UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Master Degree Project in Finance

Merger and Acquisition Announcements - The Effect on European Equity Prices

Angeliki Panagiotaki

Supervisor: Jianhua Zhang
Master Degree Project No. 2015:98
Graduate School

Abstract

This paper empirically tests the impact of merger and acquisition announcements on common stock pricesof European developed markets by using an event study methodology. The findings suggest significant positive abnormal returns for the targets occurring mostly on the event date and one day prior, but insignificant slightly negative abnormal returns for the acquirers could appear due to anticipation effects or leakage of private information. Cross-Border M&A announcements create positive significant average cumulative abnormal returns for the targets and higher than those of the National deals. Targets based in the UK enjoy higher positive average cumulative abnormal returns than those based in other European countries. The returns for targets by year are stronger positive in years of financial crises. The average abnormal returns for most industries differ slightly but are in line with the results of the overall sample. The acquirers for all subsamples exhibit very low returns close to zero and sometimes negative with statistical significance. Those findings help investors to form appropriate expected returns and policy makers to detect insider trading prior to M&A announcements.

Table of Contents

List of Figures

List of Tables

1. Introduction

Company growth can be achieved organically or with a merger or an acquisition with one or more other companies (Pettit, Ferris; 2013). The 'mergers and acquisitions' term indicates the actions of buying and selling of companies, private or public. For the acquisition of a firm which is publicly traded, the term takeover can also be used (Creighton; 2013).

Mergers and acquisitions (M&A) as well as firm restructuring constitute a large section of corporate finance. These transactions represent a popular strategy of individual companies in order to came together and create larger associations. It is common belief that mergers and acquisitions make the operations of the companies more synergetic and thus initiate investors to reexamine a company's prospective profitability. The revision of potential profits is the reason why the merger and acquisition announcements have an immediate effect on firm stock prices (Panayides and Gong; 2002).

A lot of research has been done over the years trying to measure the impact that merger and acquisition announcements could have on firms' securities. This paper provides an insight on whether there is an effect of M&A announcements on target and acquirer firms' stock returns by using an event study approach on daily stock returns of firms based in the European Developed Markets.

The event study approach being pursued follows MacKinlay (1997) and uses the market model to predict normal returns. Applying this methodology on daily stock prices helps to empirically test if there occur abnormal returns for the buyer or the target firms around the time when an M&A is announced according to the position of the firm (buyer or target), the geographic diversification of the deal, the geographic location of the participants, the year of the deal announcement and the industry diversification of the participants.

The data set for the present study consists of 69 M&A announcement events which took place between 2000 and 2010 within the European Developed Markets and it was obtained from Capital IQ database. Each event involves an acquirer and a target firm so the sample contains 138 publicly traded stocks.

The results of this study show that target firms enjoy high positive and significant average cumulative abnormal returns while acquirers show small negative and insignificant cumulative

average abnormal returns. The geographic location of the participants plays a role on the returns as targets based in the UK have higher average cumulative abnormal returns around the event date, and acquirers based in the UK have significant negative average cumulative abnormal returns close to the event date. Cross-border deals also provide higher average cumulative abnormal returns for both types of firms and show greater significance for the acquirers compared to national deals. The effect of an announcement varies along different industries and according to our findings the year when the event occurs seems to have an effect mostly on the returns of the targets.

As for the structure of this paper, section 2 gives some background information about mergers and acquisitions concerning the types of M&As, motives for M&As, M&A waves over time and also outlays different hypotheses which have been formed in order to explain why abnormal returns are possible to occur around M&A announcement dates. Many of these hypotheses are derived from the motives behind M&A activities. Section 3states the research objectives for which this paper will try to bring an answer. Section 4provides a brief literature review about the topic of event studies and M&A announcement effects on stock returns. Section 5 follows with the methodology analysis and the data description. The results follow in section 6 and section 7 contains the conclusion and some further ideas for research. Section 8 includes the bibliography used in this study and section 9 is the appendix.

2. Theoretical Background

Even though there was a large number of mergers and acquisitions occurring in the beginning of the 21st century, it is not a current phenomenon (Pettit, Ferris; 2013). Until the end of the 19th century mergers and acquisitions were accounted for as ways of reorganization and consolidation but in the early 20th century they became the best strategies for firms seeking for a more competitive position in a globalized market (Faulkner, Teerikangas, Joseph; 2012).

Usually these kinds of transactions are referred to, in literature, as either mergers or acquisitions for the reason that not many of them can be defined as pure merger transactions in the sense that two companies get together but none of them obtains control over the other. To a large extent

they appear as acquisitions with clear positions of the target and the acquirer or buyer (Creighton; 2013).

2.1. Types of M&As

Firms can choose between various types of M&As which could be categorized as horizontal, vertical, concentric or unrelated (conglomerate) (Rock L.M., Rock H.R., Sikora M.; 1994).

In horizontal M&As the companies which get together could be competitors or could just operate within the same industry, keeping the same positions of production or sales before and after the deal (Moeller, Brady; 2014). In this case, it is easy for know-how to be aggregated not only from employee movement within the new company but also from using industry processes or doing business with clients and suppliers common to the two firms (Moeller, Brady; 2014). What is gained from that type of M&As is economies of scale basically in the production line and distribution methods (Rock L.M., Rock H.R., Sikora M.; 1994) as there can be cost cut backs from redundancies on buildings, staffing etc. (Moeller, Brady; 2014).

In the vertical types the participants are companies positioned in different phases of production. The acquirer moves towards the supply of raw materials or towards the final customer. (Brealey, Myers, Allen; 2008).That type is commonly used when the intermediate product is imperfect (Rock L.M., Rock H.R., Sikora M.; 1994).Here, there is usually no know-how to be shared between the participants (Moeller, Brady; 2014).

The concentric M&As involve companies which share common markets, production lines or technologies. The buyer seems like the extension of the target firm and gains could arise from economies of scope (Rock L.M., Rock H.R., Sikora M.; 1994).

The last, and not so popular nowadays, type of M&As involves firms that are unrelated and operate in different business lines (Brealey, Myers, Allen; 2008). This type could not be given a synergetic justification (Moeller, Brady; 2014), the focus is only given on the better handling and formation of resources (Rock L.M., Rock H.R., Sikora M.; 1994).

2.2. Motives for M&As

In order for two companies to proceed with a merger or an acquisition they should be worth more together than they would if they were apart. The motives around M&As give the reasons why the case is such (Brealey, Myers, Allen; 2008) and can be represented by variables such as growth, size, profitability, economies of scale, market power, market share etc. (Goldberg; 1983).

It is considered that M&As create cost synergies, market power gains, as a reduction in the level of competition allows for wealth to be reallocated from the firm's customers and suppliers to its shareholders (Chatterjee; 1986) as well as financial gains, as a merger builds a company with a curtailed tax profile (Devos et.al.; 2008).

The main aspect of cost synergies is the cost reduction and stems from the achievement of economies of scale which is the main target of horizontal M&As. Such synergies can also be claimed in conglomerate M&As and could derive from sharing of central management such as office management and financial control. (Brealey, Myers, Allen; 2008)

Vertical M&As are targeting economies of vertical integration. As mentioned before, the participants in such transactions attempt to benefit from gaining control over the production line. Currently the trending of vertical integration seems to cease as more companies choose to pay for outsourcing of various services and production types as they find it more profitable. (Brealey, Myers, Allen; 2008)

Another motive could be the complementary resources provided from an M&A to firms when 'each one has what the other needs'. For example, one might have a nice product and the other the means to produce it and advertise it in a large scale. Under those circumstances there could appear opportunities for the participants that would not have existed otherwise.(Brealey, Myers, Allen; 2008)

M&As can also be provoked from industries with a large number of companies and high capacity. These conditions can generate M&A waves which make the firms clear capital for reinvestment by decreasing capacity and human resources and the transactions are called Industry Consolidations. (Brealey, Myers, Allen; 2008)

The synergies or motives mentioned above are only a few of those appearing in literature but they provide a brief idea of the gains that the merger or acquisition participants can enjoy.

2.3. Waves of M&As

History has provided us with a notable amount of mergers and acquisitions since the late 19th century. Mergers and acquisitions tend to gather in specific time periods which are called merger waves.

According to McCarthy (2013) the world has faced six significant merger waves. The first (ca. 1895-1904) and the second (ca. 1918-1929) merger wave contain events occurred in the US due to alterations in the business environment. The third wave (ca. 1960-1969) is also known as a conglomerate period and is among others a result of a growing economy (Gaugham; 1991) and included events from the US, the UK and Europe (Faulkner, Teerikangas, Joseph; 2012). The fourth merger wave occurred during the 1980's because of inefficiencies and eliminations of the conglomerate structures and spread also to Asia (Faulkner, Teerikangas, Joseph; 2012). The fifth (ca. 1991- 2001) wave broke all region records and its drivers were market liberalization, deregulation and globalization. Last, but not least, the sixth wave (ca. 2003-2008) stems from a period with reduced interest rates when private firms were conducting speculative acquisitions (McCarthy;2013).

During the 21st century the financial markets worldwide bore several shocks with a greater impact on the U.S and European equity markets. It all started on the early 2000's with the by now famous dot-com bubble that burst during 2000 - 2001. At that time, many IT companies lost huge amounts of market capitalization when others failed thoroughly.

In late 2007, the U.S. economy is being introduced to what later is called a subprime mortgage crisis that caused a financial distress around the world. It was incurred by a vast downturn in home prices, resulting in massive defaults of housing-related securities (McCarthy; 2013).

This defaults of housing securities had persisting aftermath-effects for the U.S. and European economies known as the financial crisis of 2007–2008. It has been considered the worst financial crisis since the Great Depression of the 1930's (Roubini, Rogoff and Behravesh; Reuters 2009).

The financial crisis occurred by a combination of policies based on the theory that housing prices cannot go down and a shortage of sufficient capital from banks and insurance companies in order to secure the financial commitments they were undertaking (Simkovic; 2009).

As an extension to the above, the Euro zone crisis has been affecting the countries of the Union since early 2009, when a group of 10 European banks asked for a bailout (FT: "Banks ask for crisis funds for eastern Europe"; 2009 ~ Shambaugh; 2012). The Euro zone crisis was a result of, among others, easy credit environment that gave space to high-risk lending and borrowing processes and ways used to bail out banking industries and private bondholders under stress (Belkin, Weiss, Nelson and Mix; 2012).

