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SCHOOL OF BUSINESS, ECONOMICS AND LAW



BUYOUTS – A STUDY OF PRE-ANNOUNCEMENT RETURNS

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Abstract

Title: “Buyout – a study of preannouncement returns”

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Problem: When firms face a possible acquisition and buyout from the stock market, the shareholders can earn huge returns since the acquirer offers a premium above market price. The implications of the efficient market hypothesis are that share prices are not predictable and investors cannot earn abnormal returns without any new public information.

Aim and purpose: The purpose of this paper is to examine whether it occurs abnormal return on the target firm’s share before an announcement of a buyout is made. We aim to study shares listed on the Swedish stock market that have been bought out from the market and are not listed anymore.

Method: The paper will be conducted with an event study. The event study methodology is often used to test the efficiency of a market by determine if there are abnormal returns for a selected security at a specific event

Result and conclusions: Using hypothesis testing, we have concluded that it is statistically significant that cumulative abnormal return did occur during the 14 days preceding an announcement. The most likely explanation for this is thought to be rumors and inside information.

Key words: Event study, buyout, abnormal returns, acquisitions, efficient market hypothesis

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1. Introduction

1.1 Introduction and problem discussion

When a firm faces a possible acquisition their shareholders can earn high instant returns since the buyer pays a premium to the shareholders of the target firm. The premium above the market share price is paid since the acquirer wants the shareholders of the target firm to sell. The announcement of a possible buyout therefore creates abnormal return on the targeted firm share (Borges and Gairifo, 2012). According to KPMG (2012) the average premium paid by the acquirer was 34 % in 2011. This creates a huge opportunity for investors who can anticipate a possible acquisition as the profit from such news tend to be major. A study made by Jensen and Ruback (1983) shows that the cumulative abnormal returns on the announcement day tend to be around 20 – 30 %.

Previous studies on the Israeli, Indian and NYSE Euronext stock market show higher demand for the target firm beginning before an official announcement of a buyout is communicated on the market (Borges & Gairifo, 2012; Spiegel & Tavor, 2010; Gopalswamy & Acharya, 2008). They find that the share price of the target firm suddenly begin to drift upward on no news but persistent rumors. This contradicts the efficient market hypothesis that states; “all prices fully reflect all relevant information” (Fama, 1970). Furthermore in the assumption of a perfect capital market, information is believed to be costless and received simultaneously by all individuals (Copeland, 2005). The implications of the efficient market hypothesis are that share prices are not predictable and investors cannot earn abnormal returns.

Is it possible to spot any difference in the targeted stocks performance prior to an official announcement? The study will include the Swedish stock market 2009 – 2012 since no exiting research is found during this period of time on the Swedish market. Also, since the authors of this thesis are from Sweden it is natural to choose to investigate the Swedish market. It will be interesting to see

if this study reaches the same result as previous studies. Is the Swedish stock market really efficient in the event of a buyout?

1.2 Purpose and overall study approach

The purpose of this paper is to examine whether it occurs abnormal return on the target firm's share before a buyout announcement is made. Companies previously listed on the Swedish stock market, that has been bought out from the market will be examined. Since such high premiums are paid to the exiting shareholders of the target firm, it can be highly profitable to anticipate such candidates. Therefore we believe that it is interesting to examine the returns for such firms in a pre-announcement stage. By using the hypothesis test, the statistical significance of the hypothesis that abnormal returns exist before an announcement of a buyout will be analyzed.

1.3 Framing of question

Can we, by using statistically methods, reject the hypothesis that it does not occur cumulative abnormal return (CAR) before an announcement of a buyout is made on the targeted firm?

1.4 Limitations

This study will only cover firms that have been bought out from the Swedish stock market and therefore are not listed anymore. Furthermore, the offer must be a "cash-offer" where the shareholders are offered money from the acquirer and not shares in another company for example. Also, the offer must not be a "mandatory-offer" in which the acquirer have bought more than 30 % of the shares and is now obligated to buy the remaining shares since the 30 % stake sufficient to give a single party effective control (Berglöf and Burkart, 2003 pp. 185). By using these limitations it is believed that the study will reach a more correct and clear result. Also, due to time restrictions it is not possible to include firms from more than one market, consequently the study only cover the

Swedish stock market between the years of 2009 and 2012. A total of 14 companies are included.

