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To buy or not to buy - public or private

A study regarding the announcement effect and value creation in different types of
M&A transactions

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ABSTRACT

Title: To buy or not to buy – public or private. A study regarding the announcement effect and value creation in different types of M&A transactions.

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Purpose: The purpose of this study is to examine the abnormal returns for the acquiring firms surrounding M&A announcements. The emphasis of the study lies on examining the difference in abnormal returns between acquiring public and private firms. Secondly, the study aims to get theoretical insights by examining the relationship between the magnitude of abnormal returns and different deal characteristics.

Theoretical framework: The concept of M&As is briefly introduced and is then followed by the managerial motives behind M&As and their impact on the announcement effect. Further, the chapter continues with a discussion about information asymmetry and the differences between private and public firms. Moreover, previous research within the field is presented, both regarding the announcement effect and value-creating characteristics.

Methodology: An event study is used to determine the announcement effect over the event window. Statistical tests are performed to ensure statistical significance of the results. Further, a multiple linear regression model examines the effect of the study's main variable *target legal status* and the *method of payment, form of the transaction, relative size, deal size, domestic versus cross-border and focused versus diversified*.

Empirical foundation: The data sample consists of 17 liquid and highly developed markets in Western Europe (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom) announcing the acquisition of public or private targets from 2009-01-01 to 2015-02-01.

Conclusion: First of all, the study shows that the announcement of M&As generally results in short-term abnormal returns for the acquiring firm in Western Europe. Secondly, the market seems to prefer acquisitions of private targets in comparison to public targets, which is supported by the theory of a private firm discount. Thirdly, the markets to a greater extent prefer (1) stock deals in favor of assets deals, (2) that the relative size between the firms is as large as possible, and (3) that the acquisitions are paid in cash instead of stock. The third conclusion is however not possible to ensure when only examining private targets.

LIST OF ABBREVIATIONS

APM	– Arbitrage pricing model
AR	– Abnormal return
AAR	– Average abnormal return
CAPM	– Capital asset pricing model
CAR	– Cumulative abnormal return
CAAR	– Cumulative average abnormal return
DLM	– Discount for lack of marketability
EBIT	– Earnings before interest and taxes
EMH	– Efficient market hypothesis
M&A	– Merger and acquisition
OLS	– Ordinary least squares
PCD	– Private company discount
WACC	– Weighted average cost of capital

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CHAPTER 1 – INTRODUCTION

In the introduction the background and concept of mergers and acquisitions is first introduced. The interesting aspects of and problems with the subject are presented and explained. This further leads to the purpose of the study, the target group, the delimitations and the disposition of the study.

1.1 Background

In 2014, the M&A activity in Europe increased 40.5 % to an astonishing number of \$ 901.4 billion. Europe has thereby seen its highest levels of M&A activity since the financial crisis (Corte et al, 2015). Advantageous conditions, e.g. higher abundant cash resources, availability of acquisition financing at good rates and the will of firms to find other growth opportunities than organic growth have existed for several years. The year of 2014 stands out - “an improved economic environment, combined with financial market support for well-constructed mergers, relatively low market volatility, the absence of significant political or economic shocks, and the momentum effect of an increasingly active M&A cycle, led increasingly confident boards and management teams to move forward with transactions, some of which were long-contemplated.” (Kennedy, 2015)

It is clear that the huge amounts of investments and its strategic importance for firms has made M&As an interesting field of studies for researchers. Starting in 2007, the M&A activity declined considerably, but since 2010 there is an amounting trend again and the levels of activity are now high.

In a study of 868 corporate leaders McKinsey shows that M&As are a corner stone to growth and value creation (Uhlener & West, 2011). It is also said that a combination of two firms usually create higher market value than if the firms are standalone firms (Gaughan, 2011).

This has led to several questions about M&A activity and deals. The questions concern why M&As happen, what kind of motives that drive M&As, who benefits from an M&A, if M&As create value and if so, what characteristics create this value? Whether M&As really create value

and if it is the acquiring firm's shareholders or the target firm's shareholders that obtain this value creation are the frequently recurring subjects.

The value creation in M&As is usually referred to as the synergy effect. If managers and investors are rational, the value creation of an M&A announcement should equal the value of the synergy effects, adjusted for the probability that the deal in fact will be completed (Malatesta & Thompson, 1985). In other words, the share price adjustment of both the acquirer and the target firm should never exceed the expected synergies. Therefore, the distribution of value is dependent on the premium that is offered to the target firm. A bidder will never be willing to pay a higher premium than the expected synergies' value (Misra & Gupta, 2007). However, this is only the case if the managers, of both the bidder and the target firm, and the market have access to the same information and are rational.

If the assumptions are met, the announcement of the M&A should create value for the acquiring firm's shareholders equal to the expected value of the synergy effect between the firms less the premium paid for the target. If it turns out that the assumptions are not met, which is often more likely, and if the markets behave irrationally, then the managers' and investors' expectations regarding the synergies could differ. The result of this will be a M&A mispricing in one of two directions; either that there is a risk for the premium to exceed the actual synergies because of agency problems and behavioral phenomena influencing management, or a discrepancy between the managements' and the shareholders' expectations, which potentially can cause over- or under reactions on the market (Berkovitch & Narayanan, 1993).

For the above reasons, among others, M&A activity has been highlighted in the research world, where researchers examine both the size of the abnormal returns and also what is driving this positive (or negative) value creation (destruction) surrounding M&A announcements. There are also a couple of characteristics in an M&A that have been shown to be significant in creating value in previous studies, e.g. the method of payment, relative size and deal size.

1.2 Problem Discussion

The financial market has witnessed large amounts go to waste because of managers' unattained synergies and growth and the "losers" seem to be the acquiring firm's shareholders.

The motives behind an M&A are critical and these are also the reasons for the M&A to be value creating or value destroying. According to Jensen (1986), managers act in their own interest and want to maximize their own wealth, often at the expense of their shareholders. When this happens, there is a greater chance of value destruction for the firm's shareholders.

Many of the M&As pursued during the 1960-1980s did in fact not create any value for the acquirer, and this is explained by the phenomenon of managers acting in their own interest and hubris driving their decisions (Roll, 1986). Lately value creation has, however, been shown and synergies seem to be the biggest motive to pursue an M&A (Berkovitch & Narayanan, 1993). Despite this fact, far from all the M&As undertaken are value creating, and whom the potential value accrues is also not converged yet. Though, a great part of the previous studies argue that the target's shareholders obtain the short-term wealth, whereas the value impact for the acquirer's shareholders is negative or close to zero (e.g. Jensen and Ruback, 1983, Andrade et al, 2001, Moeller et al, 2003). Researchers such as Asquith et al (1983) and Goergen and Ronneboog (2004) have however found slightly positive abnormal returns of 0.2 % and 0.7 % respectively for the acquiring firm's shareholders.

If both private and public target firms are considered instead, what does the value creation (destruction) look like?

The above studies are all conducted on public firms acquiring only publicly listed firms, which also speaks for the majority of previous studies within the field. Analyzing acquisitions of privately held firms has to a large extent been ignored, even though the greater part of acquisitions on the U.S. market, the UK market and the Western European market are represented by privately held firms. When using the time period 1st of January 2009 to the 1st of February 2015, the percentage of acquisitions of private targets in comparison to public targets are; U.S.: 69%, UK: 88%, Europe: 84% (based on M&A data from Eikon).

Logically, previous research on publicly listed firms may not be useful in explaining the short-term announcement effect in acquisitions of private targets (Draper & Paudyal, 2006). This mainly since their target status differentiates them from each other in several ways, among them information asymmetry, illiquidity in the stock and the average deal size (Capron & Shen, 2007).

This is supported by the previous studies conducted by e.g. Chang (1998), Conn et al (2005) and Faccio et al (2006) who all show significant differences regarding abnormal returns for the acquiring firms in acquisitions of privately held firms in comparison to public firms. Koeplin et al (2000) refer to this as the private company discount (PCD). The reasons for this discount are still discussed, but among the stated reasons are illiquidity, information asymmetry and lower bidder competition, as further discussed in section 2.5.

There are also other characteristics in an M&A that influence the value of the acquiring firm. In terms of private versus public targets these are; the *method of payment* (Asquith et al 1987; Travlos, 1987; Andrade et al, 2001, Yook 2003), *form of the transaction* (Biershaar et al, 2001); *domestic or cross-border* (Goergen & Renneboog, 2004, Conn et al, 2005), *focused or diversified* (Doukas et al, 2002, Goergen & Renneboog, 2004), *relative size* (Asquith et al, 1983, Loderer et al, 1990, Fuller et al 2002, Draper and Paudyal 2006, Madura and Susnjara 2013) and *deal size* (Loderer et al, 1990, Gordon et al, 2009, Fuller et al, 2011).

This study therefore intends to provide a deeper understanding for the differences in value creation depending on whether the bidding firm acquires a public or a private target and also show which of the above characteristics that influence the value of the acquiring firm.

It is also important to notice that most previous research within the field is conducted on either the U.S. or the UK market. This study chooses to investigate the Western European market, since the European firms nowadays are a big player in M&A terms and are showing a remarkable growth in both numbers and the total value of M&A deals, but still is quite overlooked in the empirical research (Martynova & Renneboog, 2011). The M&A market as a whole has also started to show an upward trend again since 2010 and the European M&A activity has reached astonishing numbers. In addition to this, the Western European market potentially differs in comparison to the U.S. or the UK regarding the legal system, the market settings, the corporate governance system, the ownership structure and so on.

1.3 Research questions

- Are there abnormal returns following M&A-announcements, and if so, is there a difference in the announcement effect depending on if the target is public or private?
- How much relevance has each deal characteristics, previously found to be value creating, for the abnormal returns in public and private deals respectively?

1.4 Purpose

The purpose of this study is to examine the abnormal returns surrounding M&A announcements for the acquiring firms, with emphasis on the difference between acquiring public versus private targets. Secondly, the thesis aims to get theoretical insights by examining the relationship between the magnitude of abnormal returns and different deal characteristics.

1.5 Delimitations

The area for the study is limited to the 17 markets in Western Europe listed in appendix 2 in which M&As announcements have been released from the 1st of January 2009 to the 1st of February 2015. This since the study is supposed to be: (1) based on as actual data as possible, (2) reflect the M&A activity after the financial crisis and (3) include a sufficient sample to be able to draw some generalizable conclusions.