2.4. Performance Hypotheses

Several studies exist in literature nowadays attempting to specify the results of mergers and acquisitions from many different points of view as well as the reasons why such activities emerge.

A series of hypotheses have been formed and used for testing the performance of the participant firms in an M&A. These hypotheses stem from the motives behind M&A actions and are used to justify M&A activities and to point out mainly their economic effects. (Cooke; 1986)

Those hypotheses could be classified into 6 sub-groups (Cooke; 1986) :

- ‘Abnormal-gains’ Hypothesis

This is based on the neoclassical theory of the firm profit maximization which states that firms will take part in M&As until shareholder’s wealth will stop rising.

- Perfectly Competitive Acquisitions Market (PCAM) Hypothesis

A market is perfectly competitive if the expected return on an asset is the same for the same amount of risk. In the case of M&As competition may not be perfect for the acquirer and the target of the same event and so, targets in an imperfectly competitive market may deliver special features of value to the acquirer.

- Synergy Hypothesis

In imperfect markets synergies may be achieved by external growth. If synergies exist in an M&A then the shareholder's rates of return may change.

- 'Chain-Letter' Hypothesis

Within inefficient capital markets, shareholders can be deceived by exploitation of accounting information.

- Efficient capital market Hypothesis

When there is an announcement of a merger or an acquisition there is also a flow of new information in the market about that very deal. Capital markets are said to have semi-strong efficiency if the asset prices immediately incorporate this new information flow. According to this idea, gains can be realized either from the acquirer or from the target company.

- 'Growth maximization' Hypothesis

In many big firms, the managers do not acquire real ownership, so their self-interest focuses on the growth maximization instead of profit maximization.

From these hypotheses, the condition of market efficiency is necessary in order to make sure that all securities are correctly priced and all available information has been accounted for. Otherwise current price movements could be due to old information not fully incorporated into prices yet.

3. Problem Statement

The present analysis will examine whether there are significant abnormal returns realized around M&A announcements for acquiring and target firms.

The same will then be analyzed for subsamples of UK and non-UK firms, of National and Cross-Border deals, of the years the M&A announcements took place and by industry in which the firms operate.

At last the relation between abnormal returns for acquirers and targets that take part on the same deal will be examined.

For all the above objectives, the comparisons will be conducted and presented separately for the target and acquiring firms because previous literature shows that there could be differences in the reaction between the two types of participants in a deal. The event study methodology is used for testing the null hypothesis which states that there is no effect on the stock prices, i.e. no abnormal returns, around the M&A announcement date.

The null hypothesis (H_0) is constructed as:

H_0: M&A announcements will not have an effect on individual stock returns.

4. Literature review

The literature concerning stock price movements around events of merger or acquisition announcements is extensive and the variety of cases is large. The part that follows summarizes the most relevant cases.

4.1. Event Studies

The basic method to examine the effect which a firm-specific event, as for example merger announcements, acquisitions announcements, stock splits, earnings announcements etc., will have on the stock prices of the firm or firms involved is the method of Event Studies and has been used in many papers for that reason.

Event studies are not newly implemented. MacKinlay (1997), in his paper about event studies, explains the different models of this approach and also gives some examples for applications. He also mentions that it is believed the method first appeared in 1933in a study published by James Dolley.

Brown and Warner (1980),in an attempt to measure the performance of the security prices using stock returns, conduct analyses with Event Study methodologies and examine the differences

between the results. They, moreover, mention which model is more useful under which conditions.

A very good explanation about Event Studies is also given by Khotari and Warner (2006) in their 'Handbook of Corporate Finance: Empirical Corporate Finance.' They discuss about short and long horizon methods as well as different method properties.

4.2. Merger and Acquisition Announcements

Since, as mentioned earlier, the already existing reports for abnormal stock returns around M&As are in abundance, this section will only be an indication of the main results being presented in the literature.

Previous research from Bradley, Desai and Kim (1987) documents that the overall value of both acquirers and targets increases as a result of successful tender offers.

Dodd and Ruback(1978) investigate the reaction of the market to both successful and unsuccessful tender offers. After examining bidder and target firms they find that bidding firms enjoy positive abnormal returns on the months prior to the event, but on the month of the event similar results appear only for the successful tender offers.

Using data of Asian bidding and target firms, Wong and Cheung (2009) conclude that the target firms face negative abnormal returns close to the announcement period while there is no evidence of abnormal returns before or after the announcement period. On the other hand, they obtain significant results concerning positive abnormal returns for the bidding firms during the post-announcement period.

Studies by Mandelker (1974) and Asquith and Kim (1982) support that the abnormal returns on the common stocks of the acquiring companies do not differ from zero with high significance, while the common stocks of the acquired companies perform positive abnormal returns with a high statistical significance.

On the contrary to previous results, but also with high statistical significance, come the results mentioned in the papers of Asquith, Bruner and Mullins (1983) and Dodd (1980). The first

research paper presents that the stocks of acquiring firms perform small positive abnormal returns when the second paper shows the performance of small negative abnormal returns.

There is also previous literature that examines common stock returns of bidder and target companies which take part in takeovers. Takeovers differ from mergers on the extent that takeovers can be hostile.

In the case of a takeover, research studies by Jensen and Ruback (1983) and Bradley, Desai and Kim (1983) show that the stock price for both bidder and target firms rises.

Though, results obtained from the analysis of Hackbarth and Morellec (2008) show that acquiring firms earn negative abnormal returns while target firms earn positive abnormal returns during the event window of the takeover.

Campa and Hernando(2004 and 2006) conduct an analysis with data from the financial industry within the European Union. Their findings suggest positive excess returns for the target firms around the announcement date and zero excess returns for the acquirer firm for the same time frame. At the same time they find negative value creation of Cross-Border deals for industries under heavy regulation.

Harris and Ravenscraft (1991) study shareholders' gains of US target firms acquired between 1970 and 1987 by examining foreign direct investment. They report that targets acquired by foreign firms enjoy gains higher than targets acquired by US firms.

Findings from the study of Goergen and Renneboog (2004) suggest that an M&A announcement generates positive returns for the targets and the bidders, with target returns higher than bidders. They also have evidence that higher returns appear when UK firms are involved in comparison to firms from Continental Europe.

Previous research is focused mostly on US M&As while there is not much research done on Continental European M&As,at least not with data after the year 2000.

5. Data Sample and Methodology

This section contains the methodology followed in order to provide empirical evidence which will help examining the research objectives mentioned earlier and the demonstration of the data set being used.

5.1. Methodology

According to the Efficient Market Hypothesis, all available information is already incorporated in the market prices of the stocks. In reality though, markets are imperfect and so allow for inefficiencies to exist. Findings of previous studies support that informed trading can be a cause for those inefficiencies by evaluating abnormal returns and abnormal trading volumes in several stocks prior to M&A announcements.

Market efficiency can be practically tested by applying the Event Study approach (Brown, Warner; 1980) as it is focused on the effect which specific events have on the security prices of the firms. This approach is used to explore the behavior of stock returns for a sample of corporations which experience the same kind of event, such as a merger or acquisition announcement, at various points in time. (Khotari and Warner; 2007)

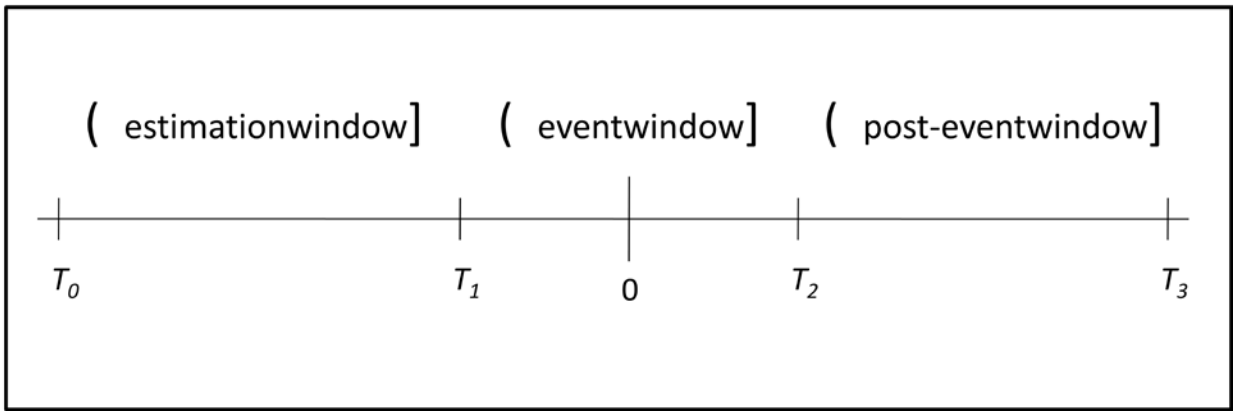
The general idea of the event study approach is to separate the effect of a specific event from other general market fluctuations. This is done by following MacKinley (1997) and by using a measure for abnormal returns $AR_{i,t}$, which is defined as the deviations of realized returns $R_{i,t}$from expected returns$\hat{R}_{i,t}$ under the condition of no eventbeing expected (Ω_i). The subscripts indicate firm i and trading day$t$.

$$AR_{i,t} = R_{i,t} - E[R_{i,t}|\Omega_i] \quad (1)$$

$$\hat{R}_{i,t} = E[R_{i,t}|\Omega_i] \quad (2)$$

The abnormal returns are calculated for an event window surrounding the event date ($t = 0$), as shown on Figure1 (MacKinley; 1997). The event window is chosen to have a length of 11 daily returns calculated from daily closing stock prices for day $T_1 = -6$until day $T_2 = 5$. The event window length of 11 days (-5, +5), as Panayides and Gong (2002) agree, is able to capture the impact of the event being examined. The post event window is not used in this study.

Figure 1: Event Study Timeline



Another important feature of an event study is the selection of an appropriate model for estimating the expected or normal returns for the event window. In this study the market model is chosen.

The market model, according to MacKinley (1997), assumes that asset returns are jointly multivariate normal and independently and identically distributed over time. It assumes a constant and linear relationship with a certain fluctuation ($\varepsilon_{i,t}$) between the returns of an individual asset($R_{i,t}$) and the returns of the market($R_{M,t}$).

$$R_{i,t} = \alpha_i + \beta_i R_{M,t} + \varepsilon_{i,t} \qquad (3)$$

Brown and Warner (1985) indicate that it is possible for the daily returns to suffer from serial dependence. This may appear because stock returns created from daily data may not follow a normal distribution. They wind up though in favor of methodologies with a base on the OLS market model, even when using daily stock prices, as they work well under several conditions. Compatible with that idea are also Panayides and Gong (2002).