This paper will study and calculate abnormal returns 14 days prior the announcement. We have chosen to study this period of time because we feel that the days closest to the announcement day is the most interesting. Hence, to avoid missing anything unexpected or any abnormal returns this study cover more days than just days before the event of an announcement. Similar studies have ranged from 25 to 10 days preceding the announcement (Gopaldaswamy, Acharya et al., 2008). 14 days is chosen as examination window for this study.

1.5 Hypothesis

We have chosen to use a two-tailed hypothesis test to examine whether it occurs cumulative abnormal returns or not. We formulate the hypothesis in the null form as follows:

H_0 : Cumulative abnormal returns does not occur prior to the announcement.

2. Methodology

2.1 Deductive approach

This essay is based on a deductive approach since existing theories and hypotheses is used to achieve a result. The existing theory and the efficient market hypothesis, has been tried for many years by several researchers and will simplify this study. In the book *"Företagsekonomiska forskningsmetoder"* Bryman and Bell explains the deductive approach and defines it as follows: *"Based on what is known in a particular field and the theoretical considerations of this area, derives or deduces the researcher one or more hypotheses to be subjected to an empirical examination"* (Bryman and Bell, 2003 p 23).

By using this approach, theoretical framework should be compiled. This can be done by accordingly develop hypotheses and models that can be tested in the empirical study. The empirical data can eventually weaken, modify or reinforce confidence in the theory (Bryman and Bell, 2003).

2.2 Quantitative research method

A distinction is often made between two different types of methods in the social sciences, the quantitative and the qualitative (Bryman and Bell, 2003). This study is conducted using the quantitative method. According to Bryman and Bell (2003) quantitative research is well suited for researches that focus on processing data using statistical and analytical methods. The qualitative method is most suitable when the aim is to interpret how someone perceives a particular event. The qualitative methods focus not on statistics but on individuals' subjective interpretations.

Since statistical methods are used in order to answer our question the quantitative method will be preferable. When using quantitative research method a hypothesis is introduced in the early stages of the study and is the basis for what data the researcher should use (Bryman and Bell, 2003). After

having processed the data, it will be tested whether the hypothesis is supported or not.

2.3 Data

It is important to separate primary data from secondary data, which is data collected by other authors (Larsen, 2009). To collect the necessary data, secondary data is primarily used. Which is collected from DataStream to be able to see how the share prices are performing prior an announcement of the buyout. This database will give statistics and share prices of former listed companies, which is applied to the research. OMXSPI-index will represent the market portfolio in this study. Daily returns are used in this paper because it is more preferable when studying share movements day by day.

Validity is how something that is measured correspond with what really should be measured, which can be expressed as the correlation between the theoretical and the actual event (Bryman and Bell, 2003). The return on equity measures a company's profitability by calculating how much profit the firm generate through the shareholders invested money. The data is historical share prices therefore it is possible to assume that the share price's return and validity is high.

2.4 Event study

The paper will be conducted with an event study. This method is a useful tool to apply for the purpose of this thesis. The event study methodology is often used to test the efficiency of a market by determine if there are abnormal returns for a selected security at a specific event. To implement the event study, the flow of step described below should be followed (MacKinley, 1997).

Initially, the event that should be studied must be identified, as well a time period in which the event occurs. Often the time period is not only a single day,

therefore multiple days is preferred as the reaction to the event may be longer. Then the selection criterion for the firm used in the study must be determined, in this case, an announcement of a buyout from the stock market. To be able to examine if the event has an impact on the studied securities' share price, abnormal returns is calculated. Abnormal returns are calculated by taking the actual return minus the normal return. Where the normal return is defined as the expected return if the event had not occurred. There are two main techniques to calculate the normal return:

i) Constant mean return model and ii) the market model. Constant mean return model assumes an average return thought out the entire time period. While the market model assumes that there is a linear relationship between market return and your securities return (MacKinley, 1997).

