown that the shareholders for the acquiring firm can expect to retain a negative abnormal return after the merger and acquisition.

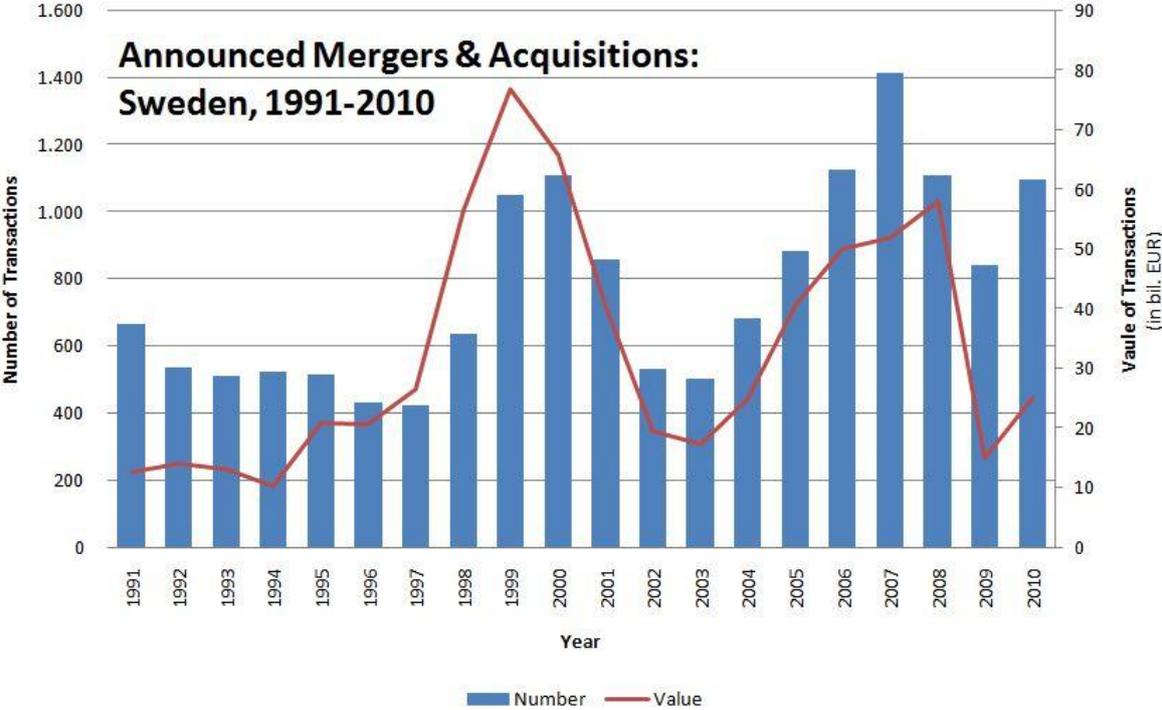
There are many studies about mergers and acquisitions trying to explain why some succeed and some do not. Shleifer and Vishney (1986) consider that the motive behind a merger and acquisitions are empire building, from the managers' perspective. Factors like hubris (Roll, 1986), managerialism (Seth, 2000) and agency consideration (Weston and Weaver, 2001) can be explanations as to why a merger and acquisition could be value destructive for the shareholders from the acquired company. The managers' intention behind the merger and acquisition could be the main reason to why some fail. Another reason could be that managers act in self interest, to maximize their own wealth instead of shareholders (Carpenter and Sanders, 2007; Seth, Song and Pettit, 2000).

Schweiger and Goulet (2000) argue that one of the reasons to why a merger and acquisition do not succeed depends on different cultures. Loris Bradley (2003) has the same point of view. She also points out three reasons that cause negative result of a merger and acquisition. The first one is culture differences between the companies, the second one is failure to address people issues, and the last point is not only the insufficiency of communication before and after the transaction, but also the insufficiency of integration planes post the transaction.

In 2004 Moeller investigated 12 000 acquisitions between 1988 and 2001 and the result show that the acquisitions made by smaller companies usually lead to a higher abnormal return compared to acquisitions that are made by larger companies. One of the reasons could be that the larger firms often offer premium prices on the acquisition which leads to a lower net wealth. The reason why the acquired firm offers premium prices is because the target firms' shareholder normally requires a price that is above the market price, which decreases the value creation for the acquiring company (Sirower, 1997).

Maxwell (1988) implies that the intention behind a merger and acquisition could be the reason to why some fail. He wrote that some mergers and acquisitions occur only because a competitor did one. Intentions such as these, as a foundation to accomplish a merger and acquisition can give a negative result because of the lack of knowledge and hesitation.

King, Dalton, Dailey and Covin (2004) looked at factors that one could use to determine whether the merger and acquisition would succeed or not. Those factors are the relationship between the companies involved, and earlier experience in mergers and acquisitions. Their result shows that they could not see a relationship between those factors and the outcome of the merger and acquisition.



Graph: 1.

Source: Institute of Mergers, Acquisitions and Alliances (IMAA) (2011)

As you can see on the table above, which states all merger and acquisitions in Sweden; one can see that during times when the stocks are performing well and have a high stock value more mergers and acquisitions take place. The explanation can be summarized with Brealey, R, A, Myers, S, C, (1996) quote;

*”Perhaps merger booms and stock market trading are behavioral phenomena - human beings, like some animals, are more active when the weather is sunny”*

**1.2.1 Problem formulation**

There are many studies trying to determine whether a merger and acquisition will succeed or not. Some suggest it depends on cultural differences or wrong intentions behind the merger and acquisition, while others say that the outcome depends on earlier experience. The one

thing earlier studies have in common, is that they state different reasons as to why a merger and acquisition will succeed or not. It has been shown that there are more mergers and acquisition made during times when companies are performing well, which could be a sign that the acquiring company has to offer a premium price for the shareholders stock in the target firm. This could be one of the main reasons to the outcome. Since earlier studies, have various explanations to the outcomes and none of them have covered the aspect we want to investigate, namely if *“The stock performance for the target and acquiring firm before the merger and acquisition is a determine factor for the future performance of the acquiring firm?”* we want to see if this factor can be an explanation to the outcomes.

### **1.3 Purpose**

The main purpose in this thesis is to examine if the stock performance prior the merger or acquisition is a success factor for the transaction, by observing daily stock returns before and after a merger or acquisitions have occurred. Our secondary purpose is to identify if the success rate for these types of transactions are the same as earlier studies, when we bypass cultural differences in a greater extent. Finally our third purpose is to try to identify if there is a specific period that is superior to others. The study might provide information to investors and how they should behave when merger and acquisitions proposals occurs.

### **1.4 Limitations**

Since our time and resources are limited, we have to make some limitation referring to the research implemented. Our sample is based on all mergers and acquisitions that have been made between 1995 and 2010 where both the target and acquiring firm is listed on the Swedish stock market, the whole sample size ended up as 18 mergers and acquisitions. To be able to analyze the long term result of a merger and acquisition we will choose to compare the abnormal return one month before the announcement date with the next four quarters after the transaction date. All mergers and acquisitions were found in Reuters cobra while our daily stock returns data was found in DataStream and Nasdaq OMX .

### **1.5 Target group**

The main aims of the research are to provide information for students, researchers, managers, shareholders and investors.

## **1.6 Outline**

This dissertation consists following six chapters:

### *Chapter one:*

In chapter one, we will provide the reader with all necessary information about our study. At first we will introduce the background which will be the foundation for our problem discussion and formulation. Later on we will state our purpose, limitations and target group. In the end we will present the outline.

### *Chapter two:*

This chapter presents all important information about a merger and acquisition. We will also explain the philosophy behind this phenomenon. The results of earlier merger and acquisitions will be provided for the reader.

### *Chapter three:*

In this chapter we will introduce the chosen method for our thesis. We start to explain which and why this type of research method was applied. Thereafter we also explain the model that will be used to obtain the results.

### *Chapter four:*

In the following chapter we will show the results from the data that we have obtained. Later on we will start to analyze the answers and see if there are any interesting relations between the answers, and state our reflections.

### *Chapter five:*

In the final chapter we will present a summary of this dissertation. We will also discuss the critical reflections on the dissertation and present further research suggestion. Lastly we will discuss practical and theoretical contributions.

## 2. Theory

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*This chapter presents all important information about a merger and acquisition. We will also explain the philosophy behind this phenomenon. The results of earlier merger and acquisitions will be provided for the reader.*

---

### 2.1 Definition of merger and acquisition

A merger is when two or more companies form one company. This type of transaction means that both companies' debt and equity will be incorporated with each other (Ross, Westerfield and Jaffe, 2005).