Post the 2008 crash period, the market value of all firms fell sharply and many firms, both public and private, became attractive acquisition targets (Sherman and Badillo, 2010). Although recent years have been characterized by uncertainty in terms of economic evolution, financial market volatility and sovereign debt crisis, there has been an upward trend in terms of M&As since 2010. However, the effect of stock market crashes on the announcement effect for public and private acquisitions has not been studied sufficiently. In this paper, a contribution to the existing literature on this subject by studying the market returns of acquisition announcement post-financial crisis will be made.

M&As come in waves. Until now, there is evidence of six different waves; the early 1900s, the 1920s, the 1960s, the 1980s, the 1990s and the last one around 2003 until it abruptly ended in 2007. European firms were for the first time a big player in M&A terms in the fifth M&A wave

and they were as eager as U.S. firms to participate in M&A deals, and M&A activity in Europe actually hit levels similar to those in the U.S.. Even though European M&As demonstrably have shown a remarkable growth in both number and total value, the empirical research on Europe is lacking. Most of the research is still confined to the U.S. and the UK (Martynova & Renneboog, 2011).

When it comes to delimitations in the methodology, the authors have chosen to use the market model to calculate abnormal returns. This is a conscious choice, even though the authors are aware that there are other ways to calculate value creation. The market model is chosen since it is proven to give more correct results than other models (MacKinlay, 1997). This study also chooses to perform a short-term event study, since long-term event studies are less statistically appropriate (Andrade et al, 2001) and the authors want to look at the announcement effect which should be reflected in the stock price shortly after the announcement according to the efficient market hypothesis (Fama, 1970).

1.6 Target group

The target groups for this study are academics and decision-makers that are involved in M&As and the relevant variables involved that influence the value of acquirer in general. Therefore, a list of abbreviations is found on pp. 3 for those who are not used to the terminology within the field of M&As.

1.7 Disposition



CHAPTER 2 – THEORETICAL FRAMEWORK

The theoretical framework aims to present the financial theories relevant for this study, regarding the announcement effect surrounding an M&A and value-creating characteristics. Thereafter a presentation and discussion of previous empirical work within the field follows, with emphasize on public versus private firms. Lastly, a discussion of the differences between public and private firms is held.

2.1 Definition of mergers and acquisitions

Merger and acquisition (M&A) is an expression used when referring to different kinds of corporate takeovers. A merger implies that two separate firms, operating under similar presumptions, merge into an entirely new firm. The new firm then undertakes the previously disparate assets and liabilities as its own (Gaughan, 2007). In an acquisition, in contrast, the purpose is to purchase the stocks, or the assets of the target firm which then ceases to exist. Once acquired, the target firm is fully incorporated in the acquiring firm and thus holds the acquiring firm's vision and purpose (Arnold, 2008).

In the academic literature, it has been proven difficult to distinguish the two from each other, since the original purpose of the acquisition often does not turn out the way it was planned initially (Arnold, 2008). Therefore this study will use the common term, M&A.

2.2 Managerial motives behind M&As

There are a number of recurring managerial motives to pursue an M&A. Expanding the business is e.g. one of the main reasons for firms to acquire other companies. A firm can grow in two ways, either through organic growth or through acquisitions. In order to accomplish one of the two, careful planning and execution is needed in order to create future value for the firm (Gaughan, 2011 pp. 117). Growing organically involves growth of the firm's core activities. This takes time, due to the fact that extending the operations must be done in a cautious way. Firms that grow organically, however, do not face that many internal challenges. Yet, the slow pace of the expansion and the external competition bring risks and uncertainties to the firm. Firms may also face underinvestment problems, by the abandonment of important investment opportunities.

Viewed from this perspective, growing organically may have a negative effect on the firm's competitive position in the long run. Growing through M&As instead allows a firm to expand either/or within their industry and into new markets and geographical regions. This may be a less risky strategy, and in the longer term, a cheaper alternative for the firm than organic growth (Gaughan, 2011 pp. 117).

According to traditional corporate finance theory, managers are assumed to behave rationally and by this aim to maximize shareholder value. Generally, M&A deals are merely motivated by economic reasons resulting in increased value. Market reactions surrounding M&A announcements show, however, that managers may not be rational. When digging deeper into the causes for these market reactions, whilst looking at managers' motives for M&A activities, it can be argued that M&As partly are driven by agency problems or managers acting out of hubris and over-confidence. Three different reasons to why managers pursue M&As, besides growth are;

- Synergy effects
- Hubris
- Agency motives

(Berkovitch & Narayanan, 1993)

2.2.1 The synergy hypothesis

This hypothesis suggests that M&As happen due to the fact that there are synergies to realize since the value of the merged firm is greater than the value of the two separate firms (Seth et al, 2000). This allows firms to create shareholder value.

There are essentially two different types of synergies within the literature; operational and financial synergies. The operational synergies create value by increasing free cash flow. This is done in one of two ways; by revenue enhancement or by decreasing the costs. The financial synergies in an M&A are lower tax rates, increased possibility to increase leverage and lower cost of capital (Jensen & Ruback, 1983).

Estimating and valuing synergies

One of the corner stones of corporate finance addresses value creation for shareholders. This is done through investing in capital to obtain future cash flow at a level of return above the firm's

WACC. Thus, to be able to create value, the firm needs to lower the WACC or enhance future levels of free cash flow (Koller et al, 2010, pp. 17).

As stated earlier, the possibility of creating value for the acquiring firms in M&As depends both on the premium paid for the target and the synergies created following the acquisition. All participants in the acquiring firm, i.e. management and investors, assess the expected synergies that an M&A can bring and based on this assessment then determine how much they are willing to pay for the firm (Koller et al, 2010, pp. 445).

A correct valuation can therefore not be neglected since possible biases in the evaluation of the expected synergies can destroy, rather than create, value. The biggest risk is that the biases lead to a huge overestimation of the synergies which results in overpaying for the target firm (Koller et al, 2010, pp. 445). Access to certain information is extremely important to estimate the value impact as correctly as possible. As more hypothetical assumptions and uncertain estimations are included, the result becomes more unreliable. It also has to be kept in mind that circumstances can change prior to closing the deal and these may change the presumptions substantially (Schweiger & Very, 2003).

2.2.2 The hubris hypothesis

The hubris hypothesis was proposed by Richard Roll (1986) and deals with possible motives behind acquisitions and whether or not mergers bring an increase in aggregate market value. In his research he finds that acquirers pay too much for their targets on average and that the observed takeover premiums overstate the increase in economic value of the combined entity. The hubris hypothesis states that managers tend to overpay for acquisitions simply due to an overestimation of their ability to realize synergies. This hubris then leads them to paying a larger premium than the actual value of the expected synergies and hence destroys value for the acquirers' shareholders (Roll, 1986).

The implication of this theory is that, around a takeover, the value of the target should increase and the value of the bidding firm should decrease as shareholders oppose the deal. All together, the combined value of the target and the bidder should fall slightly and if the combined value turns out to be positive this is due to an overconfident manager's overestimation (Gaughan, 2011 pp. 157; Roll, 1986). Berkovitch and Narayanan (1993) state that in acquisitions, due to hubris,

the synergy gains are zero, and the potential overpayment simply represents a transfer of wealth from the acquiring firm to the target. Furthermore, Roll (1986) argues that the value-destroying acquisitions often are made by well-performing managers, since they tend to overestimate their personal ability to realize the synergies.

There are numerous studies trying to estimate how the acquisition bids relate to the target's true value. In a study performed by Varaiya (1988), he finds empirical evidence that the winning bid in acquisitions on average substantially overstates the market's estimation of the expected takeover gain and the cumulative average excess return of the bidding firm is significantly negative. This supports Roll's hypothesis that the managers with hubris tend to overpay for targets (Varaiya, 1988).

The relevance of this hypothesis for this study lies in that if managers act out of hubris this could cause potentially negative abnormal returns for the acquiring firm's shareholders.

2.2.3 The agency theory

This managerial motive for pursuing M&As is based on the principal-agent theory. The theory explains the relationship and problems between principals (shareholders) and agents (managers).

The main goal for a manager should be to maximize shareholder value. However, the theory states that managers sometimes act in their own interest, trying to maximize their own wealth at the expense of the shareholders (Berkovitch & Narayanan, 1993). According to the agency theory, there are two possible explanations for managers to pursue M&As:

1. When growth increases, the power and control of the manager increases (Jensen, 1986)
2. It allows managers to diversify, reducing the firm-specific risk, and thereby reducing their own risk (Amihud & Lev, 2001)

A further example is when managers pursue M&As within their own field of expertise. By doing so, the firm becomes dependent of their skills (Berkovitch & Narayanan, 1993), and thereby their position within the combined entity is reinforced (Shleifer & Vishny, 1989). Shleifer and Vishny (1989) find that M&As pursued on these motives are carried through despite the fact that value is destroyed for the shareholders of the acquiring firm. When managers obtain a large enough personal gain, the firm's market value is sacrificed to pursue the M&A. Shareholders, on the

other hand, could achieve the same effect through portfolio management, thus diversification is only used to reduce managers' managerial risk (Amihud & Lev, 2001). An acquirer with managerial motives will therefore overpay for the target firm (Morck et al, 1990). All these measures lead to agency costs, resulting in a decreasing value of the combined entity. Hence, value is destroyed for the acquiring firms' shareholders (Berkovitch & Narayanan, 1993).

Overall, the agency problem constitutes an interest conflict between managers and shareholders since managers, theoretically, should act in the shareholders' interest but instead pursue acquisitions for their own welfare at the expense of shareholders (Jensen, 1986). This is another potential cause of negative abnormal returns for the acquiring firm's shareholders.

2.3 Information asymmetry

A familiar concept in the financial theory and research is information asymmetry. Information asymmetry basically implies that one party has superior information compared to another (Ogden et al, 2002).

Information asymmetry in M&A deals exists between several different parties, but an important consideration is the information asymmetry between the acquirer and target concerning the target firm. While information asymmetry is present in all forms of acquisitions, the problem is likely to be larger when considering acquisitions of private firms. Public firms have to comply with certain standards concerning information disclosure to the market and they are also highly monitored by other stakeholders such as the media and analysts. In contrast, there is usually less information available concerning private firms. (Officer, 2007)

According to the traditional information asymmetry hypothesis presented by Akerlof (1970), asymmetric information puts the buyer at risk of overpaying, and a price discount is therefore applied when acquiring assets with uncertain value. When a buyer targets a private firm, the offer price may therefore be discounted to reflect higher information asymmetry. (Officer, 2007; Shen, 2006)

Furthermore, in M&As, certain information concerning the deal, e.g. synergy effects, growth opportunities and financial improvements, may only be known by the managers of the acquiring firm but not the market. According to the signaling hypothesis, managers can use this

informational advantage to send signals to the market by their statements and actions. Managers reveal information regarding the future performance of the firm by acquiring another firm. (Klein et al, 2002)

Two implications regarding information asymmetry are important for this study. First of all, the theory suggests that private firms should be bought at a discount compared to publicly traded firms due to higher information asymmetry between the participants, as discussed later in this chapter. In the end, the discount should lead to higher abnormal returns for the acquiring firm. The existing empirical evidence also suggests that a negative relationship between target information asymmetry and abnormal returns for the acquirer exists.