According to MacKinley (1997) the market model is an improvement of the constant mean return model. In the market model the return is associated with the variation in the market return, which reduces the variance of the abnormal return and increases the ability to identify event effects. Event effects are share price movements that can be explained by the selected event. In this case the announcement of a buyout on the Swedish stock market.

In order to estimate how the securities returns relate to the market return, an estimation window is needed, where the securities returns are compared with the market return. According to MacKinley (1997) an estimation window of 250 days prior the event is preferred. The event window should not be included in the estimation window as the returns caused by the event may have adverse impact when calculating normal returns. In the event window you calculate returns for the selected shares based on how the share price have correlated with the market return in the estimation window of 250 days. By compare this return with the actual return, it is possible to perceive how the event has affected the share performance during the event window.

The final stage of an event study is to be able to interpret and draw conclusions using the cumulative abnormal return data and thereby comprehend how the selected event has affected the share price (MacKinley, 1997).

2.5 Abnormal return

To be able to study the pre-announcement returns on a specific share the abnormal return must be determined. The abnormal return is the return that is not expected and is calculated as the difference between observed and expected return. The expected return is the expected value if the event does not occur, and can be calculated using a number of different models that are divided into statistical and economic models. The statistical models are based on statistical assumption of returns, while the economic models are based on assumptions about investors' behavior (MacKinley, 1997).

2.6 The event study approach

As mentioned before this study has chosen to use an estimation window of 250 days. In order to study how a security's performance is related to the market during these 250 days, calculations of the estimation window's daily returns are needed. For the single security and the market return separately (MacKinley, 1997).

$$R_{it} = (P_{it} - P_{it-1}) / P_{it-1}$$

where;

R_{it} = The return for a single security or the market.

P_t = The closing price on day t .

P_{t-1} = The closing price the day before.

To be able to use the market model in the event study, calculate the normal return for the securities. The market model is a statistical model that relates the securities returns to the market portfolio. OMXSPI will reflect the market return.

The normal return on a security is based on its returns during the estimation window.

For security i the market model is;

$$R_{normal,i} = \alpha_i + \beta_i * R_{mt} + \varepsilon_{it}$$

where;

$R_{normal,i}$ = The normal return for a single security

R_{mt} = The return for the market portfolio.

ε = The error term whose value is zero.

α_i = Alpha for a single security

β_i = Beta for a single security.

To be able to calculate the abnormal return, you simply subtract the normal return from the actual return that day (MacKinley, 1997).

Calculation of abnormal return;

$$AR_{it} = R_{it} - R_{normal,i}$$

Calculation of cumulative abnormal return;

$$CAR_{it} (t_1, t_2) = \Sigma AR_{it}$$

The sum of all abnormal returns is summed in order to get a more general view of the pre-announcement returns. The cumulative abnormal return is then used to get the t-test and test the hypothesis (MacKinley, 1997).

A decision must be made concerning the null hypothesis. Either reject or fail to reject the null hypothesis (H_0). If one fails to reject the null hypothesis, the null hypothesis is true or the test procedure was not strong enough to reject it (Newbold et al., 2010).

There are two types of errors that can be made in conjunction with a hypothesis test, type I and type II errors. Type I error means that one rejects the null

hypothesis although it is true. The risk of making this error increases when higher demands on the level of significance is set, i.e, a very low value. Type II error means accepting the null hypothesis even though it is false. This type of error can occur when you set low demands on the level of significance (Newbold et al., 2010 p. 380).

A 5 % significant level will be used in this study, which is a t-value of 1,960. In order to calculate the t-value, standard deviation is needed for each security.