There are two different ways to do an acquisition; the first one is a hostile takeover. It appears when one company acquires another firm's stock in the market, but this strategy is just a way to get round the target firm's board and shareholders (Ross, et al., 2005). The other option is through a friendly takeover, by letting the shareholders vote for the acquisition.

We can also divide the acquisitions into three different groups:

#### *Horizontal acquisition*

This is when a company acquires a company in the same industry. Typically the companies are often competitors, so the idea behind this type of type is to benefit from economies of scale and eliminating future threats and competitors (Sevenius ,2003). Sayan Chatterjee (2007) concludes that mergers within the same industry or sector should be less risky.

#### *Vertical acquisition*

A vertical acquisition is when a company acquires a supplier. This strategy will decrease the transaction cost between the processing stages for the company (Ross, et al., 2005).

#### *Conglomerates acquisition*

Conglomerates acquisition is when a company acquires another one that is active in a different industry, this type of transaction will decrease the risks for economic fluctuation (Lindvall, 1991).

## **2.2 The Efficient Market Hypotheses**

According to the efficient market hypotheses the stock price should reflect all public information available for the investors (Fama, E.F., 1970). If the price changes depend on the information available, the price will be hard to predict due to the Random Walk. This means that the profit that has been made because of the information will not exceed the marginal cost, if the market is efficient (Fama, E.F., 1991). It will also be impossible to get excess return without increasing the risk (Malkiel, 2003), since the price will be adjusted quickly when the information becomes public (Campbell, J.Y., Lo, A.W. & Mackinlay, A.C., 1997). The efficient market model has been divided into three levels according to adjustment of price to relevant information (Fama, E.F., 1970):

*Weak form efficiency:* The past public information available reflects the security price, so the information only represents the history of prices and returns (Fama, E.F., 1970).

*Semi-strong efficiency:* All past and new available information will incorporate with the security price, assuming that all information is known by the market makers (Fama, E.F., 1970).

*Strong form efficiency:* This level includes all value added information known to any market makers. The security price is reflecting both the public and private information (Fama, E.F., 1970).

In the 21<sup>st</sup> century the efficient market hypotheses have been criticized, with opposition claiming that security prices are partially predictable. The opposition could explain with help of behavior in finance that excess profits that are made depend on historical information and some valuation metrics. Some proponents of the efficient market hypotheses suggest that, if abnormal returns are achievable, the possibility of further exploring profits will disappear after they have been discovered by the market participants (Malkiel, B.G, 2003).

## **2.3 Motives behind a merger and acquisition**

The reasons behind a merger and acquisition are the motives to capture the synergies effects that will be beneficial for the company. The synergy occurs when the values of two companies have a higher value than if both of them should operate separately. The reason for those synergies is increasing income, lower costs tax reductions and lower cost of capital (Ross, Westerfield and Jaffe, 2005).

The whole idea with a merger and acquisition is to maximize the shareholders value (Hopkins and Chaganti, 1999: Sudarsanam, 1995). However, as mentioned earlier, the view of if these transactions create value or not differs.

## **2.4 Behavioral finance**

There are studies that show evidence against the traditional view, that security prices reflect all information according to the semi-strong efficiency of the efficient market hypotheses (Daniel, K., Hirshleifer, D. & Subrahmanyam, A., 1998). In behavioral finance one applies finance and social science trying to clarify the market anomalies and how investors form their beliefs (Shiller, R.J, 2003).

Under reaction and overreaction to publicly available information are two regulators that have been exposed in empirical investigations. During a short period we can see that the price of securities under react to all available information. The current information enables the investor to make future forecasts of positive returns. During longer time periods overreaction can be observed. The overreaction hypothesis of positive information will result in overvalued securities. The future consciences of this overvaluation will vanish as it on average will tend to its mean reversion. The regularities discussed above, suggest that abnormal returns can be made by exploring the advantages of under reaction and overreaction without taking on bigger risks (Barberis, Shleifer & Vishny, 1998).

People are not aware of that earnings of assets follow a random path; they believe that the earnings move between two states, the mean reverting and the steady growth trend. The lack of knowledge in statistical properties and transition probabilities between those two states make the investor more likely to observe the earnings in each period with the intention of keeping posts of which state he is in. The rigidity of the statistical properties and transition probabilities between states makes the asset earnings more likely to stay in a given state and therefore makes the investor more likely to observe the earnings in each period with the intention of keeping posted of which state he is in. When the positive earnings increase the investor believes that he is in the trend state. But when the positive earnings are being followed by negative earnings the investors believe themselves to be in the mean reverting state (Barberis, Shleifer & Vishny, 1998).

## **2.5 The expectations treadmill**

Total return to shareholders (TRS) is a frequently measurement used to investigate the company performance. The TRS combines the amount shareholder gain the shareholder price over a specific period, with the sum of dividends paid to them over the period. This type of measure could be a good measure; if the managers' focus on improving TSR to win performance bonuses. If that is the case their interest and the interest of shareholders will be united. TRS could be a good measure if one would measure under a long time period but normally the time period is less than 10 years. This can lead to a misleading result of the actual performance of the company and the managers. There are two main reasons for this problem:

First, it is much harder to improve the TSR for those managers that are leading a successful company. Whereas a company worse of, have more room for improvements. The explanation for this is because the market expects the successful company to improve each year, however sooner or later the company will not be able to respond to the markets requirements.

The second reason is that TSR is analyzed in a very traditional way, while it do not show the extent to which improvement in operating performance contributed to the measure as a whole. Improved operating represents that part that measures the long-term value. The TSR may tempt the managers to invest in opportunities that may give the TSR a bump in the short run. The TSR can rise or fall for all companies because of external factors which are beyond the managers' control. Those types of factors should not play a role for the managers' compensations (Tim K. Marc G. and David W. 2010).

## **2.6 Free cashflow**

Joseph P. Ogden, Frank C. Jen and Philip F. O'Connor, (2002) talk about the role of debt in a company, which can discipline the management to not act in self interest, since by issuing debt the management will have less free cash flow available and therefore also less opportunities to invest for their own personal gain. Jensen's free cash flow hypothesis mentions that managers in firms with much free cash flow might invest in bad projects, which could affect the outcome of the merger or acquisitions.

### **3. Methodology**

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*In this chapter we will introduce the chosen method for our thesis. We start to explain which and why this type of research method was applied. Thereafter we also explain the model that will be used to obtain the results.*

---

#### **3.1 Data selection**

Our main data are gathered from Reuters Cobra and DataStream. The theory has been collected from several scientific articles and literature in order to give a good overview of the subject chosen.

#### **3.2 Sample selection**

The data consisted of 36 companies; the reason for this was that we decided to investigate all mergers and acquisitions that have been during 1995-2010, where both the target firm and acquiring firm operates on the Swedish stock exchange OMX. The main reason that we only included companies on the Swedish stock exchange was because we wanted to decrease the culture of differences between the acquiring and target company. Daily observation was collected one month prior to the transaction and 12 months post the completion day. The reason to why we chose data 1 month prior the transaction was because we think that this data can be representative to how the stock was performing before the transaction. The stock price we have chosen is the average between buying and selling price for the day, since that price will be less volatile.

#### **3.3 Validity and reliability**

To ensure the validity we have used BHAR which is a common method used by other authors in scientific researches for example, De Ridder (2004). Due to the methods compounding affect, which captures the event more precisely than other methods (Barber and Lyon, 1997), our validity measure is fulfilled. Also, the t-statistics have been used to test the significance level for our data.

We have adapted a structural outlay for our conclusion which would make them easy to follow and enables other authors to come up with the same result. We are going to use historical stock returns, from the reliable source DataStream, as a foundation for our

calculations. The DataStream's data has been compared with Nasdaq OMX to strengthen the reliability. Given these reasons, our reliability is satisfied.

### 3.6 Work procedure

To get hold of the abnormal return given a time period, we are going use the investment strategy called Buy and Hold Abnormal Return (BHAR). However our first step is to calculate percentage changes between the buying and selling rate for each stock. The formula applied was the following equation (1):

$$R_t = \text{LN}(P_t/P_{t-1}) \quad (1)$$

Where  $R_t$  is the daily return for time  $t$ , and  $P_t$  is today's stock price, where  $P_{t-1}$  is yesterday's stock price.