The market model can be used in order to create expected returns for the event window. Brown and Warner (1985) state that a parameter estimation window of 120 days before the event occurs, is sufficient for generating a benchmark for the calculation of normal returns. The estimation window is defined from $T_0 = -120$to $T_1 = -6$, where an ordinary least squares regression is used to estimate parameters for α_i and β_i. The assumptions concerning the error term$\varepsilon_{i,t}$, shown in equations 4 and 5, suggest that the errors have an expected value of zero and a constant variance.

$$E[\varepsilon_{i,t}] = 0 \tag{4}$$

$$\text{Var}[\varepsilon_{i,t}] = \sigma_{\varepsilon_i}^2 \tag{5}$$

Having estimated the model parameters with a market index using OLSfrom the estimation window, the returns of the market index during the event window are used to calculate the necessary expected returns of the individual stocks.

$$\hat{R}_{i,t} = \hat{\alpha}_i + \hat{\beta}_i R_{M,t} \tag{6}$$

The variance $\hat{\sigma}_{\varepsilon_i}^2$ is estimated using the estimation window and presented in equation 7,T_0 denotes the beginning of the estimation window and T_1 the end.

$$\hat{\sigma}_{\varepsilon_i}^2 = \frac{1}{T_1 - T_0 - 2} \sum_{t=T_0+1}^{T_1} (R_{i,t} - \hat{\alpha}_i - \hat{\beta}_i R_{M,t})^2 \tag{7}$$

Following the assumptions of the market model the abnormal returns in the absence of an event should behave as shown in equation 10 with the variance of the abnormal returns being equal to the variance of the error term.

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

$$AR_{i,t} = R_{i,t} - \hat{\alpha}_i - \hat{\beta}_i R_{M,t} = \varepsilon_{i,t} \quad (9)$$

$$AR_{i,t} \sim N(0, Var[AR_{i,t}]) \quad (10)$$

$$Var[AR_{i,t}] = \sigma^2_{\varepsilon_i} \quad (11)$$

The distributional properties under the H_0hypothesis allowtesting of abnormal returns to be significantly different from zero.

Average abnormal returns across firms for the same day around the event and their variance are calculated in the following way.

$$\overline{AR}_t = \frac{1}{N}\sum_{i=1}^{N} AR_{i,t} \quad (12)$$

$$Var[\overline{AR}_t] = \frac{1}{N^2}\sum_{i=1}^{N} \sigma^2_{\varepsilon_i} \quad (13)$$

Under H_0 the distribution of $\overline{AR}_t$ is equal to what is shown in equation 14.

$$\overline{AR}_t \sim \mathrm{N}(0, \mathrm{Var}[\mathrm{AR}_{\mathrm{i,t}}]) \quad (14)$$

Cumulative abnormal returns for individual firms across the event window and their variance are calculated the following way.

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{i,t} \tag{15}$$

$$Var[CAR_i(t_1, t_2)] = (t_2 - t_1 + 1)\sigma_{\varepsilon_i}^2 \tag{16}$$

Under H_0 the distribution of$CAR_i(t_1, t_2)$ is equal to what is shown in equation 17.

$$CAR_i(t_1, t_2) \sim \mathrm{N}(0, Var[CAR_i(t_1, t_2)]) \tag{17}$$

From the average abnormal returns $\overline{AR_t}$ or the cumulative abnormal returns $CAR_i(t_1, t_2)$ we can derive the average cumulative abnormal returns $\overline{CAR}(t_1, t_2)$, which is determined across firms and the event window.

$$\overline{CAR}(t_1, t_2) = \sum_{t=t_1}^{t_2} \overline{AR_t} = \frac{1}{N}\sum_{i=1}^{N} CAR_i(t_1, t_2) \tag{18}$$

$$Var[\overline{CAR}(t_1, t_2)] = \sum_{t=t_1}^{t_2} Var[\overline{AR_t}] = \frac{1}{N^2}\sum_{i=1}^{N} Var[CAR_i(t_1, t_2)] \tag{19}$$

Under H_0 the distribution of $\overline{CAR}(t_1, t_2)$ is equal to what is shown in equation 20.

$$\overline{CAR}(t_1, t_2) \sim \mathrm{N}(0, Var[\overline{CAR}(t_1, t_2)]) \tag{20}$$

The distributional properties under the H_0 hypothesis allow for testing if the observed abnormal returns and their aggregates are significantly different from zero. The observance of when abnormal returns occur further allows us to reject or confirm the efficient market hypothesis.

5.2. Data Sample

The data set for this study has been gathered from the Capital IQ Database. In the beginning, it consisted of complete acquisitions of majority stake that took place in the European market between two publicly traded private companies from 2000 until 2013.

The geographic locations of the acquirer companies were set to be Germany, France, United Kingdom, Italy, Spain, Netherlands, Switzerland, Sweden, Belgium, Norway, Austria, Denmark, Finland, Greece, Portugal, Luxemburg and Cyprus. Those countries have been chosen according to their ranking position on the 'Gross domestic product 2013' list published on the World Development Indicators database. The geographic locations for the target companies have been set to be the European Developed Markets, according to the listing on Capital IQ, and the countries included are presented on the Appendix Table 'A1'.

Events with data not available or non-existing for the period needed, for one or both participant companies have been removed from the starting data set. Firms which got involved to a merger or acquisition more than one time during the study period were as well excluded from the starting data set. The final data sample which will be used in the analysis includes 69 M&A announcements and consists of 138 securities between 2000 and 2010.

For every security daily stock prices have been collected for the time period of 151 trading days, 120 days prior and 30 days after the event day, as presented previously. A few M&A announcements included in the final sample occurred on non-trading days (weekends or public holidays). In those cases the announcement day should be transferred to the following trading day according to Peterson (1989).

The use of daily stock returns and not monthly has been chosen, as it allows for more accurate calculations of abnormal returns and more explanatory studies of the effects an M&A announcement may have (Khotari and Warner; 2007).

The stock market index that has been chosen for the construction of the market model is the MSCI Europe Index, which is a free float-adjusted market capitalization weighted index. It includes 436 elements and displays large and mid cap developed markets of 16 European countries. Those countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece,

Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. (Capital IQ Database)

5.3. Descriptive Statistics

Table 1 presents the acquirer and target firms used for the analysis allocated along the countries they are based in.

Table 1: Sample Firms by Country

Countries	Acquirers	%	Targets	%
Belgium	1	1.45%	0	0.00%
Channel Islands	1	1.45%	0	0.00%
Cyprus	2	2.90%	0	0.00%
Denmark	2	2.90%	1	1.45%
Finland	2	2.90%	2	2.90%
France	3	4.35%	4	5.80%
Germany	2	2.90%	3	4.35%
Greece	5	7.25%	7	10.14%
Ireland	1	1.45%	3	4.35%
Italy	3	4.35%	2	2.90%
Netherlands	3	4.35%	3	4.35%
Norway	1	1.45%	4	5.80%
Spain	2	2.90%	3	4.35%
Sweden	6	8.70%	6	8.70%
Switzerland	1	1.45%	2	2.90%
United Kingdom	34	49.28%	29	42.03%
SUM	**69**	**100%**	**69**	**100%**

As can be noted, a large number of the companies involved in M&A activities included in the data originate from the United Kingdom. From the acquirers almost 50% come from the United Kingdom with 34 firms, 8.7% from Sweden with 6 firms and 7.25% from Greece with 5 firms. The rest of the countries have 3 or fewer firms based in each of them.

The 42% of the targets come from the United Kingdom with 29 firms, the 10.14% from Greece with 7 firms and the 8.7% from Sweden with 6 firms. The other countries include 4 or fewer firms each.

Table 2 depicts the number of M&A announcements occurred through the years used for the analysis, as well as which of those deals were National and which ones were Cross-Border.

Table 2: Sample M&As per year and Deal Diversification types

Years	Number of M&As	National M&As	Cross-Border M&As
2000	2	2	0
2001	6	4	2
2002	6	4	2
2003	3	3	0
2004	7	6	1
2005	15	14	1
2006	9	5	4
2007	11	3	8
2008	6	4	2
2009	2	1	1
2010	2	1	1
SUM	**69**	**47**	**22**

The total number of National M&As is 47 and the number of Cross-Border M&As is 22. Half of the M&A announcements included in the sample occurred between 2005 and 2007. This peak on the M&A activity could be justified by the sixth merger wave (ca.2003-2008) mentioned earlier. In 2005 14 out of 15 M&As where National and in 2007 8 out of 11 M&As where Cross-Border.

All firms included in the sample are divided, according to Capital IQ Database, into ten different industries and are presented in Table 3.

Table 3: Sample M&As by Industry

Industries	Acquirers	Targets
Consumer Discretionary	4	6
Consumer Staples	3	3
Energy	1	1
Financials	12	11
Healthcare	5	4
Industrials	15	14
Information Technology	21	23
Materials	4	5
Telecommunication Services	2	0
Utilities	2	2

A large number of the companies included in the study is concentrated in three industries, Financials, Industrials and Information Technology. The number of firms per industry does not vary significantly between acquirers and targets.

6. Empirical Results

6.1. Abnormal returns for all targets and acquirers

Using the complete sample of 69 M&A announcements the abnormal stock returns occurring during the event window are calculated for the acquiring and target firms separately.

Plots of the abnormal returns for every M&A announcement during the event window can be found in the appendix as Figure A1 and Figure A2, separated by acquirers and targets.

Table 4 presents the Average Abnormal Returns (AAR) for each day during the event window. The acquirers do not exhibit significant average abnormal returns at the event date, but only after the announcement day they exhibit small average abnormal returns at a 10% significance level. Most notably at day 1, they show average abnormal returns of -0.6%. All average abnormal

returns for the acquirers are between -0.6% and +0.7%, with 8 of them being negative and 3 being positive. The average abnormal returns for acquirers are very close to zero and do not suffice to reject the H_0 hypothesis of no effect of M&A announcements on stock returns.