The t-value is calculated as below:

$$t = \frac{X - \mu}{\sigma}$$

Reject the null hypothesis if $\frac{X - \mu}{\sigma} > t_{0.05}$

3. Theoretical framework

3.1 Efficient market hypothesis

To analyze the result, this study will use the efficient market hypothesis. This is the most used theory in similar studies despite the fact that it occurred as early as in 1970 by Eugene Fama (Copeland, 2005). This theory implies that it is public information flows that affect a shares price and movements. Therefore the theory states that there will not occur abnormal or unexpected returns. The share prices of a firm should reflect the true underlying value of the company and the prices should adjust quickly after new information about the company enters the market (Palepu *et al.*, 2004).

According to Copeland (2004) this hypothesis is based on several assumptions:

Weak-form efficiency: “No investor can earn excess returns by developing trading rules based on historical prices or return information. In other words, the information in past prices or returns is not useful or relevant in achieving excess returns.” (Copeland, 2004, p. 355)

Semi strong-form efficiency: “No investor can earn excess returns from trading rules based on any publicly available information. Examples of publicly available information are annual reports of companies, investment advisory data such as “Heard on the Street” in the Wall Street Journal, or tic-to-tic transaction information.” (Copeland, 2004, p. 355)

Strong-form efficiency: “No investor can earn excess returns using any information, whether publicly available or not.” (Copeland, 2004, p. 355)

3.2 Criticism towards the efficient market hypothesis

The term behavioral finance refers to the idea that purely numerical study of prices and new information is far from sufficient to understand the market.

Investors who do not include the psychological factors of market participants cannot understand the price developments (Goldberg and von Nitzsch, 2001).

In contrast to the efficient market hypothesis, behavioral finance theory implies that investors may have additional motives and it is not always maximization of profits. Furthermore, it does not assume that investors have full information. Investors do not always have access to all, important information which may affect their decision-making. Certain information may be unavailable or interpreted wrongly. Also, Goldberg and von Nitzsch (2001) emphasize that actors interpret the same information differently and therefore reach different conclusions from that information. The bottom line is that supporters of behavioral finance consider that the efficient market hypothesis is not true.

3.3 Previous studies

A study conducted by Borges and Gairifo in 2012 presents abnormal returns on the NYSE Euronext market 2001 - 2007. They investigate whether abnormal returns occur in a pre-announcement phase but also how the presence of abnormal return can be explained. They find that rumors in media of a possible acquisition accounts for a significant part of the abnormal return. The percentage of capital owned in the target firm, by the bidding firm prior the acquisition is a factor as well (Borges and Gairifo, 2012). By using the event study methodology Borges and Gairifo have been able to identify abnormal performances on shares on these markets prior to the event of a merger.

Spiegel, Tavor and Templeman (2010) also adapt the event study approach to investigate the effect of Internet rumors on the Israeli stock market. Their empirical result showed a higher demand for the target share beginning five days prior publication, by an increase in abnormal returns. The day of the event the abnormal return increase furthermore, i.e. if the rumor is confirmed to be true.

A research by Gao and Oler (2011) examines trading activity prior to an announcement of an acquisition. Interestingly, they find that it is significant

active selling in target shares preceding an announcement even though it can be highly profitable to anticipate the acquisition and be an investor in the targeted share. According to Gao and Oler (2011) this can be explained by the argument that investors are rational and profit from the market overreaction and rumor of the acquisition. In most cases the rumors fail to be true and a public announcement of an acquisition is never made.

A similar study has been conducted on the Bombay Stock Exchange market in India (Gopaldaswamy, Acharya et al., 2008). The researchers also investigated share performances in a pre-announcement stage when the targeted firms face a possible acquisition, for the period 2000 - 2007. Their findings indicate abnormal returns for the period $t_{-10} - t_{-1}$ prior the announcement. This, due to rumors or market indications of good news i.e. an acquisition may be the explanation according to the authors.

3.4 Herd behavior on the stock market

Gyllenram (1998) describes a herd behavior on the stock market. When a share price quickly increases or decreases the investor feels the need to be connected with other shareholders. It is easy in such time to become a member of the pack rather than an individual shareholder. The investor tends to accept the majority's views, and focus more on the short-term rather than the long-term perspective. The herd of investors either runs the share price upward or downwards based on the majority's view.