To get hold of the result and see if there is any correlation between the stock returns we are going to use event studies. One of the benefits with this chosen research method is that it gives the author an opportunity to delve deep into the studied objective, trying to explain why the event occurred (Judith Bell, 2000). One of the most important factors for a good study is to decide the length of the event window. One has to grasp all possible effects that could relate to the result but at the same time have a small window so that the results are as reliable as possible (McWilliams and Siegel.1997). An event window does not have a particular structure, even though we are going to use McKinley's form (1997). We are going to examine a time period, and therefore choose a normal return, in our case the OMX30 index, which will be needed to grasp the abnormal return.

Buy and Hold Abnormal Return method has the following equation (2):

$$BHAR_{it} = \prod_{t=1}^T (1 + R_{it}) - \prod_{t=1}^T (1 + R_{kt}) \quad (2)$$

In the equation above,  $BHAR_{it}$  is the abnormal return for asset I under period  $t$  compared with K, the OMX Stockholm 30 all share indexes.  $R_{it}$  is the excess return for asset I and  $R_{kt}$  is the excess return for the OMX Stockholm 30, all share indexes. In our study we have calculated four quarters of return, to be able to do that we need average of BHAR for each period; this could be extracted by the following equation(3).

$$\overline{BHAR}_k = \frac{1}{n} \sum_{i=1}^N BHAR_{it} \quad (3)$$

$\overline{BHAR}_k$  is the average value of  $BHAR_k$  during time period t.

The main reasons why we have chosen BHAR is because this method, due to the compounding effect, captures the event more precisely than other methods. The other reason is that BHAR is not a biased predictor when trying to detect long run abnormal returns. However BHAR has some setbacks, Barber and Lyon (1997) explains that the method can sometimes exhibit a result that really does not exist. These can occur when a stock has a high volatility while the control group volatility is low. Although Barber indicates that these kind of setback does not occur that often.

#### *T-statistic*

In order to test our null hypothesis, i.e. that the BAHAR returns equal to zero for n firms, the following formula is observer (Barber Lyon, 1997).

Since our data is normally distributed, we are going to use a student's t-distribution.

$$t_{BHAR} = \frac{\overline{BHAR}_{it}}{(\sigma(BHAR_{it})/\sqrt{N})} \quad (4)$$

To obtain  $t_{BHAR}$  we take the average of  $BHAR_{it}$  divided with the standard error of BHAR.

$H_0$  = The interaction between the target and acquiring companies abnormal return prior to the transaction does not affect the outcome positively.

$H_1$  = The interaction between the target and acquiring companies abnormal return prior to the transaction does affect the outcome positively.

## 4. Results and analysis

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*In the following chapter we will present our findings and the interpretation of our results.*

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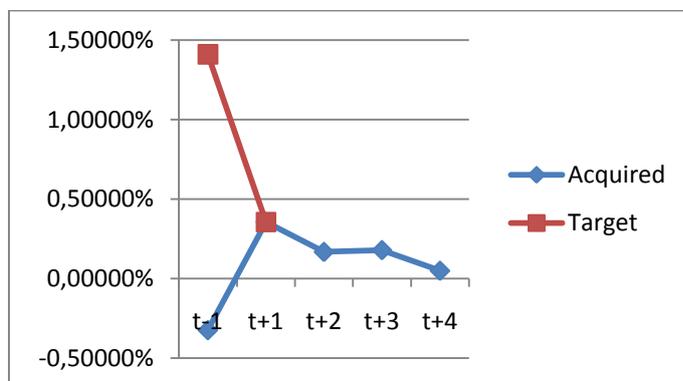
### 4.1 Empirical findings

#### 4.1.1 Case when acquiring company have a negative abnormal return in t-1

In this section we present all the acquired companies that have a negative abnormal return. In our sample selection 33,3 % of all mergers and acquisitions are made by a company that have a negative abnormal return in the prior trading month.

##### *Case 12*

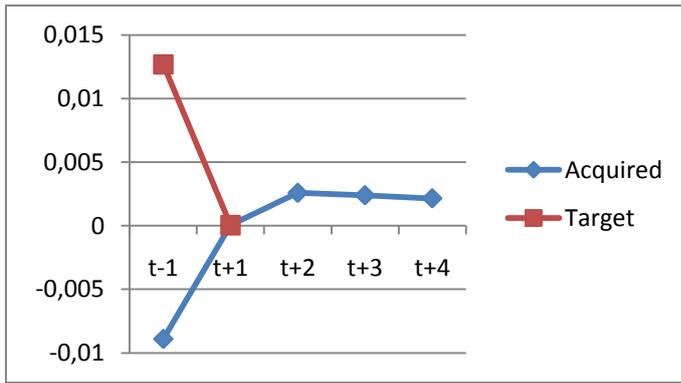
In the first situation we can see that the acquiring company with a negative abnormal return acquires a target company that has a positive abnormal return. This leads to a positive effect in the first four quarters. But the abnormal return is decreasing from 0,35446 % to 0,04862 % so it has an negative trend. The acquiring company is an investment company that buys a firm in another sector, the retailer sector.



*Graph 2.*

##### *Case 2*

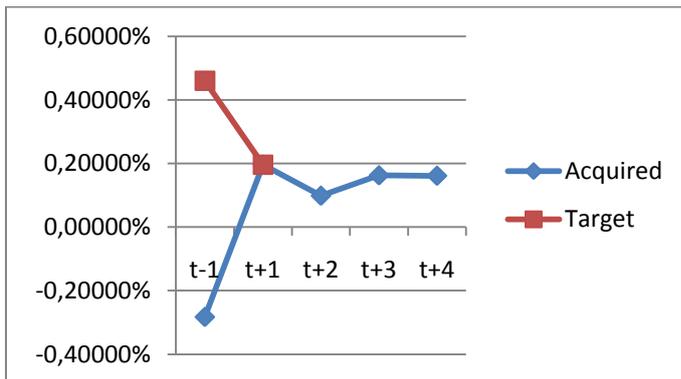
In our second case we can observe that the acquired company has a negative abnormal turn, which changes into a positive abnormal return in the next four quarters. Even in this case we can see that the abnormal return decreasing from 0,00466 % to 0,002151 % but a merger or acquisition will be an positive effect for the stock holders from the acquiring company.



Graph 3.

#### Case 18

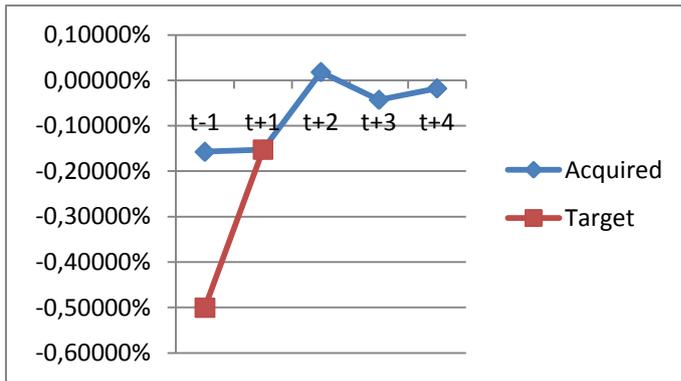
In this situation the acquiring firm is trading with a negative abnormal return in t-1 which is the prior trading month before the announcement date. The target firm's abnormal return is positive in t-1. The abnormal return for the acquired company has turned from negative to positive in the next four quarters. This merger and acquisition is a conglomerate acquisition.



Graph 4.

#### Case 4

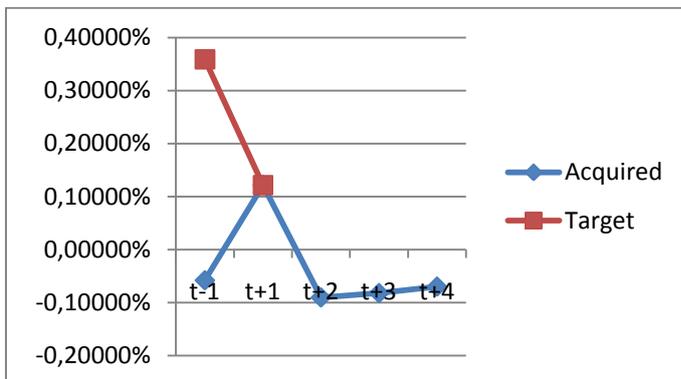
As we can see in the graph, one weak company acquires another weaker company which is trading with a negative abnormal return in quarter 1, 3 and 4. In quarter two they are trading with a positive abnormal return that is 0,012% higher than required return. This is a horizontal acquisition between two investments companies.