For the targets significant average abnormal returns emerge one day prior to the announcement at a level of about 4% and at the day of the announcement at a level of about 8.3%, both with 1% significance. These average abnormal returns are far from zero and much higher compared to the equivalent returns for the acquirers.

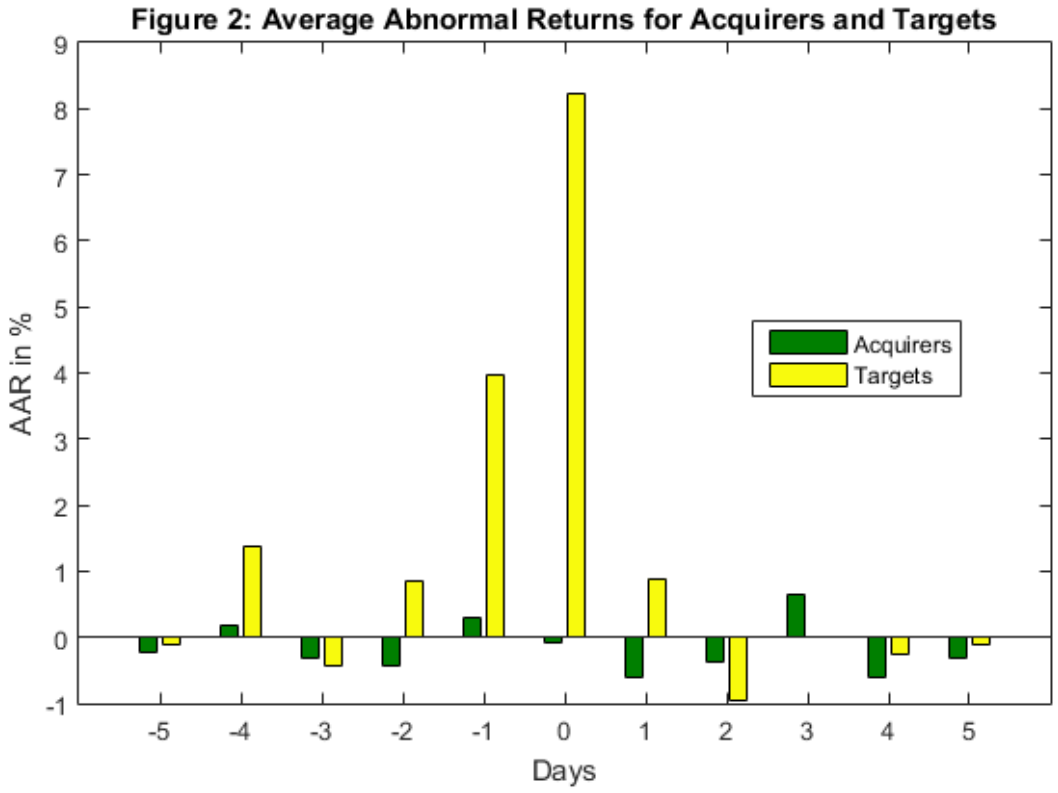
Table 4 : AARs per day through the event window (-5,+5)

Event Window	Targets	Acquirers
-5	-0.12	-0.23
-4	1.37**	0.18
-3	-0.43	-0.3
-2	0.85	-0.42
-1	3.97***	0.29
0	8.23***	-0.08
1	0.89	-0.59*
2	-0.96	-0.37
3	-0.01	0.64*
4	-0.26	-0.61*
5	-0.11	-0.32
* = 10% significance level , ** = 5% significance level , *** = 1% significance level		

The average abnormal returns occurring on day -1 could be driven by anticipation effects, insider trading or leakages of private information. This case may provide a justification of the existence of semi-strong market efficiency, which states that private information is not incorporated in the asset price but new information flow is immediately incorporated. For that reason, gains can be realized on day -1 and on day 0.

For the days -5 to -2 the average abnormal returns fluctuate closely around zero with low significance, with an exception of day -4 where the average abnormal return is 1.37% with 5% significance. After the announcement day there is no maintenance of high average abnormal returns as the returns are slightly negative and close to zero with low significance.

Figure 2illustrates the results of Table 4 in a bar plot. It shows the average abnormal returns for each day along all acquirers and targets such that the magnitudes are easily visible.



Figures 3 and 4 below present histograms of 11-day returns which show the percentage of the cumulative abnormal returns for acquirers and targets and with which frequency those percentage levels appear. The cumulative abnormal returns for the acquirers in Figure 3 tend to be slightly negative, while the opposite is shown for the targets in Figure 4. We can say that the cumulative abnormal returns for the acquirers group closer to zero, but the cumulative abnormal returns for the targets group further to the right in the positive returns.

Figure 3: Cumulative Abnormal Returns for Acquirers

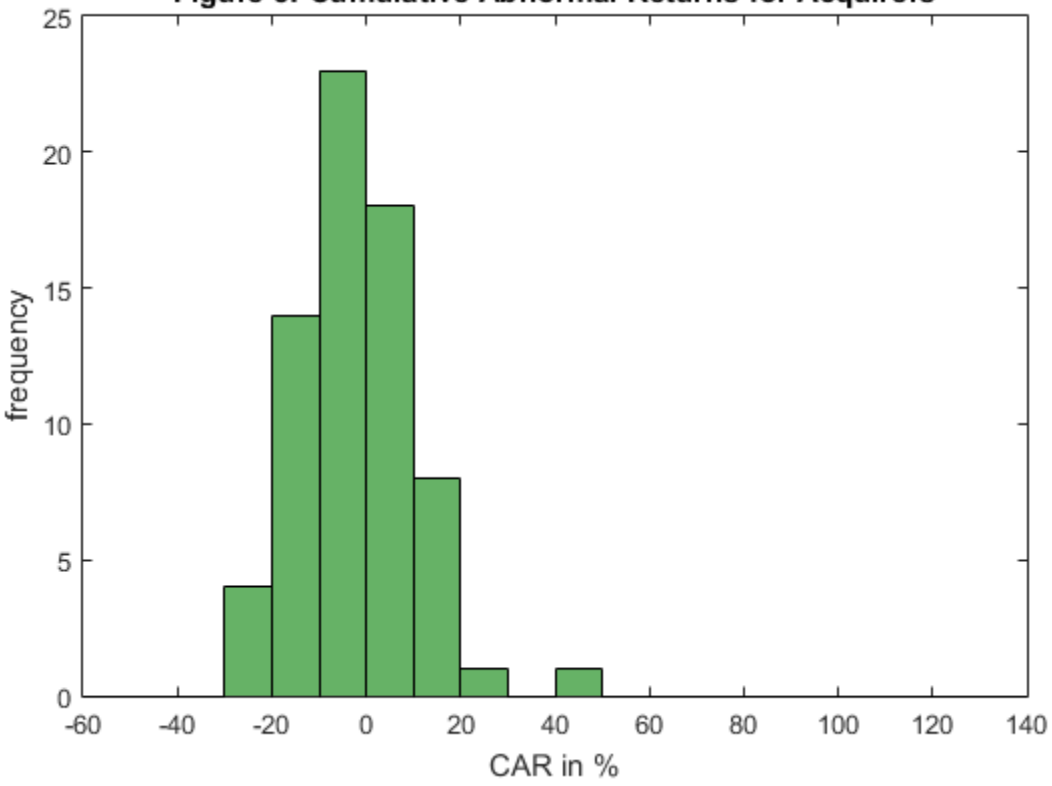
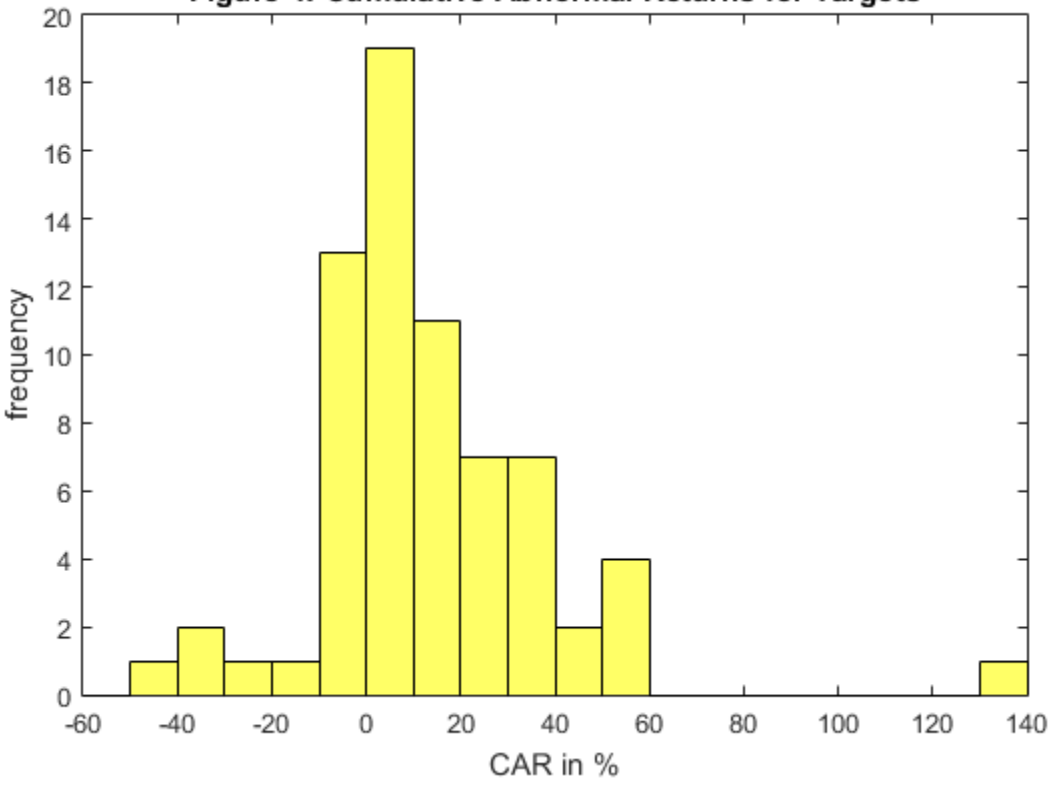


Figure 4: Cumulative Abnormal Returns for Targets



For no effect to be visible we would expect the histogram to look like a normal distribution with mean zero. The acquirers' histogram is much closer to a normal distribution as their returns gather closer around zero, but the frequency of negative cumulative abnormal returns overweighs.