The second implication is that managers can send signals to the market already prior the announcement of the M&A. The signals can be sent through statements such as communicating the firm's M&A strategy or acquisition plan, or actions such as the firm's past M&A record. If the managers are credible and the information is of high quality the market should react accordingly and the stock price should adjust to the new information available. If the signals are credible the market should adapt to this information and the announcement effect should therefore be smaller.

2.4 Previous research

Previous published research relevant for the study is presented in chronological order below.

2.4.1 Announcement effect

The academic research regarding M&As' announcement effect is comprehensive and the evidence suggests that the target's shareholders generally are the "winners", earning a significant average abnormal return following the announcement. This is already stated in Jensen & Ruback's study from 1983. The evidence for the bidders' shareholders, on the other hand, shows some mixed results – slightly positive, insignificantly different from zero or negative abnormal returns (Andrade et al, 2001, Bruner, 2002). Moeller, Schlingemann and Stulz (2003) show that the acquiring firm's shareholders are the ones losing in an M&A and that it generally leads to a 1-3 % decrease in the acquiring firm's share price after the announcement. The imminent part of previous studies show that more than one third of the M&As that are completed are value destroying for the bidder's shareholders (Koller et al., 2011). To further concretize this,

McKinsey's study of 1415 M&As between the years 1997-2009 shows an average combined market value increase of 4 % following an M&A. If the market value increase is divided into the acquiring firm versus the target firm, the average decrease is -5.8 % for the acquiring firms whereas the percentage is +9.8 % for the target firms (Rehm & Sivertsen, 2010). The reaction of the market supposedly depends on what expectations the market has about the participants in the M&A and the deal characteristics.

In conclusion, M&As are value creating according to previous research, but the real value creation is accredited to the target firm's shareholders. One main reason for this bias is the premium paid to the target's shareholders around the M&A being approximately equal to the value created. Therefore, the target's shareholders capture the value creation (Berk & DeMarzo, 2007).

2.4.2 Private versus public target firms

When it comes more specifically to the announcement effect considering acquisitions of public versus private targets, Chang (1998) examines bidder returns after an M&A announcement where the target firm is privately held. The study is done on the U.S. market between the years 1981-1992. In stock offers, the bidding firm experiences a positive abnormal return, which is contrary to the negative abnormal returns for acquiring firms when it comes to acquiring publicly traded firms. However, Chang (1998) also states that the bidders do not gain any abnormal returns in cash offers. This positive wealth effect is according to Chang (1998) "related to monitoring activities by targets shareholders and, to an extent, reduced information asymmetries".

Koeplin, Sarin and Shapiro (2000), on the other hand, estimate the private firm discount for a set of domestic (U.S.) and foreign transactions in their article. They examine all acquisitions of private acquisitions made during 1984-1998. For each private firm transaction, a comparable publicly traded firm is found and thereafter different valuation ratios are compared. Koeplin et al (2000) find that domestic private firms are acquired at an average of 20-30 % discount relative to similar public firms and they also find that the private firm discounts are even larger for foreign firms.

Another study by Fuller, Netter and Stegemoller (2002) analyses the relative size by examining differences in cumulative abnormal returns (CARs) for public firms acquiring public versus

private targets. They investigate the returns to shareholders of the acquiring firms in the U.S. that made five or more successful bids within three years in the period 1990 to 2000. Their study shows that bidders in deals with public targets have significantly negative CAR, which is in line with Chang (1998). On the contrary, significantly positive returns are found when buying private or subsidiary targets. The positive CAR return in acquisitions of private targets is further explained through the private firm discount, which implies a discount that investors require for the information asymmetry and less liquid assets.

Kooli, Kortas and L'Hers' (2003) have yet another angle on their research where they attempt to answer how large the discount for lack of marketability (DLM) attached to private firm valuations is. They use a large U.S.-sample within the period 1995 to 2002. By using several multiples, they find that there is a large discount attached to private firms. Kooli et al (2003) find a median earnings multiple DLM of 34 %, a sales multiple DLM of 17 % and a cash flow multiple DLM of 20 %. The results show however that the discount varies with firm characteristics and industry, e.g. for large and growth private firms the DLM tends to be smaller.

Conn, Cosh, Guest and Hughes (2005) examine the announcement effect and the share returns three years later of UK acquirers in over 4000 acquisitions. The acquisitions are split into domestic, cross-border, public and private targets and the acquisitions occurred during 1984-1998. The authors hypothesize that the acquirer's return will be higher in an acquisition of a private firm in comparison to a public because of; (1) improved due diligence and monitoring by shareholders, (2) lack of hubris in the bidding process and (3) the presence of the private firm discount. The authors find that domestic, public acquisitions result in a negative announcement and post-acquisition returns and cross-border, public acquisitions result in insignificant announcement returns and negative post-acquisition returns. On the other hand, both domestic and cross-border, private acquisitions are shown to have positive announcement returns but insignificant post-acquisition returns. In other words, the returns are short-term.

Draper and Paudyal (2006) investigate the impact of private takeovers on the risk adjusted return of listed UK acquirers over the period 1981 to 2001. Their results show that acquirers earn significant positive returns during the announcement period, but the gains depend on mode of payment, relative size of the participants and also their target status. These characteristics will be discussed further in section 2.4.4. Acquirers of listed targets, on the other hand, do not experience

any great change in their share price around the announcement period, according to Draper and Paudyal (2006) they break even or suffer a small loss.

Furthermore, Faccio, McConnell and Stolin (2006) examine the wealth created for the acquirers' shareholders around the announcement of acquisitions of public versus private targets. This is done over the period 1996-2001 in 17 European countries. Just as earlier studies on the U.S. market has stated, acquirers of listed firms earn zero or slightly negative average abnormal returns (-0.38 % on average) and acquirers of private firms earn positive and significant average abnormal returns (1.48 % on average). The wealth increase is also significantly greater than that of public firms and this is pervasive – it persists both through time and across countries. This listing effect is also shown to remain after controlling for the payment method, the size of the bidder and Tobin's Q, eventual information leakage before the announcement is made, if the acquisition results in a block holder in the acquirer's ownership structure, if the deal was domestic or cross-border etc. Some of these factors will be more thoroughly discussed in the next section.

Officer (2007) documents in his article "*The price of corporate liquidity: Acquisition discounts for unlisted targets*" that the average acquisition discounts for stand-alone private firms and subsidiaries of other firms average 15-30 % relative to comparable multiples paid to acquire public firms. These results are close to what Koeplin et al concluded in 2000, but the studied period is longer, namely from 1979-2003 and Officer also includes unsuccessful bids.

Block (2007) follows the approach of Koeplin et al (2000) of comparing privately traded firms' valuation to publicly traded firms in the same industry over a comparable time period. In contrast to Koeplin et al (2000), Block (2007) includes financial institutions and regulated utilities in the data. The studied period is 1999 to 2006 and the studied market is the U.S.. Conclusions are drawn based on five different valuation multiples, e.g. Enterprise value/EBIT and Block finds that private firms generally trade at multiples 20-25 % lower than public firms.

Klein and Scheibel (2012) examine the private firm discount for European countries, especially the 11 European countries that were the founding members of the Euro in 1999. The studied period is 1999 to 2009. Their findings show that private firms sell at a discount relative to public firms since public market valuation ratios are higher than the valuation ratios for private firms.

The discount amounts to 5% for these Eurozone private firms in comparison to their publicly listed peers. The percentage of the discount is however a bit smaller than studies performed on the U.S. market, e.g. Koeplin et al (2000) and Kooli et al (2003).

Madura and Susnjara (2013) study 8000 targets in the U.S. and Western Europe during the period 1997-2009. Western Europe is here defined as the pre-2004 European Union plus Norway and Switzerland. Madura and Susnjara study both successful and unsuccessful bids. They find that private targets receive relatively higher valuation multiples in comparison to public targets. This premium is interesting considering the illiquidity and asymmetric information exhibited by private targets.

Overall, it can be concluded from these previous studies that private firms sell at a discount relative to public firms and acquirers of private firms earn positive and significantly abnormal returns. Interesting is also that the results do not differ that much depending on where the study has been performed or during which time period. None of the studies are performed on data after the latest financial crisis though, and Western Europe is still rather overlooked when it comes to studies within the field of M&As, the short-term announcement effect and which deal characteristics that affect the value creation for the acquiring firm.