Graph 5.

Case 15

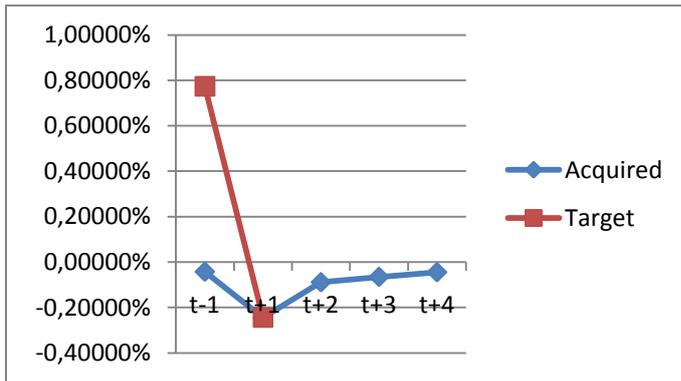
In the t-1 the acquiring company has a negative return. The target firm is trading with a positive abnormal return in t-1. In t+1 we can see that the transaction has turned the abnormal returns to positive. But in time period 2, 3 and 4 the acquired company are trading with a negative abnormal return and they are trading with an lower abnormal return that they was in t-1. This transaction is made between two IT companies.



Graph 6.

Case 1

The acquiring company is trading with a negative abnormal return while the target company is traded with a positive abnormal return. After the transaction we can see that the company is trading with a negative abnormal return but it has a positive trend. Those two companies are both from the industry sector.



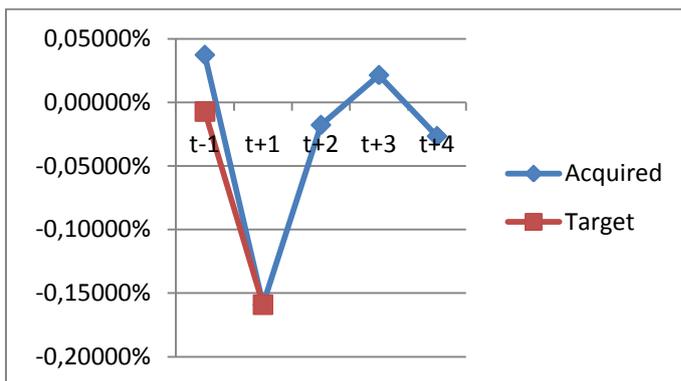
Graph 7.

#### 4.1.2 Case when acquiring company have a positive abnormal return in t-1

This group includes all the acquired companies that have a positive abnormal return. In our sample selection 66,7 % of all mergers and acquisitions are made by a company that had a positive abnormal return in the prior trading month.

##### Case 8

Here, the acquiring company is trading with a positive abnormal return while the target firm is trading with a negative abnormal return in time t-1. After the transaction the acquired firm is trading with a negative abnormal return in time period 2 and 4. In time period 3 the stock has been traded with a positive abnormal return. This is a horizontal transaction between two real estate companies.

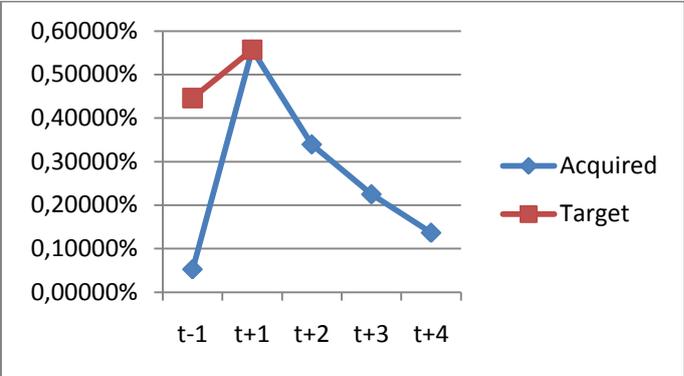


Graph 8.

##### Case 10

Both the acquiring and the target company are trading with a positive abnormal return. The acquired company increase their abnormal return from 0,05 % in t-1 to 0,56 % in t+1. The

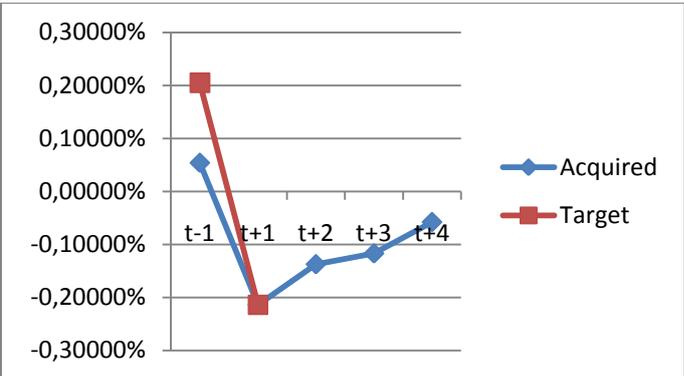
abnormal return is positive in time periods 2, 3 and 4 but it has a negative trend. The effect of the transaction is that the acquired firm is trading with a more positive abnormal return in time periods 1, 2, 3 and 4 than it is trading in t-1. This is a horizontal transaction between two IT companies.



Graph 9.

Case 6

This is the case where we have a conglomerate acquisition, where a company with a positive abnormal return acquires another company that has a higher abnormal return than the acquired company has. The result of this transaction is that the acquired firm is trading with a negative abnormal return in time periods 1, 2, 3 and 4.

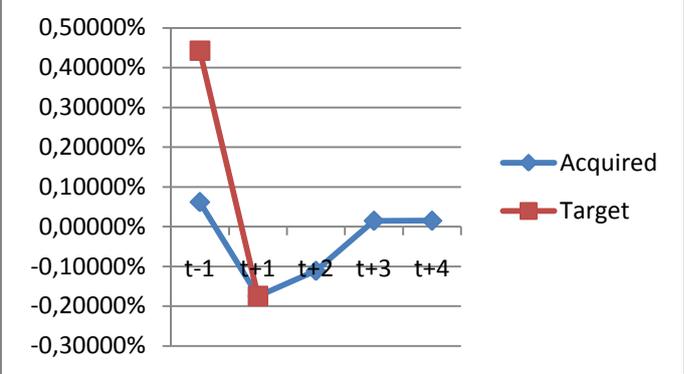


Graph 10.

Case 11

Both the acquired and the target company are trading with a positive abnormal return in time t-1. After the transaction the acquired company is trading with a negative abnormal return in

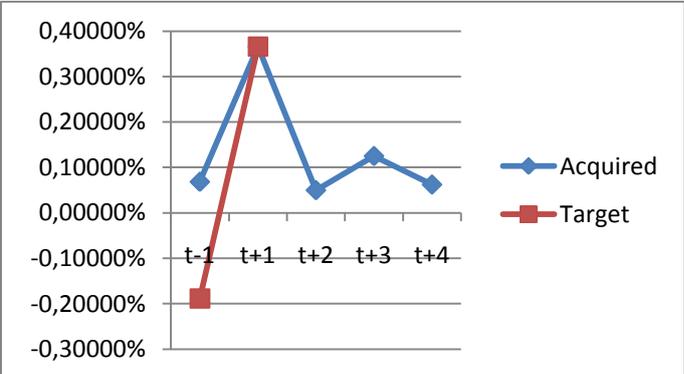
t+1 and t+2 while it has a positive abnormal return in t+3 and t+4. This transaction is made by two finance companies.



Graph 11.

Case 14

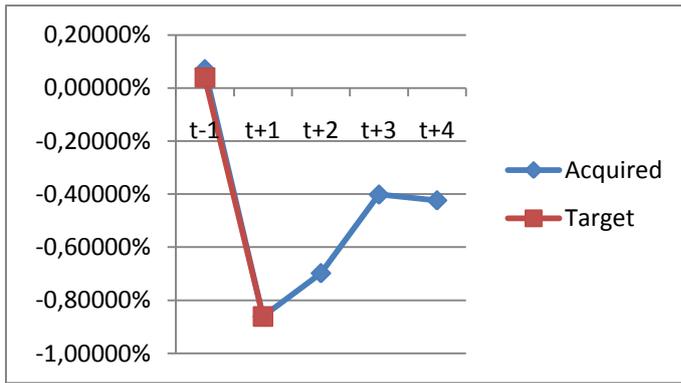
In this case the target firm is performing with a negative abnormal return while the acquired firm is performing with a positive abnormal return. We can see that this stock is performing higher in t+1 and t+1 than it was in t-1. While it is performing lower in t+2 and t+4 it still has a positive abnormal return. In this case an investment company acquires an education company.