From Table 5 we can obtain target average cumulative abnormal returns of 13.4 %, but Figure 4 shows that many of the cumulative abnormal returns are much larger than 13.4 % and many are also smaller. The average cumulative abnormal returns for acquirers are -1.8 %, which is much closer to zero.

The average cumulative abnormal returns and their significance levels have also been calculated for parts of the sample during different windows of the event window. As presented on Table 5 the average cumulative abnormal returns for the target firms are all positive and statistically significant, even at 1% significance level, for all time frames and so, we can reject the H_0hypothesis that an M&A announcement does not have an effect on the target firms' stock returns.

Table 5: Average Cumulative Abnormal Returns for Acquirers and Targets

Parts of the Event Window	**Targets**	**Acquirers**
$\overline{CAR}$(-5,+5)	13.43***	-1.81
$\overline{CAR}$(-2,+2)	12.98***	-1.17
$\overline{CAR}$(0)	8.23***	-0.08
$\overline{CAR}$(-1,0)	12.2***	0.21
$\overline{CAR}$(0,+1)	9.12***	-0.67
* = 10% significance level , ** = 5% significance level , *** = 1% significance level		

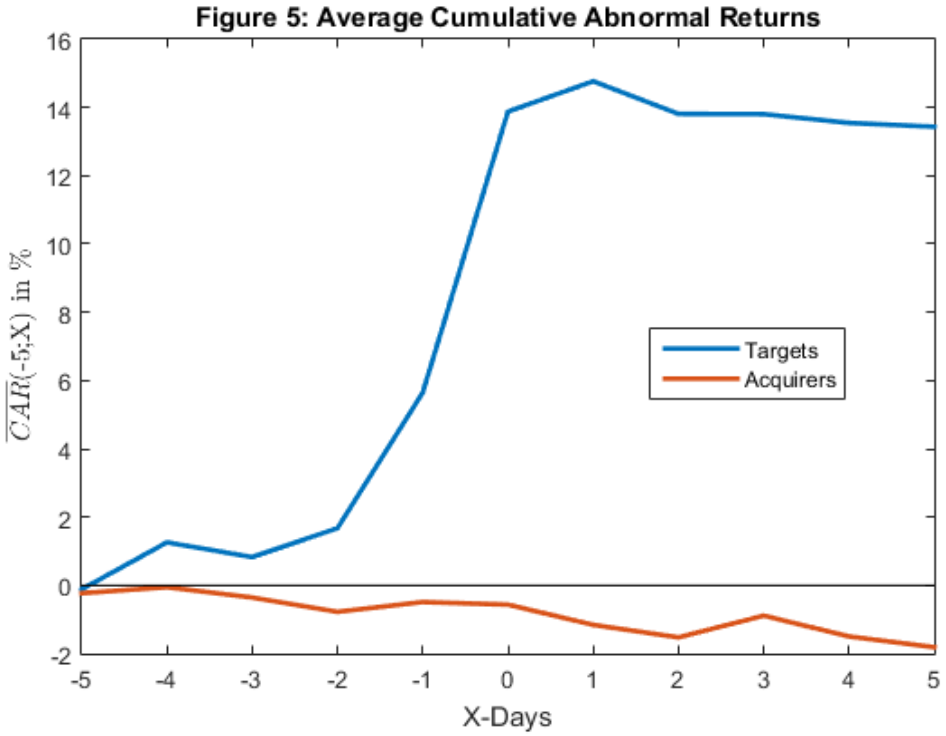
On the other hand, the results for the acquiring firms are not statistically significant for any of the chosen windows and due to that the H_0 hypothesis cannot be rejected. Also, even though the average cumulative abnormal returns for the acquirers show that they face small negative returns

in the majority of the event window parts, we are not able to draw any conclusions as the results are not significant even at 10 % significance level.

As we observe, positive cumulative abnormal returns only for the targets we could argue that there is value creation from the deals but it is transferred all to the current owners of the targets and not to the acquirers. This could indicate that the deals are good news to the market from the target firm investor's point of view. Negative returns for acquirers could be explained by investors thinking that acquirers pay too much for M&As.

Those findings come in line with a large part of the literature which supports the idea of targets experiencing significant positive cumulative abnormal returns while acquirers do not really experience an effect on their stock returns. Mandelker (1974) and Asquith and Kim (1982) find no significant effect for acquirers, but positive abnormal returns for the targets. Dodd (1980) finds acquirers to experience small negative abnormal returns. The acquirers' abnormal returns in this study tend to be negative as well, but not statistically significant.

Figure 5 portrays the average cumulative abnormal returns for M&A announcements during the event window.



There is a distinction between acquirers and targets and as shown, the average cumulative abnormal returns for the targets increase from event day -2 until event day 0 and stay high for the rest of the days during the event window due to no large abnormal returns occurring after day 1. The opposite though is being observed for the average cumulative abnormal returns of the acquiring firms which stay negative during the event window and also slightly decrease more after the announcement day (day 0).

6.2. Abnormal returns of National and Cross-Border deals

In this section the effect of an M&A announcement will be tested for the subsamples of National and Cross-Border deals for both acquirers and targets. For doing so the average cumulative abnormal returns have been calculated and they are presented on Table 6 for different parts of the event window.

Starting with the target firms we find that Cross-Border deals give higher average cumulative abnormal returns than the National deals, even though previous research argues that Cross-Border deals are harder to succeed due to cultural differences (Morosini, Shane, Singh; 1998).Harris and Ravenscraft (1991) report positive abnormal returns around National and Cross-Border M&A announcements for U.S. and U.K. targets and in addition they also exhibit higher returns for Cross-Border deals.

In this study both National and Cross-Border deals also create significantly positive average cumulative abnormal returns even at 1% significance level.

Table 6: Average Cumulative Abnormal Returns according to Deal Diversification type

Parts of Event Window	Targets National	Targets Cross-Border	Acquirers National	Acquirers Cross -Border
$\overline{CAR}$(-5,+5)	11.1***	18.41***	-0.85	-3.86**
$\overline{CAR}$(-2,+2)	11.46***	16.23***	-0.37	-2.88**
$\overline{CAR}$(0)	6.17***	12.64***	0.13	-0.51
$\overline{CAR}$(-1,0)	11.1***	14.57***	0.35	-0.08
$\overline{CAR}$(0,+1)	6.94***	13.78***	0.31	-2.75***
* = 10% significance level , ** = 5% significance level , *** = 1% significance level				

The National deals for the acquiring firms do not give significant abnormal returns and the results are very small and close to zero. Opposed to that Cross-Border deals give more significant results of negative average cumulative abnormal returns during the windows of (-5,+5), (-2,+2) and (0,+1) days. The returns from day zero to day +1 are strongly significant and negative but the overall level of returns is not highly negative.

The H_0 hypothesis of no effect on stock returns can be tested using the cumulative average abnormal returns during the event window (-5,+5).The H_0 hypothesis can be rejected for the targets in both National and Cross-Border deals for the whole event window. For the case of the acquirers involved in National deals the H_0 cannot be rejected, but for the ones involved in Cross-Border deals the H_0 hypothesis can be rejected at a 5% significance level.

6.3. Abnormal returns for UK and non-UK firms

As almost 50% of our target and acquirer firms are based in the UK it is reasonable to investigate if there is a relationship between abnormal returns and geographic location of those companies and more specifically if there is a difference in abnormal returns for companies based in the UK or the rest of Europe.

Table 7 summarizes the findings for this section. The average cumulative abnormal returns for the targets are positive and strongly significant and we see that the levels of returns are much higher for the targets based in the UK. The H_0 hypothesis of no effect can be rejected for both.

Table 7: Average Cumulative Abnormal Returns for UK vs. non-UK firms

Parts of Event Window	Targets UK	Targets non-UK	Acquirers UK	Acquirers non-UK
$\overline{CAR}$(-5,+5)	19.65***	7.39**	-2.33	-1.44
$\overline{CAR}$(-2,+2)	17.41***	8.69***	-3.31***	0.38
$\overline{CAR}$(0)	9.47***	7.03***	-0.46	0.21
$\overline{CAR}$(-1,0)	16.45***	8.08***	-0.78	0.93
$\overline{CAR}$(0,+1)	9.63***	8.63***	-1.71**	0.08
* = 10% significance level , ** = 5% significance level , *** = 1% significance level				

The results concerning the acquiring firms develop some differences between UK and non-UK based companies. The latter appear to have very low and positive average cumulative abnormal returns but not statistically significant. For that reason we cannot reject the H_0 hypothesis of zero abnormal returns. On the other hand, average cumulative abnormal returns for UK acquirers during the period (-2,+2) days are negative with strong statistical significance and little less significant are the negative average cumulative abnormal returns for (0,+1) days. The overall picture of average cumulative abnormal returns which we receive from previous results could be created mostly from companies based in the UK.

According to Goergen and Renneboog (2004) many more companies based in the UK are listed on a stock market in comparison to those based in Continental Europe. A number of people claim ownership of companies which are listed on the London Stock Exchange and their stocks are being constantly traded. They moreover suggest that higher returns are expected on deals where UK firms are involved as the degree of publicly available information about firms as well as the level of protection for the shareholders is higher in the UK and as the UK equity market is well-developed and more liquid.

6.4. Abnormal returns for different years

The data set used on this paper goes through almost two merger waves, the fifth (ca. 1991-2001) and the sixth (ca. 2003-2008), and two situations that set the market under stress, the burst of the dot-com bubble (2000-2001) and the financial crisis (2007-2008).

This section contains the discussion of whether the year that an M&A announcement took place has an effect on the level of abnormal returns which stem from that event. Table 8 contains the results of average cumulative abnormal returns for acquirers and targets allocated along the years when the events appear and they happen to vary essentially.

Table 8: Average Cumulative Abnormal Returns per year

Year	**Targets** $\overline{CAR}$	**Acquirers** $\overline{CAR}$	**Number of M&As**
2000	10.12	11.59**	2
2001	11.02	-7.31	6
2002	23.12***	-8.02**	6
2003	-4.12	5.75	3
2004	11.73***	2.39	7
2005	9.95***	-1.93	15
2006	8.76*	1.27	9
2007	15.81***	-5.83***	11
2008	37.81**	-4.39	6
2009	17.25***	1.53	2
2010	-15.61	7.31	2
* = 10% significance level , ** = 5% significance level , *** = 1% significance level			

Results for the target firms are not significant for all years and maybe that has to do with the small number of events occurring during those years. Those average cumulative abnormal returns that are statistically significant are in the range between 15 % and 37 %.It seems that the merger waves do not have an effect on average cumulative abnormal returns in this case, but an effect from financial crises could exist for targets during 2002 and from 2007 to 2009 with large statistically significant positive average cumulative abnormal returns. This could be the case as many target companies were in financial distress and an M&A announcement in such situations is received as particularly good news to the shareholders.