Table 2.1 Summary of previous research on announcement effect

Researcher	Sample period	Country	Sample Size	Event Window	CAR Bidder	Private company discount (PCD)	Results/comments
Chang (1998)	1981-1992	US	281 private, 255 public	(-1 to 0)	Private: Cash 0.09 % Stock 2.64 % Public: Cash -0.02 % Stock -2.46 %	-	When acquiring a private firm, bidders experience a positive abnormal return in stock offers, which contrasts with the negative abnormal return typically found for bidders acquiring a publicly traded target. In cash offers, on the other hand, bidders experience no abnormal return. Suggest that the positive wealth effect is related to monitoring activities and reduced information asymmetries.
Koepflin et al (2000)	1984-1998	US and foreign transactions	84 in the US, 108 foreign	-	-	Domestic firms: 20-30 % Non-US firms: 40-50 %	Domestic private companies are acquired at an average of 20-30 % discount relative to similar public companies. This discount is even larger for foreign firms.
Fuller et al (2002)	1990-2000	US	2516 (456 public targets) (2060 private targets)	(-2 to + 2)	Public: - 1.00 %, Private: + 2.08 %	-	The study shows that bidders in deals with public targets have significantly negative CAR, and it increases the larger the public target is relative the bidder. On the contrary, significantly positive returns are found when buying private or subsidiary targets. The positive CAR return in acquisitions of private targets is further explained through the private firm discount, which implies a discount investor's demand for less liquid assets and information asymmetry.
Kooli et al (2003)	1995-2002	US	331 private	-	-	Earnings multiple: 34 % Sales multiple: 17 % Cash flow multiple: 20 %	The authors use several multiples to answer how large the discount for private firms is. They find that there is a large discount attached to private firms, but this discount varies with firm characteristics and industry.
Conn et al (2005)	1984-1998	UK	4344 (131 cross-border public targets) (1009 cross-border private targets) (576 domestic public targets) (2628 domestic private targets)	(-1 to 1)	Public: Domestic: -0.99 Cross-border: -0.09 Private: Domestic: 1.05 %, Cross-border: 0.38 %	-	The authors find that domestic, public acquisitions result in a negative announcement and post-acquisition returns and cross-border, public acquisitions result in insignificant announcement returns and negative post-acquisition returns. On the other hand, both domestic and cross-border, private acquisitions are shown to have positive announcement returns but insignificant post-acquisition returns. In other words, the returns are short-term.
Draper & Paudyal (2006)	1981-2001	UK	8597 (7499 private targets) (1098 public targets)	(-20 to + 20) and (-1 to +1)	(- 20 to + 20): Public: -0.41 % Private: 1.99 % (- 1 to + 1): Public: - 0.41 % Private: 0.85 %	-	The authors' results show that acquirers earn a significant positive return during the announcement period, but the gains depend on the mode of payment, relative size and target status.
Faccio et al (2006)	1996-2001	Western Europe	4429 acquisitions (735 public targets) (1956 private targets) (1738 subsidiaries)	(-2 to + 2)	Public: - 0.38 % Private: 1.48 %	-	The authors show that acquirers of listed firms earn zero or slightly negative average abnormal returns and acquirers of private firms earn positive and significant average abnormal returns. The wealth increase is also significantly greater than that of public firms and it is pervasive. This listing effect is also shown to remain after controlling for some variables, e.g. relative size.
Officer (2007)	1979-2003	US	Initially 12716 bids	-	-	15-30 %	Officer finds that the acquisition discounts for stand-alone private firms and subsidiaries of other firms are on average 15-30 % relative to comparable multiples paid to acquire public firms. Officer also includes unsuccessful bids, in comparison to previous studies.
Block (2007)	1999-2006	US	91 public and private firms	-	-	20-25 %	The study compares privately traded firm's valuation to publicly traded firms within the same industry over a comparable time period. They show that private firms generally trade at multiples 20-25 % lower than public companies.
Klein & Scheibel (2012)	1999-2009	Europe	138 comparable transaction pairs	-	-	5%	Klein and Scheibels' findings show that private firms sell at a discount relative to public firms since public market valuation ratios are higher than the valuation ratios for private firms. The discount amounts to 5 % for these Eurozone private companies in comparison to their publicly listed peers.
Madura & Susnjara (2013)	1997-2009	US and Western Europe	8036 targets	-	-	-	Private targets receive relatively higher valuation multiples than comparable public targets. The private valuation premium is intriguing because of the illiquidity and asymmetric information that private targets show. Their results support the hypothesis of a bidder's ability to pay a high multiple for a target in which there is a lack of transparency.

2.4.3 Summary and discussion

Above, previous studies that are relevant for this study were summarized. In this section these studies are discussed and reviewed in order to lead to the study's hypotheses.

What needs to be taken into account regarding previous empirical findings is that the studied countries' ownership structure, limited company laws, the liquidity of the stocks and the size of the firms differ which may affect the results of the studies. Some previous international empirical findings are also getting rather old and both regulations as well as data collection methods differ significantly then and now. Moreover, the chosen model, time period, studied market, type of transaction, deal characteristics, the size of the firm etc. matter for how the results can differ.

Several of the previous studies have concluded that M&As are value creating for the target firm's shareholders and rather value destroying for the acquiring firm's shareholders (e.g. Andrade et al, 2001; Bruner, 2002; Rehm & Sivertsen, 2010). Further, when more specifically studying the announcement effect regarding acquisitions of private versus public targets, as e.g. Chang (1998), Fuller et al (2002), Conn et al (2005) and Faccio et al (2006), the findings are also in line with each other. The acquiring firm's shareholders gain significant positive abnormal returns in all of the studies when acquiring private targets, in contrast to when acquiring public targets. However, they emphasize different things in their studies and they also use different event windows. Chang (1998) uses an event window of $t-1$ to $t0$ and his focus is on the method of payment, while Conn et al (2005) use an event window of -1 to +1 day and their focus lies on domestic versus cross-border deals. Furthermore, these two studies also examine two different time periods.

Another aspect of the previous empirical findings has been to focus solely on the private firm discount (Koeplin et al, 2000; Officer, 2007; Klein & Scheibel, 2012). Koeplin et al examine domestic and foreign firms, Officer includes unsuccessful bids and Klein & Scheibel look at comparable transaction pairs. Still they all find quite a large private firm discount. One study, on the other hand, contradicts this result. Madura and Susnjara (2013) conclude that private targets receive higher valuation multiples than comparable public targets. The authors choose to overlook this, since Madura and Susnjara's study examines both the U.S. and the European market and the majority of the other previous studies show the contrary.

It seems like the basic causes for the private firm discount, i.e. information asymmetry, illiquidity in private firm stocks and lower bidder competition applies to most markets and studied time periods.

The strength of these studies moreover lies in that the results are from different markets and time periods, they use different event windows and emphasize e.g. different deal characteristics and finally, the researchers have also used some different models, but nevertheless conclude similar results.

At the same time this strength can also be considered the weakness of the previous studies. This since it can be seen as rather odd that the studies all find similar results, considering their studied markets, sample, size of the sample, studied time period and so on. Intuitively, the difference between the results is expected to be larger, since the markets differ a lot in rules and regulations and also what type of investors there are on the market. These differences as well as what the ownership structure and the managerial culture looks like should have an economic impact, according to La Porta et al (2008).

The results from previous empirical findings can still be improved and updated and only a few studies are made on the European market. This study has, based on the above arguments, generated the hypotheses stated in section 2.6.

2.4.4. Value-creating characteristics

Theoretical insights can also result from examining the association between the magnitude of abnormal returns around the M&A announcement and different target characteristics specific to the acquisition. In this section, the most important previous research surrounding value-creating characteristics is summarized, which will then form the basis for this study.

Deal size

Previous research has studied the correlation between the absolute deal size and the abnormal returns surrounding the announcements. The empirical evidence is mixed and the findings cannot be generalized. Several researchers have presented their own theories on whether the relationship should be positive or negative.

Alexandridis et al (2011) argue that larger deals destroy value for the acquiring firms' shareholders, simply because the uncertainty and complexity increases with deal size, and larger targets are more difficult to assimilate into a combined organization. Loderer and Martin (1990) also claim that larger deals should be less attractive, but their main reason is that there is a higher risk of overpayment due to managerial over-confidence in larger deals.

On the contrary, Tuch and O'Sullivan's (2007) study finds that larger targets create more value for the acquiring company. Gordon, Kahl and Rosen (2009) suggest that the competition for large firms should be lower since there are fewer firms capable of buying such large firms. According to them, this should mitigate the winner's curse problem and lead to lower acquisition premiums and higher abnormal returns.

Domestic versus cross-border

Conn et al (2005) examine the announcement effect and subsequent share returns for UK acquirers in over 4000 acquisitions from 1984 to 1998, and specifically focus on the impact of whether the target firm is located domestically or abroad. They find that domestic acquisitions of public targets in general result in negative abnormal returns. In contrast, both domestic and cross-border acquisitions of private targets result in positive announcement returns. Overall, they conclude that cross-border acquisitions result in both lower abnormal returns and subsequent lower performance compared to domestic acquisitions.

Goergen and Renneboog (2004) perform a similar study, analyzing the short-term wealth effect of large European takeover bids from 1993 to 2000. They also found that domestic M&As generally trigger higher abnormal returns compared to cross-border operations, and furthermore that the premiums paid to a large extent depend on the location of the target.

Focused versus diversified

A number of studies have also investigated the difference in value creation depending on whether the takeover firm is in the same industry as the acquirer or not, i.e. diversified or focused acquisitions. Goergen and Renneboog's (2004) study finds that diversified M&A announcements do not have any short-term announcement effect on the bidder, claiming that the market considers realizing synergy effects harder in these types of deals.

Several other researchers have also found a general diversification discount for firms (Berger & Ofek, 1995, Lang & Stultz, 1994). According to Gaughan (2007), the track record of diversified acquisitions is not very impressive, although certain types of diversified transactions, not involving a movement to a very different business category, have a better track record. Firms generally experience greater success performing horizontal M&As resulting in an increase in market share.

Doukas et al (2002) study the short-term shareholder wealth effect for acquisitions performed by Swedish firms, and find similar results indicating that focused acquisitions result in greater synergies and operating efficiencies. They conclude that investors can diversify their portfolios themselves to achieve a lower portfolio risk, and hence firms should stick to their core activities.

Form of the transaction

In general, there are two forms of business acquisitions. First of all, firms can acquire all or most of the assets and liabilities of the target, i.e. an asset purchase. Secondly, firms can be acquired by acquiring the shares of the firm (Burton & Nussbaum, 2012). According to Bieshaar et al (2001), the form of the transaction is important to explain differences in abnormal returns, where acquisitions of shares generally generate higher abnormal returns for the acquiring firm compared to acquisitions of assets. They perform a regression analysis to analyze the stock market return following M&A announcements and find that the market is more positive to acquisitions of stocks in the target firm. When they instead acquire the assets of the target company, the market shows no particular reaction.

One possible explanation is that the cash-flows generated by specific assets are generally harder to separate and estimate compared to the cash-flows for the whole firm. This increases the information asymmetry and therefore a discount for acquisitions is applied. Thus, assumed synergies are more likely to be captured by the acquirer in acquisition of shares rather than in acquisition of assets. (Biershaar et al, 2001)

Method of payment

Previous studies and literature show some consensus regarding the influence of the payment method on the announcement effect. According to Yook (2003), previous studies examining the

effect of the payment method on bidder returns in M&As have found significant differences between stock and cash deals. Several researchers provide evidence that cash bids are generally associated with higher abnormal returns than stock bids in the short run (Travlos, 1987; Asquith et al, 1987; Draper & Paudyal, 1999; Andrade et al, 2001; Dong et al, 2005).

Several different hypotheses have been presented to explain the results. One of the most common explanations is the signaling role of debt, derived from the signaling hypothesis. Firms performing acquisitions financed with equity are likely to issue new common stock, whereas firms undergoing cash acquisitions are likely to issue new debt. According to the signaling hypothesis the type of security issued conveys information about the firm, and debt issues are generally issued with higher returns compared to equity issues. Moreover, there is generally tax benefits associated with debt and debt also has a higher disciplinary power than equity. (Yook, 2003)

Another study is performed by Travlos' (1987), in which he compares the effect of the method of payment for public and private targets respectively. For private targets, he finds negative abnormal returns for acquiring firms financing a takeover with common stock and no abnormal returns for those financing with cash. For public targets, the results differ a bit. The results show that cash or combination offers lead to insignificant bidder returns, whilst stock offers result in significantly negative returns.