Graph 12.

Case 17

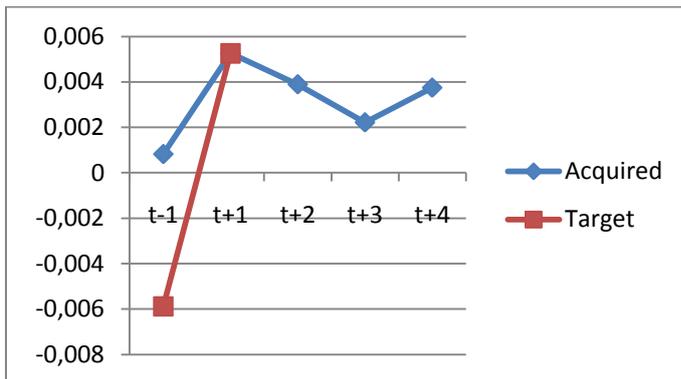
Both the acquired and target company is trading with a positive abnormal return in time t-1. After the transaction the company is trading with a negative abnormal return for the next four time periods. This is a horizontal transaction between two IT companies.



Graph 13.

### Case 5

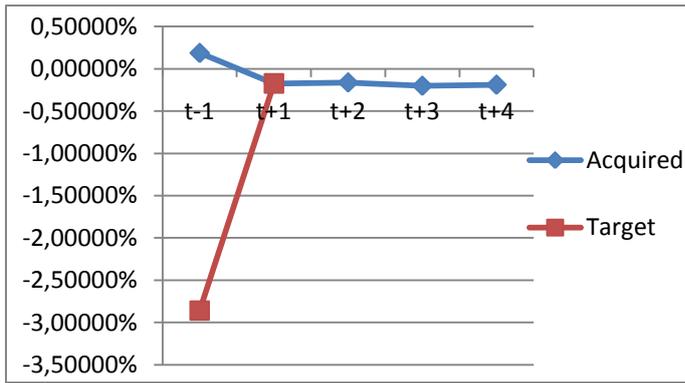
In this case a company with a positive abnormal return acquires a company with a negative abnormal return. The result of this transaction is that the acquired companies abnormal return is positive when trading in states t+1 to t+4, they are also trading higher in all four states than they were in state t-1. This transaction was made between two companies from the IT sector.



Graph 14.

### Case 3

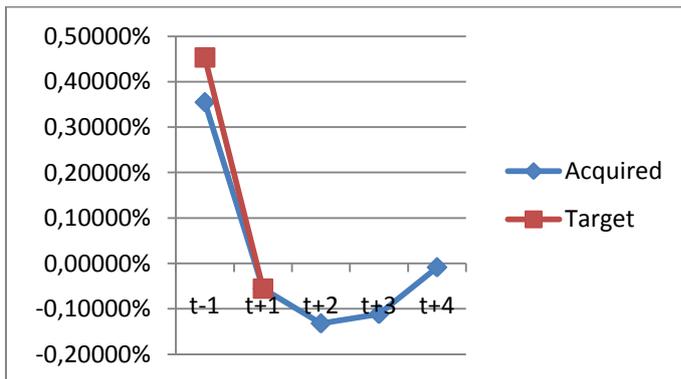
This transaction is made by two IT companies where the acquired firm is trading with a positive abnormal return in time t-1 while the target firm is trading with a negative abnormal return in time t-1. The result of this transaction is a negative abnormal return in the next four time periods.



Graph 15.

Case 7

Here we can see that both the acquiring and target company are trading with a positive abnormal return. The result of the transaction is a negative abnormal return in time 1 to 4. From t+1 to t+4 the abnormal return has a positive trend. This is a horizontal transaction between two industry companies.

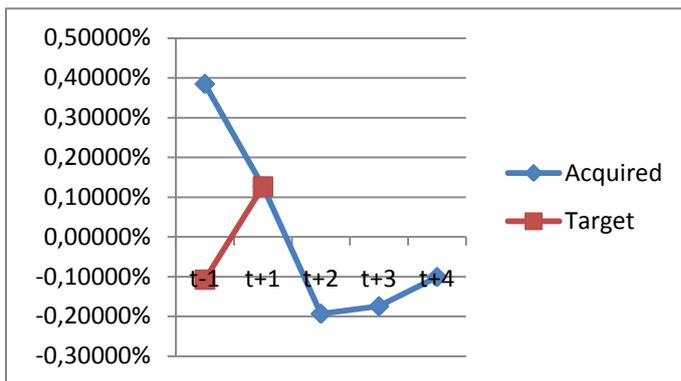


Graph 16.

Case 13

This is a transaction between two companies from the same sector, the IT sector. The acquired company has in time t-1 a positive abnormal return while the target firm has a negative abnormal return in the same time period. The transaction changes the acquired firms abnormal

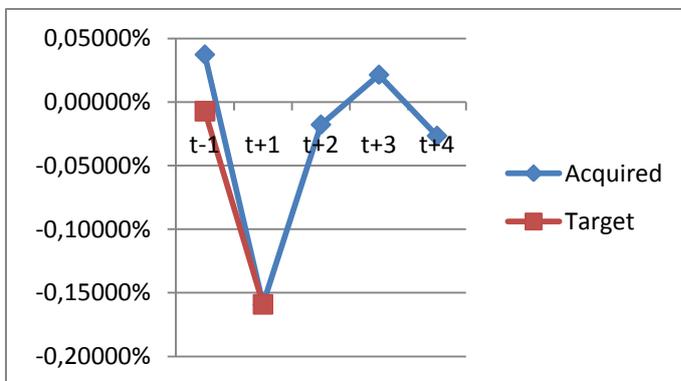
return form positive to a negative abnormal return in the next four time periods.



Graph 17.

Case 9

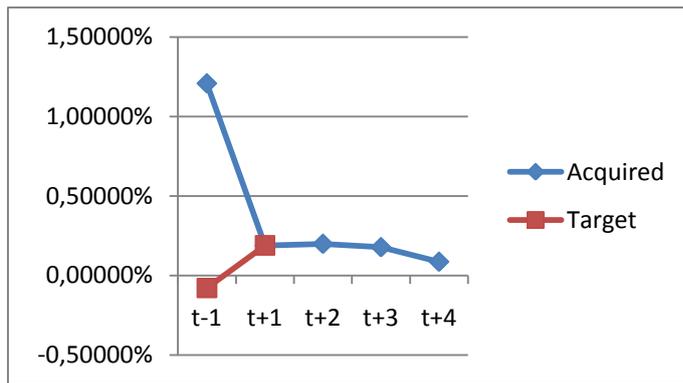
In this case we can see that the acquired firm has a positive abnormal return in time t+1 while the target firm has a negative abnormal return. In time periods 1, 2 and 4 the acquired company has a negative abnormal return. During our study we can only see one time that the company shows a positive abnormal return, which is in time t+3. This transaction is made between two companies that are operating in the IT sector.



Graph 18.

Case 16

This transaction is made between two companies that operate in the retailer industry. The acquired firm has a positive abnormal return in t-1 but the target firm has a negative abnormal return in the same time period. After the transaction the acquired firm shows a positive abnormal return in all states, but the abnormal return is lower than it was before the transaction. We can also see that the abnormal return has a negative trend in all states after the transaction.



*Graph 19.*

## 4.2 Analyze

### 4.2.1 Summary of result

As you can see in appendix 1, the overall performance of our observations displays the fact that 34 out of 72 periods have a positive abnormal return whereas the others have a negative return. None of the periods exceed the other ones in particular; period t+1 and t+3 have one period more than the other ones, which have a positive abnormal return. Therefore our overall findings of the success rate of mergers and acquisition goes in line with the theory mentioned in the earlier chapter since 53% of the periods show a negative abnormal return. However, one contradiction to the theory; we observe an interesting pattern when it comes to abnormal returns to a specific sector. Our results tell us that 78% of the 28 periods in regards to IT companies observe a negative abnormal return. This indicates that the IT sector, for some reason, fails to capture the synergy effects of these kinds of transaction.

Another interesting pattern, sector wise, is that finance companies tend to have a positive outcome from these kinds of transactions, where 63% out of 20 periods observe a positive abnormal return. These findings, even if not significant due the lack of observations, imply that for an investor, the sector of the acquiring company should be of importance.