The results for the acquirers come somewhat in contrast with the previous results about them as there appear some positive average cumulative abnormal returns but almost all of them are not significant and for that reason a conclusion about a possible pattern cannot be drawn. The statistically significant negative average cumulative abnormal returns on 2002 and 2007 could show a reaction to financial crises in a way that acquiring investors receive M&A announcements as bad news during crises. Uncommonly there is a high positive significant level of average cumulative abnormal returns on year 2000 while the number of events is not big.

6.5. Abnormal returns for different industries

It is common that different industries may react dissimilarly to the same type of business events like an M&A announcement. On Tables 9and 10 are outlined, for targets and acquirers respectively, the average abnormal returns and average cumulative abnormal returns calculated for those industries which include the greatest number of events. The last column in both of those Tables gives the overall picture for all industries and is presented here merely for comparison as it is already included in Tables 4 and 5.

Table 9 : Target AARs per day through the event window (-5,+5)

Event Window	Consumer Discretionary	Financials	Healthcare	Industrials	Information Technology	Materials	ALL
-5	-0.54	0.46	-0.88	-1.96	0.41	0.71	-0.12
-4	0	-1.01	4.46***	3.45*	1.78*	0.47	1.37**
-3	0.51	-0.45	-0.63	-0.87	-1.21	1.57	-0.43
-2	0.89	0.26	-0.79	2.38	0.44	-0.32	0.85
-1	-0.09	5.87***	2.76	7.03***	3.98***	0.63	3.97***
0	9***	2.31***	6.78***	12.44***	10.12***	7.34***	8.23***
1	2.77	-1.68**	0.5	3.51*	0.76	-0.42	0.89
2	-0.24	0.74	-4.57***	0.43	-1.69*	-1.01	-0.96
3	-0.36	0.23	0.61	-0.82	0.18	0.05	-0.01
4	0.37	0.66	-0.89	0.16	-0.54	-1.56	-0.26
5	0.78	0.46	-1.95	-0.12	-0.02	-0.89	-0.11
$\overline{CAR}$(-5,+5)	13.08*	7.86***	5.39	25.65***	14.21***	6.57	13.43***
$\overline{CAR}$(-2,+2)	12.33***	7.5***	4.68	25.8***	13.61***	6.22*	12.98***
$\overline{CAR}$(0)	9***	2.31***	6.78***	12.44***	10.12***	7.34***	8.23***
$\overline{CAR}$(-1,0)	8.91***	8.18***	9.54***	19.48***	14.1***	7.97***	12.2***
$\overline{CAR}$(0,+1)	11.77***	0.63	7.28***	15.96***	10.88***	6.92***	9.12***
* = 10% significance level , ** = 5% significance level , *** = 1% significance level							

All industries that are being presented have significantly positive average abnormal returns at the event day 0 while half of them experience significantly positive average abnormal returns also one day prior to the event, day -1. While most of the industries do not get significant results for the days after the event, Financials come to experience negative average abnormal returns with 5% significance and Industrials have small positive average abnormal returns with 10%

significance. Some outlier significances that appear during the event window might occur due to specific industry events.

Table 10 : Acquirer AARs per day through the event window (-5,+5)

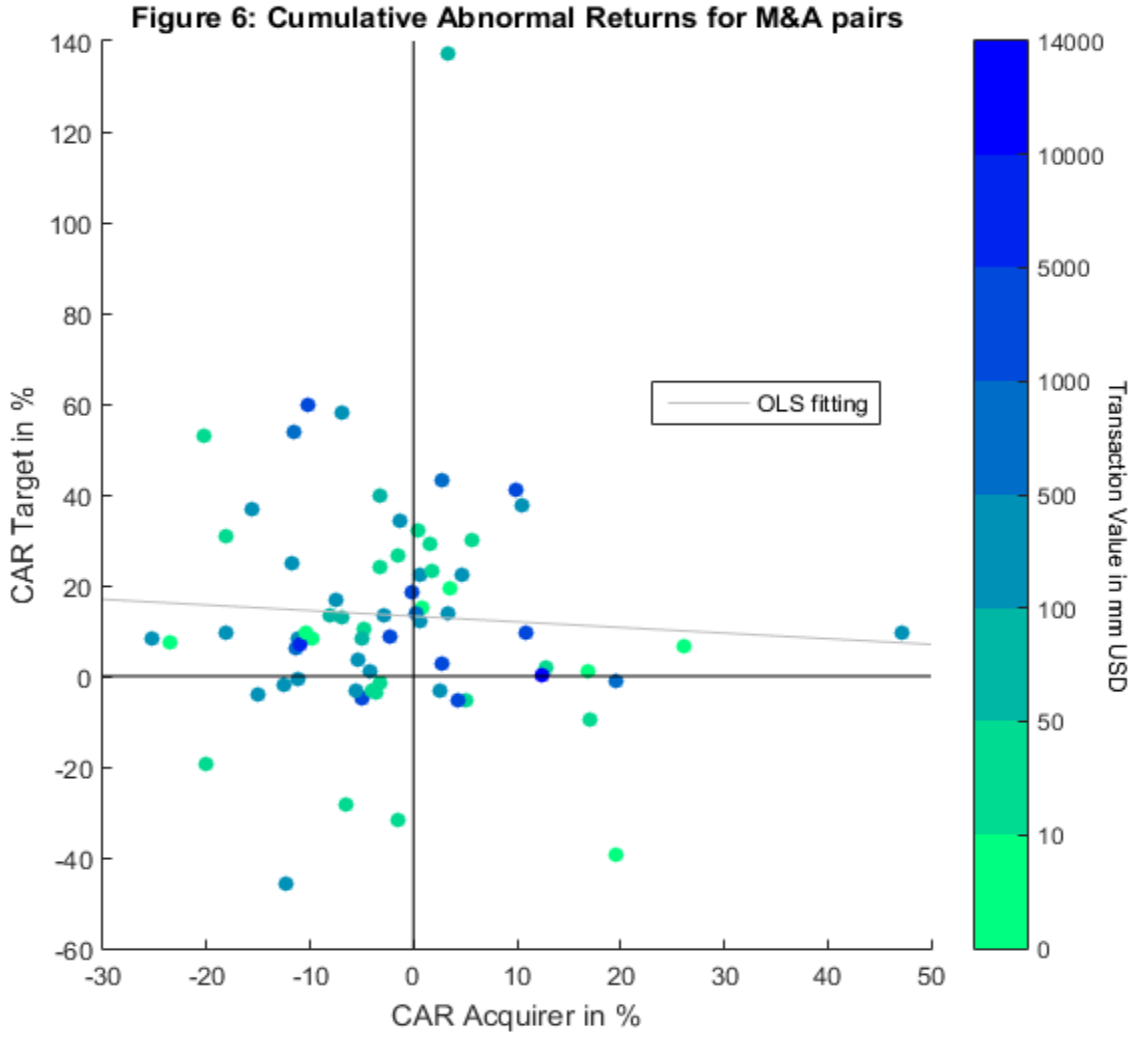
Event Window	Consumer Discretionary	Financials	Healthcare	Industrials	Information Technology	Materials	ALL
-5	-2.87*	-0.63	-0.45	0.56	-0.85	3.72**	-0.23
-4	0.78	0.59	-0.31	0.86	-0.49	-0.4	0.18
-3	-0.56	-0.15	0.34	0.04	-0.69	-0.77	-0.3
-2	-1.51	1.81***	-0.26	-1.31*	-0.53	-1.17	-0.42
-1	0.63	-0.24	-0.43	-0.15	0.38	-0.29	0.29
0	1.66	1.1*	-1.46	1.07	-1.78**	0.45	-0.08
1	-4.66***	-1.12*	0	0.7	-0.85	-1.77	-0.59*
2	0.27	-0.7	-1.1	1.15	-1.18	-3.84**	-0.37
3	16.04***	0.18	-1.05	-0.65	-0.35	-0.31	0.64*
4	-4.01***	0.82	-0.7	-1.22*	-0.6	0.91	-0.61*
5	1.15	-0.79	-1.5	-0.48	0.1	-1.57	-0.32
$\overline{CAR}$(-5,+5)	6.92	0.85	-6.91	0.58	-6.85***	-5.03	-1.81
$\overline{CAR}$(-2,+2)	-3.62	0.84	-3.24	1.47	-3.96**	-6.6*	-1.17
$\overline{CAR}$(0)	1.66	1.1*	-1.46	1.07	-1.78**	0.45	-0.08
$\overline{CAR}$(-1,0)	2.28	0.86	-1.88	0.92	-1.4	0.16	0.21
$\overline{CAR}$(0,+1)	-3	-0.02	-1.45	1.78*	-2.63***	-1.31	-0.67
* = 10% significance level , ** = 5% significance level , *** = 1% significance level							

The results for the acquiring companies are very insignificant for the individual industries presented and also for the overall sample. The Consumer Discretionary industry gains some negative significant average abnormal returns on the day after the event which continue on day +3 to be highly positive and on day +4 again negative. This anomaly as well as other outliers may also arise from industry specific events. Financials exhibit significantly positive average abnormal returns short before the event and at the day of the event which switch to significantly negative the day after the event. The industry of Information Technology gains negative average abnormal returns on day 0 with a 5%level of significance. Materials appear to have a slightly late negative significant reaction to the event on day -2.

Through those results we could support the idea that on average the abnormal returns of the acquiring companies are not really affected by an M&A announcement with very few exceptions according to the industry of operations.

According to the efficient market hypothesis there should not be an effect on the returns on the days before the event and so we could claim that markets are imperfect and information could leak into the market prior to an event for some cases of deals.

6.6. Abnormal returns for M&A pairs



An important aspect of M&A analysis is to investigate if there is a direct relationship between cumulative abnormal returns of targets and acquirers. For this purpose a scatter plot is constructed which matches the cumulative abnormal returns for the two participants on every M&A announcement. The scatter plot is displayed in Figure 6.