Relative size

Several previous studies have also examined the relationship between the relative size of the target to the acquirer and the abnormal return for the acquirer. Even though the authors have used different methods to calculate the relative size, most of them have found that the bidders' abnormal returns are positively related to the relative size of the target (Asquith et al, 1983, Loderer et al, 1990). However, in a comprehensive study by Madura and Susnjara (2013), over 8000 acquisitions in the U.S. and Western Europe during 1997-2009 are studied. They find that the premium paid for private targets is inversely related to the size of the target, i.e. bidders tend to justify a relative high payment for small targets without destroying bidder value.

Fuller et al (2002) further analyze the effect of relative size by investigating the differences in abnormal returns for large public firms acquiring both public and private targets. Interestingly,

they find that, in announcements of public targets, relative size was inversely related to the abnormal return. In contrast, in private target deals, the relationship between relative size and abnormal return for the bidder is positive. Draper and Paudyal (1999) further examine the impact of private takeovers of listed UK acquirers over the period 1981 to 2001. Their results show that acquirers earn significant positive returns during the announcement period, but bidders acquiring very small firms relative to their own size are shown to not achieve any noticeable gain. The monetary value of the assumed synergies results in significantly higher excess returns when the target is large, at least during the short event-period window.

Table 2.2 Summary of previous research on value-creating characteristics

Variable	Empirical evidence
Deal size	<p>The empirical evidence shows that the deal size is a significant determinant of abnormal return, but the findings cannot be generalized. Fuller et al (2011) and Loderer and Martin (1990) argue that the relationship should be negative as the uncertainty and complexity increases as the target is bigger and because of a higher risk of managerial overconfidence in larger deals.</p> <p>On the contrary, Tuch och O'Sullivan (2007) study found that larger targets create more value for the acquiring company. Gordon, Kahl and Rosen (2009) suggest that the competition for large companies should be lower since there are fewer firms capable of buying such large companies, and hence their acquisition premiums should be lower.</p>
Domestic versus cross-border	<p>Conn et al (2005) examined the announcement effect for over 4000 UK acquirers and concluded that cross-border acquisitions resulted in both lower abnormal returns and subsequent lower performance compared to domestic acquisitions.</p> <p>Goergen and Renneboog (2004) found that domestic M&As generally trigger higher abnormal returns compared to cross-border operations, and furthermore that the premiums paid to a large extent depend on the location of the target.</p>
Focused versus diversified	<p>Goergen and Renneboogs (2004) found that diversified M&A announcements did not have any short-term announcement effect on the bidder, claiming that the market thinks that it is harder to realize synergy effects in these types of deals.</p> <p>Several other researchers have also found a general diversification discount for firms (Lang & Stultz, 1994, Berger & Ofek, 1995) and according to Gaughan (2007) the track record of diversified acquisitions is not very impressive. Doukas et al (2002) found similar results indicating that focused acquisitions result in greater synergies and operating efficiencies.</p>
Form of the transaction	<p>Biershaar et al (2001) found that acquisitions of shares generally generate higher abnormal returns for the acquiring firm than acquisition of assets. In their regression analysis they found that the market generally reacts positively to stock acquisitions, but following an asset acquisitions announcement the market showed no particular reaction.</p>
Method of payment	<p>Previous studies examining the effect of payment method on bidder returns in M&As have found significant differences between stock and cash deals. Several researchers provide evidence that cash bids are generally associated with higher abnormal returns than stock bids in the short run (Asquith et al, 1987, Travlos 1987, Andrade et al, 2001, Draper & Paudyal, 1999, Dong et al, 2005).</p>
Relative size	<p>Although there exists some mixed empirical evidence, most previous studies have shown that the bidders' abnormal returns are positively related to the relative size of the target (Asquith et al, 1983, Loderer et al, 1990).</p> <p>Interestingly, Fuller et al (2002) found that, in announcements of public targets, relative size was inversely related to the abnormal return. In contrast, in private target deals, the relationship between relative size and abnormal return for the bidder was positive.</p>

2.5 Differences between private and public targets

As discussed earlier, several previous studies have determined that bidders, on average, receive slightly positive, zero or negative abnormal returns when acquiring public firms but are on average able to gain a significant positive abnormal return when acquiring private firms. Several researchers have also attempted to determine the factors driving this private firm discount, although the causes of the market reactions are not yet fully determined (Officer et al, 2008). The discount is obviously driven by several factors, and the main differences between public and private firms are discussed below.

2.5.1 Illiquidity

Liquidity is the ability to convert an asset into cash at a low and relatively predictable cost. Hence, a liquid stock market is a market with many buyers and sellers, where the stocks can be bought and sold at their intrinsic value at any given time (Koller et al, 2010, pp. 252). All of the public firms included in this study are traded at large, liquid markets, and hence can be bought and sold whenever wanted. In contrast, private firms are referred to as illiquid because they are not traded at a public marketplace. These stocks are more difficult to both buy and sell and their current value may not always mirror the real value of the firm.

Several authors, among them Capron and Shen (2007), claim that the illiquidity of private firms is the main reason for the private firm discount. The reasons for the illiquidity discount have also been argued for back and forth, and several researchers have presented different theories. Pratt et al (2000) argue that the lack of liquidity reduces the investor's free cash flow and makes it more costly to allocate their capital to other assets. Moreover, Damodaran (2003) argues that liquidity is correlated with the current market conditions. This would imply that illiquid stocks should have a higher market risk and hence a premium should be included to reflect the higher risk.

Altogether, this implies that a private firm discount should be applied when acquiring private firms. Taking this into consideration, it would also imply that the acquirers could create an implicit synergy based on liquidity when acquiring a private target. Put differently, the target firm is worth more for a public acquirer than for the target firms' shareholders, and given that the premium paid does not increase by the same amount, a larger value creation for the acquiring firm might be possible.

2.5.2 Information asymmetry

One key difference between private and public firms is the availability of information to assess and value the firm (Capron & Shen, 2007). Publicly traded firms operate under strict regulatory requirements and more information to the investors. Moreover, they are also constantly monitored and evaluated by analysts and other stakeholders who further decrease the uncertainty about their value. In contrast, private firms usually operate less transparent and their managers typically have better control over the information they want to communicate (Reuer and Ragozzino, 2007). As mentioned above, information asymmetry puts buyers at a risk of overpaying, and hence the response from the acquirer is to reduce the offer price. When a buyer targets a private firm it may discount its offer to reflect the possibility of the target to turn out to be a lemon (Akerlof, 1970).

2.5.3 Lower bidder competition

Another factor influencing the acquisition is the competition in the bidding process. Capron and Shen (2007) argue that bidders face less competition in the market for private firms due to the lack of visibility, transparency, and market price associated with private firms which create frictions when buying these. The selling process for public firms is often auction-like, involving many buyers which create a high price competition. In contrast, private targets are often sold in private negotiations with fewer potential buyers and the negotiations are most often based on voluntary exchange (Koeplin et al, 2000). The lower number of bidders decreases the bargaining power of the target relative to the acquirer. In the end, the lower bidder competition decreases the final premium paid and the acquirer will receive a larger part of the synergies between the firms. Hence, this should result in a higher positive abnormal return for the acquirer (Capron & Shen, 2007).

2.6 Hypotheses

As stated earlier the first purpose of this study is to examine the announcement effect, resulting from an M&A, for acquiring firms with emphasis on the difference between acquiring public versus private targets. Stated more specifically, the study aims to examine if a difference in the announcement effect for an acquiring firm exists when a bid is made for a public target versus a private target.

Based on existing theory and the current state of knowledge within the field, the following hypotheses have been formulated:

2.6.1 Hypotheses examining abnormal returns

1. Total Sample

H₀: M&A announcements do not generate a cumulative abnormal return for the acquirer during the event window ($t-1 \dots t+1$)

H₁: M&A announcements do generate a cumulative abnormal return for the acquirer during the event window ($t-1 \dots t+1$)

2. Acquirers of publicly held targets

H₀: M&A announcements for publicly held targets do not generate a cumulative abnormal return for the acquirer during the event window ($t-1 \dots t+1$)

H₁: M&A announcements for publicly held targets do generate a cumulative abnormal return for the acquirer during the event window ($t-1 \dots t+1$)

3. Acquirers of privately held targets

H₀: M&A announcements for privately held targets do not generate a cumulative abnormal return for the acquirer during the event window ($t-1 \dots t+1$)

H₁: M&A announcements for privately held targets do generate a cumulative abnormal return for the acquirer during the event window ($t-1 \dots t+1$)

4. Difference between acquirers of public versus private targets

H₀: There is no difference in cumulative abnormal return between M&A announcements for privately held versus publicly held targets during the event window ($t-1 \dots t+1$)

H₁: There is a difference in cumulative abnormal return between M&A announcements for privately held versus publicly held targets during the event window ($t-1 \dots t+1$)

Table 2.3 Summary of the study's hypotheses (event study)

	Hypothesis	Tests if
Total Sample	H_0	$CAAR (t-1 \dots t+1) = 0$
	H_1	$CAAR (t-1 \dots t+1) \neq 0$
Public Targets	H_0	$CAAR_{Public} (t-1 \dots t+1) = 0$
	H_1	$CAAR_{Public} (t-1 \dots t+1) \neq 0$
Private Targets	H_0	$CAAR_{Private} (t-1 \dots t+1) = 0$
	H_1	$CAAR_{Private} (t-1 \dots t+1) \neq 0$
Public Targets versus Private Targets	H_0	$CAAR_{Public} (t-1 \dots t+1) = CAAR_{Private} (t-1 \dots t+1)$
	H_1	$CAAR_{Public} (t-1 \dots t+1) \neq CAAR_{Private} (t-1 \dots t+1)$

Source: Created by the authors

2.6.2 Hypotheses examining value-creating characteristics

Table 2.4 Summary of the study's hypotheses (regression analysis)

	Hypothesis	Tests if
Total Sample	$H1(1)$	Private target deals are positively related to CAR acquiring all targets
	$H1(2)$	Cash deals are positively related to CAR acquiring all targets
	$H1(3)$	Focused deals are positively related to CAR acquiring all targets
	$H1(4)$	Domestic deals are positively related to CAR acquiring all targets
	$H1(5)$	Equity deals are positively related to CAR acquiring all targets
	$H1(6)$	Deal size is positively related to CAR acquiring all targets
	$H1(7)$	The relative size is positively related to CAR acquiring all targets
Public Targets	$H2(1)$	Cash deals are positively related to CAR acquiring public targets
	$H2(2)$	Focused deals are positively related to CAR acquiring public targets
	$H2(3)$	Domestic deals are positively related to CAR acquiring public targets
	$H2(4)$	Equity deals are positively related to CAR acquiring public targets
	$H2(5)$	Deal size is positively related to CAR acquiring public targets
	$H2(6)$	The relative size is positively related to CAR acquiring public targets
Private Targets	$H3(1)$	Cash deals are positively related to CAR acquiring private targets
	$H3(2)$	Focused deals are positively related to CAR acquiring private targets
	$H3(3)$	Domestic deals are positively related to CAR acquiring private targets
	$H3(4)$	Equity deals are positively related to CAR acquiring private targets
	$H3(5)$	Deal size is positively related to CAR acquiring private targets
	$H3(6)$	The relative size is positively related to CAR acquiring private targets

Source: Created by the authors

CHAPTER 3 – METHODOLOGY

In this chapter the study's research approach, sample selection and criteria, models and calculations are outlined. Lastly, the reliability and validity of the study is addressed.