4. Empirical evidence

4.1 Results

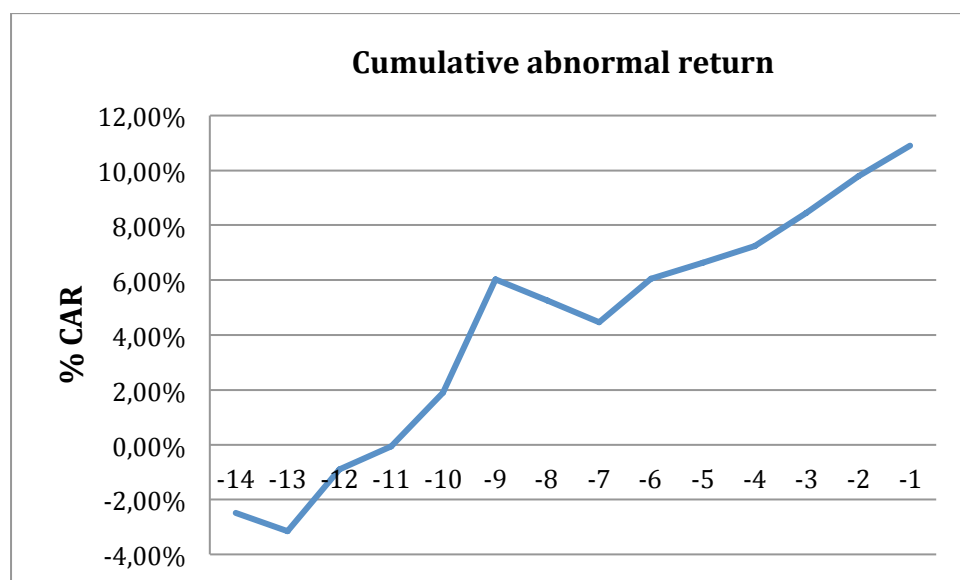
The result of our study is presented with a chart of aggregated cumulative abnormal return for the period t_{-14} to t_{-1} prior to the announcement of the buyout. After having compiled all necessary data for all 14 companies, abnormal returns were calculated for each share. The daily abnormal returns for each firm are presented in Table 4, 5 and 6 in appendix. We believe that it is more distinct to aggregate the abnormal returns to be able to identify more clearly if there were abnormal returns preceding an announcement of a buyout on the Swedish stock market between 2009-2012.

In this chapter it is also presented if it is statistically significant that cumulative abnormal return occurred by examining the statistical t-value. As mentioned earlier, a significance level of 5 % is chosen, which means that one cannot reject the null hypothesis if the t-value is in the range of ± 1.96 . In other words, we can be 95 % sure that we do not reject the null hypothesis incorrectly at this level of significance.

4.2 Cumulative abnormal return

As seen in the figure above, the cumulative abnormal return adds up to 10,90 % for the 14-day window. If the market is believed to be efficient, the abnormal returns should have been around zero.

Table 1: Cumulative abnormal return



4.3 Hypothesis testing

As presented in chapter 1 the result will be examined by using a two-tailed hypothesis test.

H_0 : Cumulative abnormal return does not occur prior to the announcement.

Table 2: % CAR, t-value and critical value

% Car	t-Value	Critical Value
10,90 %	4,971	1,960

The cumulative abnormal return (CAR) for the studied period amounts to 10,90 % which implies a t-value of 4,971, showed in table 1. Hence, it is statistically significant that cumulative abnormal returns did occur in a pre-announcement stage on the Swedish stock market between 2009 and 2012. We can thus reject the null hypothesis.

4.4 Average abnormal returns

Table 2 shows average daily abnormal returns (AAR) for target firms. You can identify positive AAR beginning 12 days prior the announcement. There is significant positive abnormal return at t_{-9} , 4,145 %. Furthermore, the AAR yield positive abnormal return every day for six days prior to the announcement. Additionally, the day of the announcement, t_0 , there is an AAR close to 20 %.