The majority of the target cumulative abnormal returns are above zero while for the acquirers the opposite is true. This results in most points showing up in the top left corner of the graph. The fitting line of the OLS regression does not reveal any obvious relationship between the two so by knowing the level of cumulative abnormal returns of a specific event for the target firm we cannot build expectations for the cumulative abnormal returns of the acquiring firm. It is not clear if high returns for targets correlate with high or low returns for acquirers. Nevertheless the OLS-fitted line has a slight negative slope.

Most of the M&A deals have transaction values smaller than 500 million USD and there is no clear relationship visible if transaction values and cumulative abnormal returns for either acquirers or targets correlate.

7. Conclusion and Further research

7.1. Conclusion

The purpose of this thesis is to investigate whether the event of an M&A announcement has an effect on stock price returns of their participants. This was done by gathering a sample of 69 M&A announcement events which took place between 2000 and 2010 within the European Developed Markets.

The results for the whole sample of target firms indicate that there is a development of positive significant average cumulative abnormal returns during the days around the event with higher average abnormal returns close to the event date. The result shows that statistically significant target firm average abnormal returns occur at the size of around 4% one day before the merger announcement and around 8% at the day of the announcement. These result in average cumulative abnormal returns at about 13% for the whole event window. Thus the average cumulative abnormal returns for the event windows are mostly driven by average abnormal

returns of two days. The average abnormal returns one day prior to the announcement date could be due to leakage of private information, insider trading or anticipation effects and could support the idea that the markets are only semi-strong efficient.

There are few statistically significant results for the acquiring firms and the level of average cumulative abnormal returns lies very close to zero. One day after the event average abnormal returns of -0.6% occur with a significance level of 10%. The direction of returns is rather negative. The results differ slightly by industry.

Those results are in line with the majority of the literature where it is stated that targets enjoy high positive levels of returns close to event and at the same time acquirers enjoy returns very close to zero, positive or negative.

In order to investigate in more detail what is driving the results, I separate the main sample into subsamples according to National and Cross-Border deals, UK and non-UK based companies, the year when the announcement occurs and the different industries in which the firms operate. Lastly we examine the relationship between target and acquiring cumulative abnormal returns for firms participating in the same M&A transaction.

The average cumulative abnormal returns for the targets which participate on a cross-border deal appear to be higher than the ones being generated on national deals. Negative statistically significant average cumulative abnormal returns are achieved from acquirers on cross-border deals but no significance appears for the results on national deals.

Similarly UK targets enjoy more than double average cumulative abnormal returns size than targets outside UK with high significance. Significant negative average cumulative abnormal returns are developed for UK acquirers while non-UK ones do not get significant results.

Results generated by year imply that the merger waves do not affect the returns of either target or acquiring firms. On the other hand, the average cumulative abnormal returns could be affected from financial crises with large positive returns for the targets and negative returns for the acquirers.

For the individual industries with the largest number of observations we find that the majority of significant average abnormal returns are created at the event date and one day prior to the event.

The average cumulative abnormal returns stay positive and significant for all industries during the event window and Industrials and Information Technology develop the highest.

For the acquirers, the industry of Information Technology provides negative significant average cumulative abnormal returns during the event window but no other industry has significant results. The average abnormal returns are not statistically significant around the event day almost for each of the industries examined.

A scatter plot of the cumulative abnormal returns for every pair of companies which perform a deal shows no clear relationship between the two. So we cannot form any expectations for the cumulative abnormal returns of the acquiring firm by knowing the level of cumulative abnormal returns of the target firm or vice versa. The same applies to transaction values.

In conclusion, the European markets appear to provide the target firms with high positive cumulative abnormal returns but they usually don't seem to compensate the acquirers the same way.

The results of this study would be helpful for investors in the way that they should know what to expect when buying company stocks. By having in mind if the company they are investing in is more likely to become a target or an acquirer sometime in the future, they should be aware of the returns that may occur at that point in time. Moreover, the results from this study may help investors to decide on their behavior around an M&A announcement. The insider trading or leakage of private information into the market before the actual announcement of an M&A could imply that stricter laws should be passed for those cases by any government or policy maker in concern.

7.2. Further research

Some further research could include a wider variety of countries or relaxing some of the selection criteria. One relaxation would be to include M&As where several buyers merge or acquire a target together. Further countries from the European developing markets could be included.

Moreover the market model assumes stock returns to follow a normal distribution related to market returns and MacKinlay (1997) supports the use of a broad equity index with the model.

However, using the same market index for many different firms, results in weak predictions for the event window. One could use narrow individual industry indices for better prediction of stock returns.

In order to better observe the effects of financial crises and merger waves on M&A announcements there is need for more data points for specific years and a deeper analysis possibly involving intra yearly breakdown.

8. Bibliography

Asquith, Paul, and E. Kim. "The impact of merger bids on the participating firms' security holders." *The Journal of Finance* 37.5 (1982): 1209-1228.

Asquith, Paul, Robert F. Bruner, and David W. Mullins."The gains to bidding firms from merger." *Journal of Financial Economics* 11.1 (1983): 121-139.

Belkin, Paul, Derek E. Mix, and Martin A. Weiss. "The Eurozone Crisis: Overview and Issues for Congress." Congressional Research Service, http://www.fas. org/sgp/crs/row 42377 (2012).

Bradley, Michael, Anand Desai, and E. Han Kim. "Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms." *Journal of financial Economics* 21.1 (1988): 3-40.

Bradley, Michael, Anand Desai, and E. Han Kim. "The rationale behind interfirm tender offers: Information or synergy?." *Journal of Financial Economics* 11.1 (1983): 183-206.

Brealey, Richard A., Myers, Stewart C., Allen, Franklin. Principles of Corporate Finance, Ninth Edition.McGraw-Hill International Edition, 2008.

Brown, Stephen J., and Jerold B. Warner. "Using daily stock returns: The case of event studies." *Journal of financial economics* 14.1 (1985): 3-31.

Brown, Stephen J., and Jerold B. Warner."Measuring security price performance." *Journal of financial economics* 8.3 (1980): 205-258.

Campa, José Manuel, and Ignacio Hernando. "M&As performance in the European financial industry." *Journal of Banking & Finance* 30.12 (2006): 3367-3392.

Campa, José Manuel, and Ignacio Hernando. "Shareholder value creation in European M&As." *European financial management* 10.1 (2004): 47-81.

Chatterjee, Sayan. "Types of synergy and economic value: The impact of acquisitions on merging and rival firms." *Strategic Management Journal* 7.2 (1986): 119-139.

Cooke, Terence E. Mergers and acquisitions. B. Blackwell, 1986.

Creighton, Kate. Introduction to Mergers and Acquisitions, First edition. www.bookboon.com, 2013.

Devos, Erik, Palani-RajanKadapakkam, and Srinivasan Krishnamurthy. "How do mergers create value? A comparison of taxes, market power, and efficiency improvements as explanations for synergies."*Review of Financial Studies* 22.3 (2009): 1179-1211.

Dodd, Peter, and Richard Ruback. "Tender offers and stockholder returns: An empirical analysis." *Journal of Financial Economics* 5.3 (1977): 351-373.

Dodd, Peter. "Merger proposals, management discretion and stockholder wealth." *Journal of Financial Economics* 8.2 (1980): 105-137.

Faulkner, David, SatuTeerikangas, and Richard J. Joseph, eds. The handbook of mergers and acquisitions.Oxford University Press, 2012.

Financial Times."FT: "Banks ask for crisis funds for eastern Europe" 22 Jan 2009". http://www.ft.com/cms/s/0/9830fa0c-e809-11dd-b2a5-0000779fd2ac.html#axzz3WJlqZBhC. Retrieved 4 April 2015.

Goergen, Marc, and Luc Renneboog."Shareholder Wealth Effects of European Domestic and Cross -45- Border Takeover Bids." Europea

Goldberg, Walter. Mergers: motives, modes, methods. Gower Publishing Company, Limited, 1983.

Hackbarth, Dirk, and ErwanMorellec. "Stock returns in mergers and acquisitions." *The Journal of Finance* 63.3 (2008): 1213-1252.

Harris, Robert S., and David Ravenscraft. "The role of acquisitions in foreign direct investment: Evidence from the US stock market." *The Journal of Finance* 46.3 (1991): 825-844.

Jensen, Michael C., and Richard S. Ruback. "The market for corporate control: The scientific evidence." *Journal of Financial economics* 11.1 (1983): 5-50.

Kothari, S. P., and J. B. Warner."Econometrics of Event Studies. Handbook of Corporate Finance: Empirical Corporate Finance. B. EspenEckbo." (2007).

MacKinlay, A. Craig. "Event studies in economics and finance." *Journal of economic literature* (1997): 13-39.

Mandelker, Gershon. "Risk and return: The case of merging firms." *Journal of Financial Economics* 1.4 (1974): 303-335.

McCarthy, Killian J., and Wilfred Dolfsma, eds. Understanding Mergers and Acquisitions in the 21st Century: A Multidisciplinary Approach. Palgrave Macmillan, 2012. Ch:2McCarthy, Killian J.,"The Business Environment – Mergers and Merger Waves: A Century of Cause and Effect."

Michael Simkovic, "Secret Liens and the Financial Crisis of 2008"American Bankruptcy Law Journal, Vol. 83, p. 253, 2009.

Moeller, Scott, Brady, Chris. Different types of mergers and acquisitions. *The European Financial Review*, 28 February 2014.

Morosini, Piero, Scott Shane, and HarbirSingh."National cultural distance and cross-border acquisition performance."*Journal of international business studies* (1998): 137-158.

Panayides, Photis M., and XiheGong."The stock market reaction to merger and acquisition announcements in liner shipping." *International journal of maritime economics* 4.1 (2002): 55-80.

Peterson, Pamela P. "Event studies: A review of issues and methodology."*Quarterly journal of business and economics* (1989): 36-66.

Petitt, Barbara S., CFA, Ferris, Kenneth R..Valuation for Mergers and Acquisitions, Second Edition.Publishing as FT Press by Pearson Education, Inc, 2013.

Roubini, Nouriel, Kenneth Rogoff, and NarimanBehravesh. "Three top economists agree 2009 worst financial crisis since great depression; risks increase if right steps are not taken." *Reuters*, Friday, February 27 (2009): 10. Retrieved 4 April 2015.