3.1 Research approach

3.1.1 Inductive and deductive approach

According to Bryman and Bell (2011, pp.11), there are two approaches when it comes to empirical evidence; a deductive and an inductive approach. The deductive approach implies that the researcher, based on existing theory, derives a hypothesis which then has to be empirically tested. The inductive approach implies that the researcher derives conclusions based on empirical experiences. This means that the results of the study are analyzed and consequences are drawn which then leads to a probable conclusion.

3.1.2 Research method

According to Bryman and Bell (2011, Ch. 4), a study can be constructed in two ways; quantitatively or qualitatively. A quantitative study comprises of a deductive approach where different theories are tested and the phenomenon is studied from an objective point of view. Knowledge in a quantitative study is furthermore based on empirical methods. Contrary to this is the qualitative approach, where the emphasis is on generating theories and studying the phenomenon by trying to examine how individuals experience the studied event (Bryman and Bell, 2011, Ch. 1).

This study is based on a thorough walk-through of theory, previous studies and empirical evidence within the field of M&As. Based on this the authors choose a deductive approach. In combination with quantifiable data that is empirically tested through an event study, which is a well-established method within M&A-studies (Tuch & O'Sullivan, 2007) to examine how the value of the acquiring firm's shares changes in conjunction with the announcement, and furthermore a regression analysis to examine how different deal characteristics affect the abnormal returns surrounding the announcement. Our hypotheses will be tested with a 95 %

confidence interval since this is a common interval in statistical studies (Körner & Wahlgren, 2006, Ch. 8).

3.2 Data set

3.2.1 Data collection

In order to investigate the value creation surrounding M&A announcements a large amount of data is collected from various different sources and databases. Previous research on the topic is collected from the Lund University library database, LUBsearch, and Google Scholar, a web search engine indexing scholarly literature.

In addition to this, different databases are used to gather raw data that is used in the event study and regression analysis. All of the data is gathered from secondary sources, i.e. the data is originally collected by other organizations and institutions. In order to mitigate the risk of measurement error and incorrect data, only well-known sources that should be considered reliable are used.

Thomson Reuters Eikon

Eikon is used to collect data regarding the M&A announcements for the specified time period and markets. Furthermore, it is also used to collect necessary information concerning deal- and firm characteristics to perform the event study and regression analysis. The sample selection process is presented in section 3.2.2.

Thomson Reuters Datastream

Datastream is used to collect historical daily share prices for the acquiring firms, both during the estimation window and event window. In addition, the market capitalization of the target firms is also collected to be able to calculate two of the variables used in the regression analysis.

Daily observations are used for both stock prices and indices returns in order to increase the power of the statistical tests and closing prices are used to capture the price movements during the entire day (MacKinlay, 1997). Moreover, adjusted stock prices are used to eliminate the effect of stock splits, dividends, rights offerings, etc.

Both Thomson Reuters Eikon and Thomson Reuters Datastream are well-known databases used by both academics and professionals at various institutions and the information gathered is therefore considered reliable.

Datastream Global Equity Indices

Datastream Global Equity Indices are used as benchmarking indices in the regression analysis. These indices are value-weighted price indices covering all listed shares in each of the 17 studied markets, making them good for benchmarking purposes. Since the firms in the study are listed on different exchanges, each stock is benchmarked to its respective index to increase the accuracy of the study.

It is important to note that these indices are affected by a number of factors and that smaller and more relevant industry indices could be used to make the research even more reliable. Though, considering the research's time limit and the size of the sample, these indices have been deselected.

3.2.2 Sample selection

Table 3.1 *Sample selection and loss of data*

Criteria for delimitations set in Eikon	Criteria	Number of observations		
		Public target	Private target	Total
All Announcements	Reported in Eikon	418,188	165,125	944412
Announcement Date	1-jan-2009 to 1-feb-2015	41719	127121	277400
Acquirer Nation	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom	5543	31363	59659
Acquirer Public Status	Public	2395	7628	15722
Target Public Status	Public or Private	2395	7628	10023
Percentage Acquired	> 50 %	347	4835	5182
Deal Size	> \$ 50 mn	234	440	674
Acquirer- and Target Industry	All except alternative Financial Investments, asset management,	188	397	585
Criteria for data quality set by the authors	Criteria	Public target	Private target	Total
Data availability	Reported in Datastream	173	378	551
Control for clustering	Event Window does not overlap	172	367	539

Source: Created by the authors

Delimitations set in Eikon

In table 3.1 the sample selection process is presented and divided into two steps. In the first part of the process our data is delimited in Eikon using a number of different criteria. The criteria are

chosen both for practical and theoretical reasons and limit the sample to a total of 585 M&A announcements.

First of all the sample is reduced to 59 659 announcements by limiting the time period of the announcements to the 1st of January 2009 to the 1st of February 2015 and by setting the acquirer nation to the countries chosen for this study (see appendix 2). Furthermore, only M&A-announcements from public acquirers are considered since the firm has to be public in order to be able to observe the impact on the value of the firm following the announcement. The target legal status is set to public or private, excluding subsidiaries, joint ventures and government-owned firms, which further reduces the sample to 10 023 announcements.

The deal size is also important since the deals have to be large enough to have a significant impact on the acquiring firm. The authors have decided to follow Bouwman et al. (2009) and only include deals at or above \$ 50 million. Similar criteria are used in several previous studies, among them Loderer & Martin, (1990), Goergen & Renneboog, (2004), Gordon et al (2009) and Fuller et al (2011), and furthermore, the bidder must intend to acquire more than 50% of the target's shares, which is a common delimitation to ensure that a controlling position is attained (Bouwman et al, 2009).

Both acquirers and targets from finance-related industries are excluded from the study since they belong to a different sector of the economy, serving under different regulations and practicing different accounting principles, essentially making it harder to value them correctly and comparing them with non-financial firms (Koller et al, 2010). According to Foerster & Sapp (2005) the exclusion of financial firms is also justified since their capital structure normally differs a lot from other industries. This results in a total sample from Eikon of 585 announcements, where 188 announcements are for public targets and 397 are for private targets.

Delimitations to ensure data quality

In the second stage of the sample selection process the observations are filtered to ensure that the necessary data is available and meets predetermined criteria. First of all the necessary data on daily share prices for the bidder must be available during both the estimation- and event window. If the bidder was listed within a year of the announcement the expected return cannot be estimated accurately and 36 of the announcements are excluded for this reason.

When controlling for clustering, an additional 12 observations are excluded due to overlapping event windows. This occurs when an acquirer has acquired more than one firm during a three-day period, and therefore it is impossible to separate the effects of the individual acquisitions. Another reason to control for clustering is to avoid serial autocorrelation and violation of OLS assumption 3 (Bernard, 1987). A list of all the excluded announcements can be found in appendix 4. Following this loss of data the total sample consists of 539 observations where 172 are for public targets and 367 are for private targets.

Since the reasons for the loss of data cannot be linked to any specific deal- or firm characteristics, e.g. firm industry or deal size, the authors consider it to have no effect on the results or the accuracy of the study.

3.3 Measuring the Abnormal Return

3.3.1 Efficient Market Hypothesis

The efficient market hypothesis (EMH) was developed by Eugene Fama in 1970. According to the efficient market hypothesis, market prices fully reflect all available information. This implicates that investors cannot earn abnormal returns by trading on currently available public information (Jensen & Smith, 1984). New information released to the market will immediately be reflected in the stock price and hence investors will not be able to earn abnormal returns by using historical prices to predict future price movements.

According to Fama (1970), there are three main underlying assumptions for the market to be considered efficient:

- There are no transaction costs when trading securities
- All relevant information about firms is available to all market participants
- All market participants interpret available information in the same way

In reality, all these assumptions are rarely met. Though, according to Fama (1970), these conditions may not necessarily be required for the market to be efficient, even if they are preferred. Furthermore, according to Fama (1970) markets can be classified into three categories based on their market efficiency:

Weak market efficiency

In a weakly efficient market all historical data is already reflected in the stock price. Investors will not be able to earn abnormal returns by using technical analysis, i.e. by predicting future price movements based on trends and historical data. However, private and public information is not incorporated immediately, and hence investors with this kind of information will be able to exploit it to earn abnormal returns.

Semi-strong market efficiency

In a semi-strong market, the stock price reflects all public information concerning the firms, e.g. financial reports, press releases, etc. Information that is private is not reflected in the stock price and hence, investors with inside information can use their informational advantage to earn abnormal returns.

Strong market efficiency

Strong market efficiency implies that all firm-specific information, both public and private, is incorporated in the stock price immediately. Hence, no investors will be able to earn abnormal returns without taking on additional risk.

Critique against the efficient market hypothesis

The efficiency of the stock markets is a central question in the financial world and a question that has been argued about for a long time. Numerous studies have been conducted to investigate the efficiency and the empirical evidence is mixed. In this section some of the most common critique against the efficient market hypothesis is presented.

Lo, Mamaysky & Wang (2000) examine the U.S. stock market from 1962 to 1996 to evaluate the effectiveness of technical analysis. They prove that some models and patterns in historical data can be used to predict future price movements, and hence their study implies that the market in fact is not even weakly efficient.

Another researcher, Robert Shiller (2003), argues that behavioral finance may be important to understand the underlying market mechanisms. He presents a number of anomalies in the overall stock market that are not consistent with the efficient market hypothesis. For example, he states

that “There is a clear sense that the level of volatility of the overall stock market cannot be well explained with any variant of the efficient market model in which stock prices are formed by looking at the present discounted value of future returns”.