If one pays attention to the volatility of our findings, the indication is that the IT sector is the most volatile one, in this sector we observe the highest positive abnormal return but also the lowest one. Also the first period t+1 for all our cases tends to give the highest returns for each transaction, 7 out of 18, but also the lowest, where 8 out of 18 have their worst outcome in the same period.

Also we can observe a tendency where most of the target firms are acquired when they have a positive abnormal return, 61% (11) out of 18 transactions to be exact. On the other hand, the acquiring companies tend to acquire when they have a positive abnormal return, 67% (12) out of 18 firms points to this occurrence.

Furthermore we want to investigate if different circumstances give a different outcome. To observe if such conditions exist we have divided our 18 groups in different patterns based on the abnormal return from t-1.

#### **4.2.2 T statistics**

Our data is normal distributed (appendix 11) However, our t-test shows that  $H_0$  hypotheses cannot be rejected. Hence we do not know, for certain, that the abnormal return in time t-1 will affect the outcome of a merger and acquisition.

#### **4.2.3 Target company have a positive abnormal return in t-1 whereas the acquired return are negative in the same period**

Our first group (appendix 2) contains five transactions where the common requirement was that the target company had a positive abnormal return in t-1 whereas the acquired return was negative in the same period.

The sectors involved where two finance, one IT, one real estate and one industry company. Results show that 65% out of 20 periods have a positive abnormal return. Notice that both finance companies provide a positive abnormal return and hence capture the synergy effect, with the highest return in t+1. The two companies that had a negative return both had a greater loss than they did before the transaction.

We cannot see any pattern outperforming the other one clearly, however the first period t+1 is positive for 4 out of 5 firms, which indicates that an investor should hold his stocks for one quarter when a target company has a positive abnormal return, when at the same time, the acquired obtains a negative one.

#### **4.2.4 Firms that showed a positive abnormal return**

In appendix 3 we see the second group is similar to the first one, with the difference that we take into account all target firms that showed a positive abnormal return without consideration to the acquiring firms return. 9 of the transactions have these restrictions, three finance, three industry, two IT and one real estate sectors.

We cannot see a particular pattern when the target has a positive return, 52 % (19) out of 36 periods observe a positive abnormal return. But sector wise we have obtained the knowledge that the industry sector is underachieving. 100%, i.e. 12 periods all have a negative return. Whereas 83 % (10) out of 12 in the finance sector show a positive return. Indications to an investor are to not invest into industry companies for a 1 year investment given these circumstances, and instead look at the finance sector. Period wise, we cannot see any specific pattern where one period outperforms the other one.

Difference between case 1 and 2, is that in case 1 the overall period have more periods that obtain positive returns, 65 % to 52 %. But sector wise we can clearly see differences in case 2, where the industry sector underachieves and the finance sector performs well.

#### **4.2.5 Target companies that have a negative abnormal return**

The next group, appendix 4, focuses on target companies that have a negative abnormal return, 7 transactions meet these restrictions, and three of them are IT companies, two finance, one retail and one real estate.

Only 53 % (15) out of 28 periods have a positive return, and no other patterns can be obtained, neither in periods nor sector wise. However, one interesting factor is that the finance sector that otherwise has shown good results, has negative returns in 3 out of 4 periods when both the target and acquired company have a negative abnormal return. Nevertheless we only have one company that fulfills these circumstances.

#### **4.2.6 Target firms performs worse in t-1 than the acquired one in t-1**

In appendix 5 we are trying to see if there is any pattern when the target firm performs worse than the acquired one in t-1. 9 transactions match this criterion where five IT companies, two finance, one retail and one real estate are represented.

Only 44 % (16) out of 36 periods hold a positive return in this case. There are only slight differences between the periods observed. The IT sector however has a low success rate in the periods; only 25% (5) out of 20 periods show a positive value.

#### **4.2.7 Target and acquiring firm have a positive abnormal return**

In appendix 6, we have 6 transactions that fit the following requirements where both the target and acquiring firm have a positive abnormal return. Three IT, two industries and one finance company are represented.

From the results obtained we find the lowest number of periods with positive returns, out of 24 periods only 25 % (6) have a positive return. The industry sector records a loss in all periods and the IT sector records 33% profit, whereas finance records a success rate of 50 %.

#### **4.2.8 Conglomerate mergers**

In appendix 7 we distinguish the conglomerate transactions into one group. We have four transactions when we divide our observations into conglomerate mergers. Three of the acquiring factors are from the finance sector whereas the last operates in the industry. We observe that 75 % of 16 periods exhibit a positive abnormal return. All the positive abnormal returns are observed when the finance sector acts as the acquiring firm.

#### **4.2.9 Horizontal and Vertical mergers**

In appendix 8, we have only included vertical and horizontal transactions to see if they differentiate. We observe that 29 % of the 76 periods observe a positive abnormal return. Both the IT sector and the Industry sector are the main reasons for the negative results.

#### **4.2.10 Acquiring company with a positive abnormal return**

As one can see in appendix 9, this group focus on when the acquiring company have a positive abnormal return, without considering the target return. The group consists of 12 transactions, with 58 periods in total. The result shows that only 35% of the 58 periods exhibit a positive abnormal return. Indicating that when the acquiring firm have a positive return, the transaction tend to turn out negative.

#### **4.2.11 Acquiring company have a positive return while the target has a negative one**

In appendix 10 the requirements are that the acquiring companies have a positive abnormal return, while the target companies have a negative abnormal return. In our data there are 6 transactions that fulfill these requirements. 58 % of the 24 periods exhibit positive result, which is slightly better than earlier studies.

### **4.3 Interpretation of our findings**

Even though our results are insignificant, we observe some trends that some of our findings match the theory mentioned, although we see some differences. The reason for the different outcome sector wise might be their lack of experience in dealing with these kinds of transactions. The finance sector, which shows a positive abnormal return in a greater scale, are probably more familiar with these transactions compared to the IT industry. This assumption rejects King, Dalton, Dailey and Covin's (2004) findings that no relationship between earlier experience from merger or acquisitions and their success rate could be found.

Also, our result differ from Sayan Chatterjee (2007) conclusion that mergers between the same industry or sector should be less risky, since we find that mergers or acquisitions within the same industry have a lower successful rate compared to transactions with different sectors. The conglomerate transactions have a success rate of 75 % whereas the vertical ones only come up with 29 %. The explanation for these findings might be Lindvall's (1991) conclusion that conglomerate mergers diversify the risk more. Sectors have different business cycle; if a company merges with another sector the probability that both sectors experience hard times at the same time is less than if a company only has to depend on one industry. Our findings indicate that the conglomerate transactions better grasp the synergies compared to the vertical ones. A possible solution to these occurrences could be that a conglomerate merger does not interference with each other's business. While in the vertical transaction the acquiring firm's management set aside the target ones. The reason why we combined vertical and horizontal transactions was because they operate under same business cycle, whereas a conglomerate does not.

We also find a pattern where target and acquiring firms both have positive abnormal returns; the outcome tends to be unsuccessful. One explanation to these negative results could be the expectations treadmill, where stockholders expect companies to increase their return for each year, but where in fact the bubble sooner or later has to burst. The expectation of investors when two companies that have good results merge could be too high. Another explanation could be Sirower's (1997) assumptions, that acquiring firms often have to pay a price premium to the target company shareholders because of the target companies positive abnormal return which affects their future outcome.

Another relationship observed are when the acquiring firms have a positive abnormal return the outcome tends to be unsuccessful. A reason to this occurrence might be that the managers in the acquiring firm suffer from hubris. Since their firm is performing well, they might have an over belief of their own ability, which enables them to turn a company that is not performing well, into a company that does. These imaginations might influence them to take on more risky projects, and a result of that are our findings, that it turns up worse.

The fact that the success rate for transactions where the abnormal return are positive while the target return are negative is 58 % could be explained due to that the price premium affect is smaller, since the target company underperforms. Another reason might be Loris Bradley's (2003) assumption about the integration plan. Perhaps when managers buy a company that underperforms, the owners are more reluctant and therefore have a higher requirement of such plans in order to proceed with the purchase.

Our observation that most of the target companies are bought when they have a positive return and the fact that most of acquiring firms merge when they have a positive return, could be a reason for their low success rate. Joseph P. et al (2002) mention that managers with free cash flow available could act in self interest. This could be an assumption for the observation above. Managers with plentiful amounts of money, often in good times, also buy target companies with positive abnormal return, this could lead to price premiums and hence the negative result after the transaction. Jensen's free cash flow hypothesis mentions that managers with much cash accessible would invest in bad projects, could be a consequence of the merger and acquisitions outcome.