Shambaugh, Jay C. "The Euro's Three Crises Brookings Papers on Economic Activity Spring 2012." (2012).

Wong, Anson, and Kui Yin Cheung."The effects of merger and acquisition announcements on the security prices of bidding firms and target firms in Asia." *International Journal of Economics and Finance* 1.2 (2009): p274.

World Bank, World Development Indicators database.‘’Gross domestic product 2013.’’Retrieved 16 December 2014.

9. Appendix

Table A1: List of Developed European Countries

Andorra	Italy
Austria	Liechtenstein
Belgium	Luxembourg
Channel Islands	Monaco
Cyprus	Netherlands
Denmark	Norway
Finland	Portugal
France	San Marino
Germany	Spain
Gibraltar	Sweden
Greece	Switzerland
Greenland	United Kingdom
Iceland	Vatican City
Ireland	

Table A2: Detailed list of M&A Sample

Buyers/Investors	**Target/Issuer**	**M&A Announced Date**	**Total Transaction Value ($USDmm, Historical rate)**
Campofrio Food Group, S.A.	OMSA Alimentacion SA	03.22.2000	-
Steinhoff UK Retail Limited	Harveys Furnishing Limited	07.14.2000	204.08
Vodafone-Panafon Hellenic Telecommunications Company S.A.	Korassidis A. Radio Commercial Enterprises S.A.	05.24.2001	33.5
Telemedia Group SA	Creanet	07.31.2001	-
Visma AS	OyjLiinos ABP	12.10.2001	28.41
Teleca AB	Teleca AU-System AB	12.10.2001	130.52
Dimension AB	Kipling Holding AB	12.17.2001	2.43
Försäkringsaktiebolaget Skandia (publ)	IFA Holding Company Ltd.	12.19.2001	292.6
Dragados S.A.	HollandscheBetonGroepnv	02.05.2002	904.83
Media (netCom) AG	INTERNOLIX AG	04.17.2002	28.06
365 Media Group Limited	TEAMtalk Media Group Ltd.	05.13.2002	20.38
Crucell Switzerland AG	Rhein Biotech N.V.	05.23.2002	215.71
Swiss Life Deutschland Vertriebsholding GmbH	Tecis Holding Ag	05.27.2002	249.64
HBOS plc	Arcadia Group Limited	08.19.2002	1,436.38
Kidde Limited	Kidde Fire Trainers Limited	07.21.2003	16.12
Piraeus Leasing S.A.	ETBA Leasing S.A.	07.30.2003	46.84
Xenova Group Limited	XenovaBiomedix Ltd.	08.14.2003	22.4
EXEL Limited	Tibbett & Britten Group Limited	06.16.2004	599.55
Morse plc	Diagonal Limited	07.13.2004	93.89
Erinaceous Group plc	Hercules Property Services PLC	09.27.2004	171.24
Getronics N.V.	Getronics PinkRoccade NV	11.01.2004	471.64

Scania AB (publ)	Ainax AB	11.19.2004	1,091.09
AziendaMediterranea Gas e AcquaS.p.A.	AcquePotabiliS.p.A.	11.24.2004	146.54
Waterford Wedgwood Plc	Royal Doultonplc	12.15.2004	102.86
SCI Entertainment Group Limited	Eidos Ltd.	03.22.2005	148.58
Financial Objects Limited	Wealth Management Software Limited	04.01.2005	10.33
Ennstoneplc	Enneuropeplc	04.15.2005	8.88
Torex Retail Plc	XN Checkout Holdings Limited	06.10.2005	131.94
House of Fraser Ltd.	James Beattie Limited	06.28.2005	130.33
Torex Retail Plc	Anker plc	06.30.2005	242.39
Pohjola Bank plc	Pohjola Group Plc	09.12.2005	1,515.26
C.I.S.L. Gruppen AB	Gamers Paradise Holding AB	10.17.2005	46.27
Crew Gold Corporation	Guinor Gold Corporation	10.17.2005	328.35
Abacus Group Limited	Deltron Electronics Limited	10.26.2005	69.2
Crucell N.V.	Crucell Switzerland AG	12.01.2005	503.3
Microsoft Development Center Norway AS	Opticom ASA	12.13.2005	309.59
Civicaplc	Comino Group plc	12.13.2005	88.58
Eiffage SA (ENXTPA:FGR)	Société des Autoroutes Paris-Rhin-Rhône	12.14.2005	13,292.17
Vivartia Holding S.A.	Chipita International S.A.	12.19.2005	487.9
Financial Objects Limited	Raft International Plc	01.19.2006	7.49
Sciens International Investments & Holdings S.A.	Diolkos Closed-End Fund S.A.	02.01.2006	-
THUS Group plc	Legend Communications plc	02.01.2006	22.02
Sociedad General de Aguas de Barcelona, S.A.	Bristol Water Holdings UK Limited	04.21.2006	686.24
T Bank S.A.	Advantage Capital Holdings Plc	05.29.2006	36.37
Promens AS	Promens SA	07.11.2006	14.0
Addax Petroleum Corporation (TSX:AXC)	Pan-Ocean Energy Corporation Limited	07.20.2006	1,487.95
West Coast Capital Trading Limited; FL GROUP hf.	House of Fraser Ltd.	08.24.2006	913.56
IntekSpA	G.I.M - Generale Industrie MetallurgicheS.p.A.	10.24.2006	1,353.14
Cooper Industries plc	Cooper Controls Ltd	02.20.2007	33.69
BBI Holdings Limited	BBI Enzymes Limited	03.27.2007	49.1
Northgate Information Solutions Holdings Limited	NorthgateArinso Belgium NV	05.01.2007	328.44
Vivartia Holding S.A.	Christies Dairies Public Ltd	05.24.2007	34.64
3i Group plc (LSE:III)	TargettiSankeyS.p.A.	06.28.2007	261.92
Hypo Real Estate Holding AG	DEPFA Bank plc	07.23.2007	7,867.91
GroupeSteria SCA	Steria UK Corporate Ltd.	07.30.2007	1,042.24
EnServe Group Limited	Evolve Analytics Limited	07.30.2007	197.96
Concatenoplc	Cozart Limited	09.05.2007	139.92
Jason Shipping ASA	Ultrabulk Shipping A/S	09.12.2007	7.16
Cooper Industries plc	The MTL Instruments Group plc	12.19.2007	312.63
Unit 4 N.V.	CODA Ltd.	01.14.2008	309.46
Excel Maritime Carriers, Ltd.	Bird Acquisition Corp.	01.29.2008	2,212.5
Oberthur Technologies	XPonCard Group AB	02.19.2008	139.49
Office2Office plc	TripleArcPlc	04.17.2008	51.67

Alterianplc	Mediasurface Limited	05.16.2008	37.73
Panaxia AB	PanAlarm AB	10.21.2008	23.64
Connaught plc	Fountains Limited	07.15.2009	23.03
British Airways Plc (UK)	IBERIA LAE SA	11.12.2009	3,934.53
Max Bank	Skælskør Bank Aktieselskab	05.27.2010	6.48
Afarak Group Oyj (HLSE:AFAGR)	Chromex Mining Limited	09.30.2010	59.82

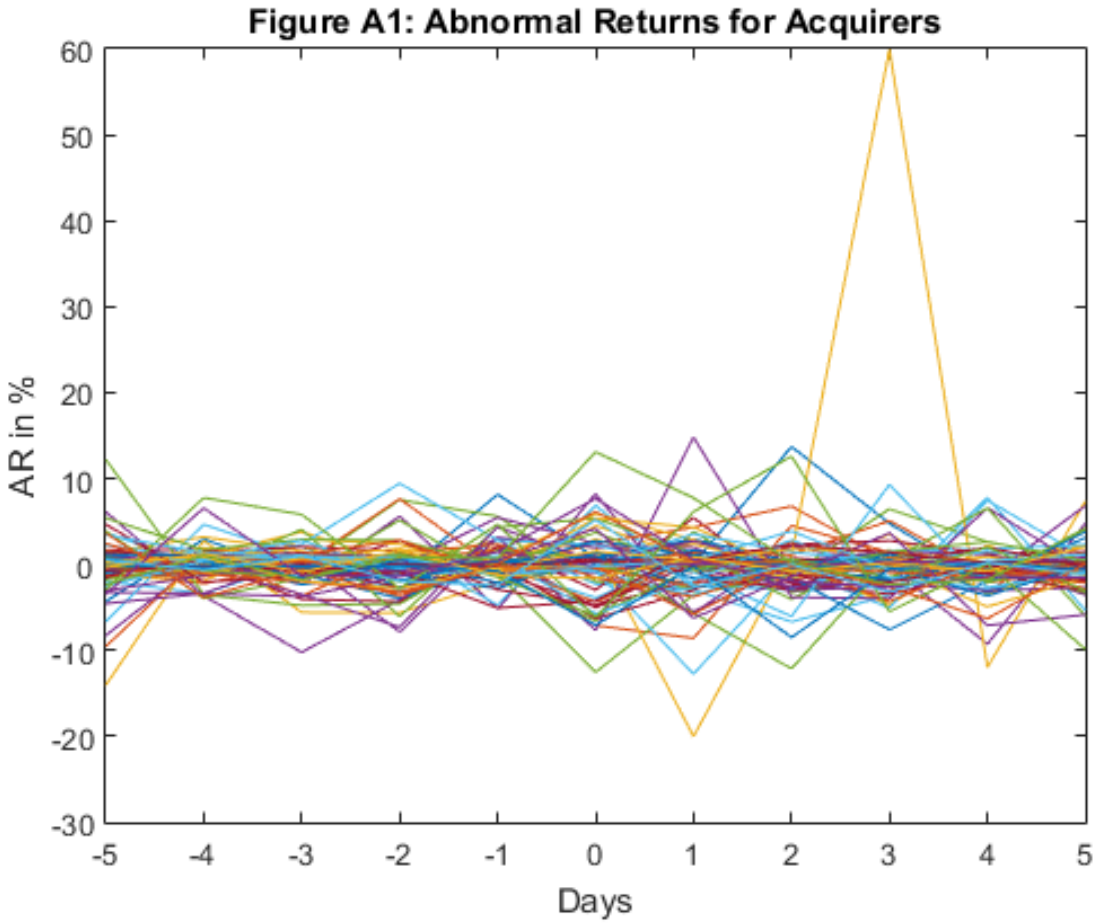


Figure A2: Abnormal Returns for Targets