According to Fama (1998) there are two basic faults in the literature on behavioral finance. The first is that the anomalies that are discovered tend to be over-reactions as often as under-reactions. The second is that the anomalies tend to disappear, either as time goes by or as the methodologies improve.

The relevance of the theory to the study

The implications of the efficient market hypothesis are important for the study in regards to the analysis and interpretation of the results. If the market is efficient, the implications of M&A announcements will immediately be reflected in the new value of the firm. All the available information will be incorporated in the stock price and future price movements should only reflect new information.

If there are discrepancies between the managements’ and investors’ expectations of the implications of new information, misalignments in the stock price may occur, but they are most likely to be only temporary. It may also be the case that the management overestimates the value of the expected synergies and pays and hence end up paying an excessive premium for the target. This is value-destroying for the acquiring firm and may have long-term effects on future performance.

3.3.2 Event Study

An event study is used to measure to what degree a specific event affects the price of a security. It aims to separate firm-specific events from market movements to be able to draw conclusions of an events effect on the firm. It is a well-known method used, especially within the financial field, but also within econometrics, science of law, etc. (MacKinlay, 1997)

The stock returns during the days surrounding the announcement are compared to an expected return if the event had not occurred. The difference between the two, i.e. the abnormal return, is interpreted as the effect of the announcement on the stock price. The effect of the event is

expected to immediately be reflected in the stock price and hence, the model assumes that investors are rational and that the markets are efficient (MacKinlay, 1997).

According to MacKinlay (1997) the event study procedure can be divided into the following seven steps:



Step 1: Definition of event and timeframe

The purpose of this paper is to measure the effect of M&A-announcements on the value of the bidder following M&A announcements, and the event is thus defined as the announcement itself. First, an event window has to be defined, i.e. the period surrounding the event during which the abnormal return is measured. In order to capture possible insider trading and information leakage prior to the event and delayed effects due to possible weaker market efficiency, it is common practice to include a few days prior and after the actual event in the event window (Benninga, 2008). In this thesis the event window is defined as a three day period, $t-1$ to $t+1$, where the announcement day is day 0. The three-day event window is one of the most commonly used event studies when it comes to the field of M&As (Andrade et al, 2001).

There are several benefits of using short event windows. First of all, it decreases the risk of clustering which may cause biased estimations of standard errors. Several researchers also criticize long-term event studies since according to them, the most reliable results come from short event studies (Andrade et al, 2011). Fama (1998), on the other hand, criticizes long-term event studies based on the fact that a large proportion of the results can be due to chance. See figure 3.1 for a graphical explanation of the event window.

Step 2: Sample selection

See section 3.2.2.

Step 3: Model for estimating the expected returns

To be able to measure if the M&A announcements have any effect on the market value of the firms, an expected return is calculated and then compared to the actual return of the stocks during the event window. The expected return is defined as the return that would occur if the event had not taken place, and there are several different models used to estimate that return. Usually the models are categorized as either economic or statistical models, and each model has its advantages and disadvantages. Statistical models rely on statistical assumptions regarding the stock price behavior, whereas economic models also include some economic restrictions, usually based on economic arguments (MacKinlay, 1997).

The most common economic models are the arbitrage pricing model (APM) and the capital asset pricing model (CAPM). Even though the models theoretically should have greater explanatory power, several authors have criticized them claiming they skew the results and are unreliable when calculating abnormal returns (Banz, 1981; Seyhun, 1988).

The most common statistical models are the constant mean return model, the market model and different multi-factor models (MacKinlay, 1997). The market model can be described as an OLS regression model in which the stock return is the independent variable and an index return is the explanatory variable. The main critique against the market model is the underlying assumption of constant stock betas during the estimation window, which according to Dimson (1979) may not be a reasonable argument. Though, when tested empirically, the market model usually provides strong results when compared to more sophisticated models (MacKinlay, 1997). Multifactor

models try to increase the explanatory power of the models by introducing additional explanatory variables. However, empirical results indicate that the gains of introducing additional variables are small since the explanatory effect increases only marginally. Additionally, empirical results also indicate that multifactor models work best when the sample shares common characteristics, which is not the case in this study. Due to the arguments above, the market model is considered the best fit and is assumed to provide reliable results, and will therefore be used in this study.

Equation 1: Market Model

The expected return is calculated using the market model formula below:

$$E(R_{it}) = \alpha_i + \beta_i * R_{Mkt} + \varepsilon_{it}$$

$E(R_{it})$ = Expected return on security i during period t

α_i = Alpha value for security i

β_i = Beta value for security i

R_{Mkt} = Return on market portfolio during period t

ε_{it} = Zero mean disturbance term

Source: MacKinlay, 1997

Equation 2: Actual return

To apply the market model, daily stock returns and market returns for all cross-sectional units are calculated using logged returns according to the formula below:

$$R_{it} = \ln \frac{P_{it}}{P_{it-1}}$$

R_{it} = Return on security i during period t

P_{it} = Price of security i on day t

Source: Strong, 1992

Logging the returns increases the chance of the results being normally distributed, which is a requirement for performing some statistical tests and regressions further ahead (Strong, 1992).

Equation 3: Beta values for the individual stocks

The beta coefficient for the cross-sectional units is calculated using the formula below:

$$\beta_i = \frac{Cov(R_{it}, R_{Mkt_t})}{\sigma^2_{Mkt_{it}}}$$

β_i = Beta value for security i

R_{it} = Return on security i during period t

R_{Mkt_t} = Return on market portfolio during period t

$\sigma^2_{Mkt_{it}}$ = Variance for the market index on day t

Source: MacKinlay, 1997

Equation 4: Alpha value for the individual stocks

The alpha values for the cross-sectional units are calculated using the formula below:

$$\alpha_i = R_{it} - \beta_i * R_{Mkt_t}$$

α_i = Alpha value for security i

R_{it} = Return on security i during period t

β_i = Beta value for security i

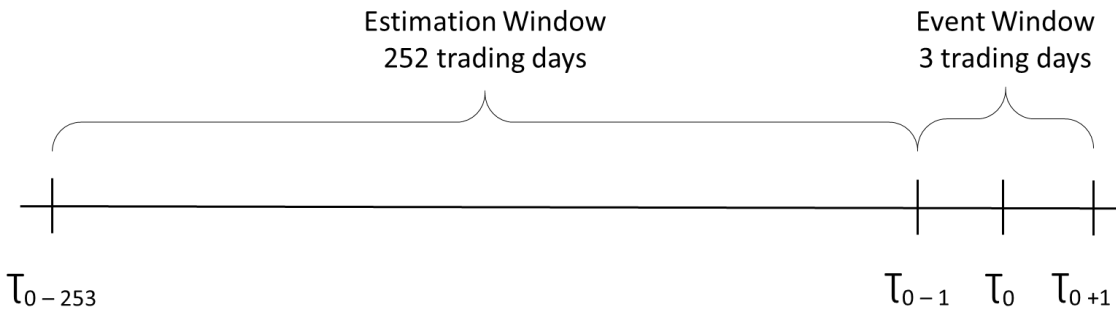
R_{Mkt_t} = Return on market portfolio during period t

Source: MacKinlay, 1997

Estimation window

In order to calculate the expected return using the market model the alpha and beta values of the individual stocks have to be estimated during a time period called estimation window. It is important that the event window and estimation window do not overlap since it could bias the estimation of the parameters. The estimation window used for this study extends from day $t-2$ to $t-253$, i.e. one year, or 252 trading days. According to Benninga (2008, pp. 371-396) this is the most common length used and one benefit of using a whole year is that it captures the possible seasonal variation in the stock market. The chosen estimation window and event window are graphically visualized in figure 3.1 below:

Figure 3.1 Estimation and event window



Source: Created by the authors

Step 4: Aggregating abnormal returns

Equation 5: Abnormal returns

The abnormal returns are calculated by subtracting the expected return from the actual return:

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

AR_{it} = Abnormal return of security i during period t

R_{it} = Actual return on security i during period t

$E(R_{it})$ = Expected return on security i during period t

Source: MacKinlay, 1997

Equation 6: Average abnormal return

The average abnormal return is calculated by aggregating the abnormal returns for each cross-sectional unit and then dividing it by the number of events in the sample.

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it}$$

AAR_t = Average abnormal return during period t

N = Number of events in the sample

AR_{it} = Abnormal return of security i during period t

Source: MacKinlay, 1997

Equation 7: Cumulative abnormal return

The cumulative abnormal return is calculated by aggregating the abnormal returns for each security during the event window. CAR will be used as the main measure of abnormal returns since the announcement effect is expected to be captured over the entire event window.

$$CAR_{i(t1,t2)} = \sum_{t=t1}^{t2} AR_{it}$$

$CAR_{i(t1,t2)}$ = Cumulative abnormal return for security i during the period $t-1$ to $t+2$

AR_{it} = Abnormal return of security i during period t

Source: MacKinlay, 1997

Equation 8: Cumulative average abnormal return

Lastly, in order to make conclusions about the average effect of the events, the cumulative average abnormal return is calculated by aggregating the abnormal returns for each event and then dividing it by the total number of events.

$$CAAR_{(t1,t2)} = \frac{1}{N} \sum_{i=1}^N CAR_{i(t1,t2)}$$

$CAAR_{(t1,t2)}$ = Cumulative average abnormal return for security i during the period $t1-t2$

$CAR_{(t1,t2)}$ = Cumulative abnormal return for security i during the period $t1-t2$

Source: MacKinlay, 1997

Step 5: Statistical tests

To examine if the empirical results are statistically significant a number of non-parametrical tests are conducted. These tests are further discussed in chapter 4.2.

Step 6: Results

The empirical results are presented in chapter 4.

Step 7: Conclusions

In chapter 6 the empirical results are discussed and analyzed. This is done based on the previous empirical findings and economic theories presented in chapter two.

3.4 Statistical Tests

3.4.1 General process

In order to test the hypotheses presented in section 2.6 and draw general conclusions about the population based on the sample, statistical tests need to be conducted. According to Körner & Wahlgren (2006), the process of hypothesis testing can be divided into five steps:

1. The first step is to define the relevant null hypothesis (H_0) and the alternative hypothesis (H_1). The null hypothesis denotes that no statistically significant difference can be identified in the data, i.e. that no abnormal return can be identified. The alternative hypothesis states the opposite, i.e. that statistically significant abnormal returns can be identified surrounding the announcement.
2. Consider the statistical assumptions underlying the different tests, i.e. if the sample has to be normally distributed etc.
3. Choose the appropriate test and test the sample against the test specifications. In this study Wilcoxon's Rank-Sum test and Wilcoxon's Signed-Rank test are used to test the significance of the results.
4. Select a significance level, i.e. a probability threshold below which the null hypothesis is rejected. In this study a significance level of 5 % is used.
5. Conduct the test and decide to either reject the null hypothesis in favor of the alternative hypothesis or not reject it.