Table 3: Average abnormal returns

t	AAR	t-Value
-14	-2,478%	-0,872
-13	-0,675%	-0,237
-12	2,255%	0,793
-11	0,834%	0,293
-10	1,955%	0,687
-9	4,145%	1,458
-8	-0,781%	-0,275
-7	-0,793%	-0,279
-6	1,592%	0,560
-5	0,586%	0,206
-4	0,592%	0,208
-3	1,232%	0,433
-2	1,312%	0,461
-1	1,123%	0,395
0	19,667%	6,917

5. Analysis

According to the theory and the “strong-form” efficiency of the market hypothesis no investor can earn excess return from any information, whether publicly available or not. Our result showed that abnormal returns did occur on the Swedish stock market preceding an announcement of a buyout. Our study and findings shows that the Swedish stock market is not efficient in the strong-form as excess return did occur without new information or announcements. However, it cannot be excluded that there have been other price sensitive information or news in our event window of 14 days. The share prices may have been affected by other, new information that caused a price run-up. The share price is adjusted the day of the announcement at t_0 . This, in accordance with the efficient market hypothesis, were the strong-form says that new public information influences the share price.

The targeted shares are perceived as more volatile during the examined 14-day period than they usually are. The analysis suggest that it might be a lot of rumors abound whether the firm will get bought out and delisted from the stock market or not. Since the acquirer offers a premium at the current market price of the share, investors can yield significant returns if they invest before the official announcement is made. Investors might overreact to strong daily share performances and drive the share price upwards even more. Likewise, investors might think that the rumors are not true days when the share price falls, and sell to drive the share price down even more. Support for this analysis is found in Gyllenram (1998) where the author describes a “herd behavior” among investors within a financial market. According to his book, the individual wants to be part of the herd and feel connected with other investors. Therefore: investors tend to focus on the short term rather than on the long-term trend (Gyllenram, 1998).

A study by Gao and Oler (2011) showed active selling in the targeted share preceding the announcement and was explained by the rationality of investors. They profit from the market overreaction. They avoid the risk that the rumor turns out not to be true. The negative abnormal returns at t_{-8} and t_{-7} also might

be explained by this theory and finding. Rational investors took advantage of the excess return at t_{-9} , sold the targeted share the upcoming days to profit from the market overreaction.

Studies on the Israeli stock market showed higher demands for the targeted shares beginning five days prior the announcement (Spiegel, Tavor et al., 2010). Data from the Swedish stock market suggests higher demands for the targeted shares beginning approximately 10 days prior to the announcement. However, the five days prior the announcement indicates permanent and considerable abnormal returns each day. Previous studies, although not on the Swedish market, suggest that the price run-ups and abnormal returns are due to rumors or leakages of information (Borges & Gairifo, 2012; Spiegel & Tavor et al., 2010; Gao & Oler, 2011; Gopaldaswamy, Acharya et al., 2008). The abnormal return on the Swedish market should thus also be explained on the same base. Rumors, insider trading and leakage of information influence the share price and therefore abnormal returns emerge. Shown in Table 2 (see page 19), the closer one gets to the announcement day, the more stable and greater the return. This may be because of the rumors or inside information seem more likely to be true and it appear more possible that these rumors will materialize into an official announcement of an acquisition.

6. Conclusion

6.1 Conclusion of the study

This study examines whether it has occurred abnormal returns on the Swedish stock market between 2009 and 2012. The study has been limited to shares that later proved to have been bought out by the stock market. Using hypothesis testing, we conclude that it is statistically significant that cumulative abnormal return did occur during the 14 days preceding an announcement. This result differs from the efficient market hypothesis theory, which says that abnormal returns cannot be earned before new information has been announced on the market. The most likely explanation for this is thought to be rumors and inside information. If it turns out that the rumors are true, it is possible for investors to earn good returns. The targeted shares are therefore in interest of investors and are traded extensively. In accordance with the efficient market hypothesis the share price is adjusted the day of the announcement of the buyout.