Even though we circumvent the cultural differences in a greater extent, we did not observe a different success rate for mergers or acquisitions. Instead we found the result to be similar as previous studies that more than 50% fail to address positive returns. One explanation to the result could be that even though we only included Swedish companies, the cultural difference within the concerned companies could be large. Another possible explanation for the results might be behavior finance which have implied that the market under reacts to information in the short run i.e. 1-12 months.

Our overall results show that the outcome tends to be negative. This could be explained by the behavior of managers and their wrong intentions such as empire building, their complacency, over belief in their own ability and their aim to maximize their wealth instead of the shareholders (Shleifer and Vishney (1986), Seth, Song and Pettit (2000)).

#### 4.4 Summary of analyses

In this part we present the most distinctive results. The table below describes the relationship between the involved firms given the abnormal return and their outcome. Note that target firm with a minus in front of it have a minus, which in our case means without consideration, and that the success rate is measured in periods . The most interesting observation is that the most successful transactions are when the acquired firms have a negative abnormal return and when the target firm has a positive return. Whereas the lowest success rate can be found when both the target and acquiring company have a positive abnormal return.

Success rate depending on Abnormal returns in t-1		
Target Firm	Acquired Firm	Outcome
Positive	Positive	Success Rate 25 %
Positive	Negative	Success Rate 65 %
-	Positive	Success Rate 35 %
Negative	Positive	Success Rate 58 %

Table 1.

The following table describes the outcome when considering the type of transaction. Our findings indicate that conglomerate transactions have a higher success rate than the horizontal/ vertical type.

Success rate depending on type of transaction		
Horizontal /Vertical	Conglomerate	Outcome
	X	Success Rate 75 %
X		Success Rate 29 %

Table 2.

The last table explains the relationship between the acquiring sector and their outcome. Our findings point towards that sector plays a crucial part in determining the outcome. The Finance sector exhibits the highest success rate, while the Industry sector has the lowest.

Success rate depending on acquiring sector		
Sector		Outcome
Finance		Success Rate 75 %
Industry		Success Rate 0 %
IT		Success Rate 35 %

Table 3.

## 5. Conclusions

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*In this chapter we will sum up our dissertation followed up by our conclusions. Furthermore, we will present critical reflections, contributions and future research.*

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### 5.1 Summary

The main purpose of this paper is to examine if there is a relationship between the abnormal return for the target and acquired firm and the outcome of the merger or acquisition. Since our data contains all merger and acquisition that have been made during 1995 until 2010, we consider it to be representative for the Swedish market. We have chosen to investigate the abnormal return post the merger for the next four quarters. Even though our result is not significant, due to the lack of observations, our findings indicate that some relationship between the target and acquiring abnormal return prior the merger still exists. The following relationships have been observed.

When the target firm have a positive abnormal return, and when the acquiring have a negative return, 65% of the transactions show a positive outcome. Another relationship, with stronger percentage level, is when both the target and the acquiring firm exhibit a negative abnormal return prior the transaction. The success rate given these circumstances is only 25 %. An additional pattern observed are when the abnormal return for the acquiring firm is positive, the results have a success rate of 35 %.

We also see a relationship given different sectors where the finance sector exhibit a higher return compared to the IT sector and the Industry sector. Another pattern observed is that conglomerate mergers reveals a success rate of 75 % compared to vertical and horizontal transactions which have a success rate of 25 %.

Our secondary purpose was to see if the mergers or acquisitions success rate in Sweden was higher than previous studies, due to the fact that we circumvent one of the main reasons to their negative outcome, the cultured differences in a greater scale. Or findings for the success rate however, are similar to previous studies; more than 50 % of the transactions fail to get a positive return.

Finally our third purpose was to investigate if there was a particular strategy for an investor when a merger or acquisition has been announced. We did not find a particular strategy or occasion to invest in. Although sector has been proven important but also when the abnormal

return for the target company is positive and the acquiring firms returns is negative, period t+1 showed to be positive 4 out of 5 times.

Even if the results are insignificant, our findings might be of importance since it is only insignificant due to the small sample size.

## **5.2 Contribution**

We wanted to, through this thesis, try to identify if the target and acquiring firm's abnormal return prior the merger or acquisition affects its outcome. The contributions from the thesis are that we cannot statistically see a relationship between the factors from our data at a 5 % significance level. However we can observe some relationship which has been presented in chapter 4.

From an investor's point of view, the conclusion might be of importance when deciding upon to buy or hold the securities when a company announces for a merger or acquisition.

## **5.3 Critical reflection**

The result cannot be generalized because the small number of transactions. Also, since our time period is 13 months there is a possibility that we have captured other events that have given the calculation a misleading result. The result might differ when comparing mergers and acquisitions where the target and acquiring company are not from the same country. Since our requirements where that both the target and acquiring company are operating on the Swedish stock market and the fact that we only included the biggest transactions, the result might differ if other requirements were stated.

## **5.4 Future research**

For future research it would be interesting to see what the findings would be if a bigger market were applied with larger sample size. Also if the same result would be obtained on the Swedish market when smaller transactions would be taken into account. Another interesting topic would be to investigate if different sectors would have a different outcome.

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## Appendix 1

		Target	Aquired					Aquired sector	Target Sector
	case	t-1	t-1	t+1	t+2	t+3	t+4		
Low traded in t-1	12	1,40991%	-0,32470%	0,35446%	0,16706%	0,17825%	0,04862%	Finance	Retail
	2	1,26837%	-0,88928%	0,00466%	0,25810%	0,23938%	0,21507%	Real estatement	Real estatement
	18	0,46012%	-0,28276%	0,19590%	0,09861%	0,16268%	0,16131%	Finance	Education
	4	-0,50038%	-0,15714%	-0,15247%	0,01835%	-0,04272%	-0,01755%	Finance	Finance
	15	0,35856%	-0,05806%	0,12141%	-0,09040%	-0,08224%	-0,06997%	IT	IT
	1	0,77377%	-0,04262%	-0,24428%	-0,08908%	-0,06534%	-0,04475%	industry	industry
High traded in t-1	8	-0,00719%	0,03720%	-0,15904%	-0,01784%	0,02136%	-0,02661%	Real estatement	Real estatement
	10	0,44607%	0,05266%	0,55721%	0,33953%	0,22497%	0,13654%	IT	IT
	6	0,20481%	0,05406%	-0,21415%	-0,13747%	-0,11709%	-0,05784%	Industry	Finance
	11	0,44249%	0,06196%	-0,17466%	-0,11106%	0,01492%	0,01504%	Finance	Finance
	14	-0,18863%	0,06836%	0,36588%	0,04994%	0,12514%	0,06234%	Finance	Education
	17	0,03963%	0,07078%	-0,86107%	-0,69761%	-0,40146%	-0,42321%	IT	IT
	5	-0,58835%	0,08210%	0,52577%	0,38918%	0,22161%	0,37440%	IT	IT
	3	-2,85978%	0,18667%	-0,17368%	-0,16230%	-0,20119%	-0,18889%	IT	IT
	7	0,45319%	0,35464%	-0,05535%	-0,13216%	-0,11162%	-0,00872%	industry	industry
	13	-0,10742%	0,38499%	0,12662%	-0,19345%	-0,17452%	-0,10102%	IT	IT
	9	0,11198%	1,14238%	-0,40665%	-0,36795%	-0,27780%	-0,29749%	IT	IT
	16	-0,07871%	1,20805%	0,18875%	0,19906%	0,17802%	0,08629%	Retail	Retail

## Appendix 2

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
12	1,40991%	-0,32470%	0,35446%	0,16706%	0,17825%	0,04862%	Finance	Retail
2	1,26837%	-0,88928%	0,00466%	0,25810%	0,23938%	0,21507%	Real estatment	Real estatment
18	0,46012%	-0,28276%	0,19590%	0,09861%	0,16268%	0,16131%	Finance	Education
15	0,35856%	-0,05806%	0,12141%	-0,09040%	-0,08224%	-0,06997%	IT	IT
1	0,77377%	-0,04262%	-0,24428%	-0,08908%	-0,06534%	-0,04475%	industry	industry