6.2 Criticism of the study

It cannot be excluded that there have been other price sensitive information announced during the studied 14 days. Both company-specific events and macro events may have been affecting. This study did not take such factors into account.

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Appendix

Table 4: Daily abnormal returns

t	Rottneros	Q-MED	Ledstiernan	Affärsstrategerna
-14	3,2378%	3,2776%	-3,8533%	-0,7371%
-13	-2,2744%	0,4001%	1,9636%	0,1811%
-12	0,1164%	-0,7938%	7,9280%	0,0733%
-11	3,3088%	-0,4006%	0,0328%	-0,1309%
-10	0,2063%	0,2192%	-0,4059%	-3,6148%
-9	-0,0213%	8,7517%	-6,6642%	3,1497%
-8	-0,7148%	-1,0705%	-2,3984%	0,2588%
-7	-2,8003%	0,1633%	-3,1058%	-0,2135%
-6	0,7522%	2,7657%	-0,4379%	0,0328%
-5	0,9933%	0,5319%	0,0478%	-0,7357%
-4	0,8208%	-0,3992%	0,2575%	1,5906%
-3	0,2059%	0,6356%	0,0518%	-0,3288%
-2	-0,7460%	-1,0643%	1,8597%	0,3139%
-1	4,6099%	0,3478%	-0,2701%	-2,6122%
0	4,3695%	12,0069%	24,2913%	15,3511%

Table 5: Daily abnormal returns

t	Home Properties	Hemtex	Carl Lamm	Broström	Elektronikgruppen
-14	0,2466%	7,0365%	0,4210%	0,1669%	-0,1547%
-13	0,2649%	0,4097%	0,7525%	-0,7518%	0,7345%
-12	5,5014%	0,4097%	-0,6196%	0,4415%	-0,1547%
-11	-4,7886%	9,0009%	0,0578%	-0,1830%	-2,2674%
-10	2,2279%	3,6265%	-0,1086%	2,7103%	0,4633%
-9	0,2145%	11,1059%	-4,1075%	-0,8568%	-0,8060%
-8	-1,7135%	7,6690%	0,0400%	0,0891%	-0,5222%
-7	0,9201%	8,6721%	-0,2243%	0,4306%	-0,5828%
-6	-0,4091%	-2,8235%	2,8954%	2,7475%	-0,0668%
-5	0,2511%	-1,4625%	-0,0923%	-0,2336%	0,5068%
-4	1,3396%	-4,0376%	-0,0923%	-0,0310%	-1,4199%

-3	-0,8434%	5,8418%	-0,6641%	-0,4835%	3,1614%
-2	0,2814%	7,4595%	0,1200%	1,9554%	0,4822%
-1	0,2429%	-1,2674%	-3,2284%	0,0906%	-2,7524%
0	31,5577%	5,3724%	17,7738%	8,1509%	29,1002%

Table 6: Daily abnormal returns

t	Orc Group	Aspiro	Dagon	Metro B
-14	2,0465%	-6,6056%	0,0579%	1,4022%
-13	-1,9013%	-0,1233%	-1,5180%	0,0511%
-12	-1,8056%	-0,8048%	0,2683%	3,1235%
-11	3,5850%	4,4327%	3,1443%	-1,2848%
-10	1,9696%	-5,4849%	2,0897%	-1,7972%
-9	-0,1290%	0,1070%	-3,3316%	-1,0598%
-8	0,5168%	0,8933%	-3,7956%	2,1556%
-7	0,4543%	-1,5138%	4,1886%	-2,3203%
-6	0,4156%	-0,3637%	-3,3989%	0,3284%
-5	7,0729%	6,0754%	1,3010%	-0,8443%
-4	-0,4272%	-0,1233%	-1,3811%	1,5735%
-3	3,0836%	-3,4962%	7,1577%	-0,9723%
-2	-2,6132%	2,6923%	-3,0687%	6,8550%
-1	2,2308%	-0,9910%	-0,8395%	23,4744%
0	34,4415%	31,7893%	19,2762%	19,6168%