### Appendix 3

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
12	1,40991%	-0,32470%	0,35446%	0,16706%	0,17825%	0,04862%	Finance	Retail
2	1,26837%	-0,88928%	0,00466%	0,25810%	0,23938%	0,21507%	Real estatement	Real estatement
18	0,46012%	-0,28276%	0,19590%	0,09861%	0,16268%	0,16131%	Finance	Education
15	0,35856%	-0,05806%	0,12141%	-0,09040%	-0,08224%	-0,06997%	IT	IT
1	0,77377%	-0,04262%	-0,24428%	-0,08908%	-0,06534%	-0,04475%	industry	industry
10	0,44607%	0,05266%	0,55721%	0,33953%	0,22497%	0,13654%	IT	IT
6	0,20481%	0,05406%	-0,21415%	-0,13747%	-0,11709%	-0,05784%	Industry	Finance
11	0,44249%	0,06196%	-0,17466%	-0,11106%	0,01492%	0,01504%	Finance	Finance
7	0,45319%	0,35464%	-0,05535%	-0,13216%	-0,11162%	-0,00872%	industry	industry

## Appendix 4

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
4	-0,50038%	-0,15714%	-0,15247%	0,01835%	-0,04272%	-0,01755%	Finance	Finance
8	-0,00719%	0,03720%	-0,15904%	-0,01784%	0,02136%	-0,02661%	Real estatement	Real estatement
14	-0,18863%	0,06836%	0,36588%	0,04994%	0,12514%	0,06234%	Finance	Education
5	-0,58835%	0,08210%	0,52577%	0,38918%	0,22161%	0,37440%	IT	IT
3	-2,85978%	0,18667%	-0,17368%	-0,16230%	-0,20119%	-0,18889%	IT	IT
13	-0,10742%	0,38499%	0,12662%	-0,19345%	-0,17452%	-0,10102%	IT	IT
16	-0,07871%	1,20805%	0,18875%	0,19906%	0,17802%	0,08629%	Retail	Retail

## Appendix 5

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
4	-0,50038%	-0,15714%	-0,15247%	0,01835%	-0,04272%	-0,01755%	Finance	Finance
8	-0,00719%	0,03720%	-0,15904%	-0,01784%	0,02136%	-0,02661%	Real estatment	Real estatment
14	-0,18863%	0,06836%	0,36588%	0,04994%	0,12514%	0,06234%	Finance	Education
5	-0,58835%	0,08210%	0,52577%	0,38918%	0,22161%	0,37440%	IT	IT
3	-2,85978%	0,18667%	-0,17368%	-0,16230%	-0,20119%	-0,18889%	IT	IT
13	-0,10742%	0,38499%	0,12662%	-0,19345%	-0,17452%	-0,10102%	IT	IT
9	0,11198%	1,14238%	-0,40665%	-0,36795%	-0,27780%	-0,29749%	IT	IT
16	-0,07871%	1,20805%	0,18875%	0,19906%	0,17802%	0,08629%	Retail	Retail
17	0,03963%	0,07078%	-0,86107%	-0,69761%	-0,40146%	-0,42321%	IT	IT

## Appendix 6

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
10	0,44607%	0,05266%	0,55721%	0,33953%	0,22497%	0,13654%	IT	IT
6	0,20481%	0,05406%	-0,21415%	-0,13747%	-0,11709%	-0,05784%	Industry	Finance
11	0,44249%	0,06196%	-0,17466%	-0,11106%	0,01492%	0,01504%	Finance	Finance
17	0,03963%	0,07078%	-0,86107%	-0,69761%	-0,40146%	-0,42321%	IT	IT
7	0,45319%	0,35464%	-0,05535%	-0,13216%	-0,11162%	-0,00872%	industry	industry
9	0,11198%	1,14238%	-0,40665%	-0,36795%	-0,27780%	-0,29749%	IT	IT

## Appendix 7

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
12	1,40991%	-0,32470%	0,35446%	0,16706%	0,17825%	0,04862%	Finance	Retail
18	0,46012%	-0,28276%	0,19590%	0,09861%	0,16268%	0,16131%	Finance	Education
6	0,20481%	0,05406%	-0,21415%	-0,13747%	-0,11709%	-0,05784%	Industry	Finance
14	-0,18863%	0,06836%	0,36588%	0,04994%	0,12514%	0,06234%	Finance	Education

## Appendix 8

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
2	1,26837%	-0,88928%	0,00466%	0,25810%	0,23938%	0,21507%	Real estatement	Real estatement
4	-0,50038%	-0,15714%	-0,15247%	0,01835%	-0,04272%	-0,01755%	Finance	Finance
15	0,35856%	-0,05806%	0,12141%	-0,09040%	-0,08224%	-0,06997%	IT	IT
1	0,77377%	-0,04262%	-0,24428%	-0,08908%	-0,06534%	-0,04475%	industry	industry
8	-0,00719%	0,03720%	-0,15904%	-0,01784%	0,02136%	-0,02661%	Real estatement	Real estatement
10	0,44607%	0,05266%	0,55721%	0,33953%	0,22497%	0,13654%	IT	IT
11	0,44249%	0,06196%	-0,17466%	-0,11106%	0,01492%	0,01504%	Finance	Finance
17	0,03963%	0,07078%	-0,86107%	-0,69761%	-0,40146%	-0,42321%	IT	IT
5	-0,58835%	0,08210%	0,52577%	0,38918%	0,22161%	0,37440%	IT	IT
3	-2,85978%	0,18667%	-0,17368%	-0,16230%	-0,20119%	-0,18889%	IT	IT
7	0,45319%	0,35464%	-0,05535%	-0,13216%	-0,11162%	-0,00872%	industry	industry
13	-0,10742%	0,38499%	0,12662%	-0,19345%	-0,17452%	-0,10102%	IT	IT
9	0,11198%	1,14238%	-0,40665%	-0,36795%	-0,27780%	-0,29749%	IT	IT
16	-0,07871%	1,20805%	0,18875%	0,19906%	0,17802%	0,08629%	Retail	Retail

## Appendix 9

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
8	-0,00719%	0,03720%	-0,15904%	-0,01784%	0,02136%	-0,02661%	Real estatement	Real estatement
10	0,44607%	0,05266%	0,55721%	0,33953%	0,22497%	0,13654%	IT	IT
6	0,20481%	0,05406%	-0,21415%	-0,13747%	-0,11709%	-0,05784%	Industry	Finance
11	0,44249%	0,06196%	-0,17466%	-0,11106%	0,01492%	0,01504%	Finance	Finance
14	-0,18863%	0,06836%	0,36588%	0,04994%	0,12514%	0,06234%	Finance	Education
17	0,03963%	0,07078%	-0,86107%	-0,69761%	-0,40146%	-0,42321%	IT	IT
5	-0,58835%	0,08210%	0,52577%	0,38918%	0,22161%	0,37440%	IT	IT
3	-2,85978%	0,18667%	-0,17368%	-0,16230%	-0,20119%	-0,18889%	IT	IT
7	0,45319%	0,35464%	-0,05535%	-0,13216%	-0,11162%	-0,00872%	industry	industry
13	-0,10742%	0,38499%	0,12662%	-0,19345%	-0,17452%	-0,10102%	IT	IT
9	0,11198%	1,14238%	-0,40665%	-0,36795%	-0,27780%	-0,29749%	IT	IT
16	-0,07871%	1,20805%	0,18875%	0,19906%	0,17802%	0,08629%	Retail	Retail

## Appendix 10

	Target	Aquired					Aquired sector	Target Sector
case	t-1	t-1	t+1	t+2	t+3	t+4		
8	-0,00719%	0,03720%	-0,15904%	-0,01784%	0,02136%	-0,02661%	Real estatment	Real estatment
14	-0,18863%	0,06836%	0,36588%	0,04994%	0,12514%	0,06234%	Finance	Education
5	-0,58835%	0,08210%	0,52577%	0,38918%	0,22161%	0,37440%	IT	IT
3	-2,85978%	0,18667%	-0,17368%	-0,16230%	-0,20119%	-0,18889%	IT	IT
13	-0,10742%	0,38499%	0,12662%	-0,19345%	-0,17452%	-0,10102%	IT	IT
16	-0,07871%	1,20805%	0,18875%	0,19906%	0,17802%	0,08629%	Retail	Retail

## Appendix 11

Time period	t-value	critical t-value	Noll hypotheses
t+1	-0,00011	$\pm 1,7396$	Not rejected
t+2	-0,10235	$\pm 1,7396$	Not rejected
t+3	-0,03155	$\pm 1,7396$	Not rejected
t+4	-0,04144	$\pm 1,7396$	Not rejected