There are two conceptual types of errors (Type 1 and Type 2) that can occur:

- A type 1 error is the incorrect rejection of a true null hypothesis
- A type 2 error is the failure to reject a false null hypothesis

The probability of a type 1 error is the same as the chosen test significance level, i.e. 5 % in this study. The chosen significance level is therefore a measure of the tests strength (Körner & Wahlgren, 2006).

3.4.2 Statistical tests conducted

There are several different statistical tests to choose from when testing the significance level of the abnormal returns (ARs) and the cumulative abnormal returns (CARs). The two main categories are parametric and non-parametric tests. Parametric tests have stricter underlying assumptions than non-parametric tests, but if the assumptions are met they are considered stronger (Körner & Wahlgren, 2006, Ch. 7). One main assumption is that the sample follows a normal distribution. If the studied population is not normally distributed, the usage of non-parametric tests is preferred (Körner & Wahlgren, 2006, Ch. 12).

In order to determine which test(s) to use, a Kolmogorov-Smirnov is conducted to examine if the abnormal returns are normally distributed. There are several different normality tests to use, but Kolmogorov-Smirnov is usually recommended when the number of observations is more than 50 (Shapiro et al, 1968).

The test shows that none of the samples are normally distributed (see appendix 5) and therefore this study uses the two non-parametric tests, Wilcoxon signed rank test and Wilcoxon rank sum test/Mann-Whitney U-test, to test the statistical significance of the results. The chosen tests examine the significance of the abnormal returns for the entire sample and also for the divided samples of public and private targets over the event window. The statistical tests are conducted in SPSS and Eviews.

Below follows a thorough description of the conducted statistical tests and their advantages and disadvantages.

Wilcoxon Signed-Rank test

Wilcoxon Signed-Rank test is used when the data are paired and the aim is to examine if two populations follow the same distribution. The advantage of this method is that it does not presuppose that the sample follows a normal distribution. Another advantage is that this method eliminates the effect of extreme values. To conduct this test all the individual events are arranged

by the size of the abnormal returns and are then assigned a number between 1 and n , where 1 is the lowest value and n the highest. This sample is then compared to 0 to determine if the abnormal returns are statistically different from zero (Körner & Wahlgren, 2006, Ch. 12).

Wilcoxon Rank-Sum test/Mann-Whitney U-test

This test is used when the data are not paired and when comparison is made between two independent groups (Körner & Wahlgren, 2006, Ch. 12). The test is performed in three steps;

1. All observations are ranked according to their order of magnitude independent of which group they come from.
2. Add up the ranks in the smaller of the two groups. If they are of equal size, it does not matter which group is chosen.
3. Calculate a P-value.

(Whitley & Ball, 2002)

Advantages and disadvantages with non-parametric tests

Advantages:

- require no or very limited assumptions to be made about the format of the data
- can be useful for dealing with unexpected, outlying observations that might be problematic with a parametric approach
- often useful in the analysis of ordered categorical data in which assignation of scores to individual categories may be inappropriate.

Disadvantages:

- may lack power as compared with more traditional approaches. Especially when the sample size is small or if the assumptions for the corresponding parametric method hold.
- geared toward hypothesis testing rather than estimation of effects.

3.5 Multiple linear regression

In order to get theoretical insights and answer the second research question, the association between the magnitude of the abnormal returns and characteristics specific to the deals is studied. According to MacKinlay (1997), the preferred way to do this is to regress the abnormal returns

on the characteristics of interest in a cross-sectional regression. The basic regression model used to analyze the relationships can be seen in Equation 9, and the regression model is estimated using OLS (MacKinlay, 1997).

Equation 9: Regression model

$$AR_i = \beta_0 + \beta_1 x_{1i} + \dots + \beta_n x_{ni} + \varepsilon_i$$

AR_i = The i^{th} abnormal return observation

x_{ni}, n = 1, ..., N, are N characteristics for the i^{th} observation

ε_i = the zero mean disturbance term

Source: MacKinlay, 1997

3.5.1 Explanatory variables

In our model we use CAR as the dependent variable and seven different other variables as independent, explanatory variables. The chosen explanatory variables are all motivated by theory and previous research examining their impact can be found in section 2.4.4. However, the inclusion of explanatory variables is limited by data availability which may lead to some problems with the OLS assumptions presented in section 3.5.2. Including irrelevant variables leads to inefficiency and loss of degrees of freedom, thus it is basically a trade-off between strength of the model and the goodness of fit (Brooks, 2008). These problems will be further discussed in section 3.5.2.

Target legal status

By including the target legal status as an explanatory variable the study aims to further analyze if the abnormal returns can be explained by that variable. The target legal status serves as a proxy for illiquidity in the stock, information asymmetry and bidder competition, as these aspects are assumed to be dependent on the legal status of the target and hence included in the variable.

The target legal status variable is constructed as a dummy taking the value of 1 for publicly listed targets and 0 for privately held targets.

Deal size

The deal size variable is defined as the initial bid price for the target at T_0 , and the bid size is collected from Thomson Reuters Eikon. Furthermore, the bid price is adjusted for U.S. CPI inflation (Crawford et al, 2015) to remove the effect of inflation on the results.

$$Deal\ Size = \$Bid_{it_0}$$

Domestic versus cross-border

The domestic versus cross-border explanatory variable measures if the target is registered in the same country as the acquirer or not. The country specifications for the firms are collected from Thomson Reuters Eikon.

The variable is constructed as a dummy variable taking the value of 1 for domestic acquisitions and 0 for cross-border deals.

Focused versus diversified

The focused versus diversified explanatory variable measures if the target acquired operates in the same industry as the acquirer or not. The industry classifications for the firms are collected from Thomson Reuters Eikon.

The variable is constructed as a dummy variable taking the value of 1 for focused acquisitions and 0 for diversifying acquisitions.

Form of the transaction

The form of the transaction is constructed as a dummy variable taking the value of 1 for stock acquisitions and 0 for asset acquisitions.

Method of payment

The method of payment variable is constructed as a dummy variable taking the value of 1 for cash offerings and 0 for equity offerings.

Relative size

The relative size between the acquirer and target is calculated in accordance with Misra and Gupta (2007). The market value of the acquirer is defined as the average market value 15 days prior to the event window. Averaging the market value is done to even out temporary misvaluations and choosing the time period prior to the event window is done since the announcement should not be affected by the variable. The bid price is used as a proxy of the market value of the target company to calculate the relative size between the companies. This is done because privately held targets per definition do not have a market value of equity, as they are not publicly traded. The difference between using the bid price and market value to calculate the relative size between the firms is that the bid price includes the premium paid for in the acquisition. In addition, both the bid size and market value of the acquirer are adjusted for U.S. CPI inflation (Crawford et al, 2015).

Equation 10: Relative size between the target and acquirer

$$\text{Relative Size} = \frac{\$Bid_{it_0}}{\overline{\$MVA}_{it}}$$

$\$Bid_{it_0}$ = The initial bid price for the target firm at the announcement day

$\overline{\$MVA}_{it}$ = The average market value of the acquiring firm between t_{-17} and t_{-2}

Table 3.2 Variables included in the OLS regression

Variables included in OLS Regressions		
	Definition	Source
Dependent Variable		
CAR (t-1 .. t+1)	$CAR_i(t_1, t_2) = \sum AR_{it}$	Datastream
Explanatory variables		
Target legal status	Private = 1; Public = 0	Eikon
Deal size	ln (DealSize)	Eikon
Domestic versus cross-border	Domestic = 1; Cross-border = 0	Eikon
Focused versus diversified	Focused = 1; Diversified = 0	Eikon
Form	Share = 1; Assets = 0	Eikon
Method of payment	Cash = 1; Other = 0	Eikon
Relative size	ln(RelativeSize)	Datastream/Eikon

Source: Created by the authors

3.5.2 The model specification and assumptions

Since the announcement effect is expected to be captured over the entire event window, CAR will be used as the dependent variable. Moreover, the study aims to determine if the explanatory variables have different effects on public and private firms respectively. Therefore, the regression analyzes are conducted both on the total sample including all firms, and the public and private firms separately.

In order to ensure that the regression results are reliable, a number of assumptions have to be fulfilled. First of all, multicollinearity is checked for by constructing a correlation matrix with all the explanatory variables. Multicollinearity occurs if the explanatory variables are highly correlated, and if it exists, it makes reliable inferences more difficult. As a rule of thumb, a correlation between explanatory variables above 0.8 is considered serious and may need attention. However, our correlation analysis (appendix 6) shows that the correlation between the included variables is low, and hence there is no multicollinearity problem. Moreover, in order to even out the skewed distributions, both the deal size and relative size are logged. (Brooks, 2008)

In order to have an appropriate model with stable and unbiased parameters, the underlying assumptions for the OLS model must also be fulfilled. According to Brooks (2008), the five assumptions are:

1. $E (ut) = 0$
2. $var (ut) = \sigma^2 < \infty$
3. $cov (ui, uj) = 0$
4. $cov (ut, xt) = 0$
5. $ut \sim (0, \sigma^2)$

The first assumption states that the expected value of the error terms is zero. Since a constant term, alpha, is included in the model, this assumption is fulfilled.

The second assumption states that the error terms should be homoscedastic, i.e. the variance of the error terms should be constant over the entire sample. If this assumption is not fulfilled the errors are instead heteroscedastic, which could lead to false inferences (Brooks, 2008). This eventual problem is dealt with by using White's correction when running the regressions, where potential heteroscedasticity is corrected for (White, 1980).

The third assumption states that the errors should be uncorrelated with each other. In this cross-sectional data set, the most likely cause of correlated errors is clustering (Bernard, 1987). In order to avoid this, clustering in the events is controlled for and therefore it is assumed that no serial correlation exists.

Assumption number four states that there should be no correlation between the explanatory variables and the error terms. In other words, ε_i should be uncorrelated with the x 's. If the explanatory variables in fact are correlated with the error terms, an endogeneity problem arises and this will lead to inconsistent estimators. Selection bias as a cause of endogeneity must be addressed, and this problem arises when there is correlation between some unobserved firm characteristic(s) and the probability that the event occurs (MacKinlay, 1997). However, since there is only weak correlation between the independent and dependent variables, as shown in appendix 6, this problem may be less serious (MacKinlay, 1997). Other causes of endogeneity, and especially omitted variable bias, may be present though. Explanatory variables may be left out for various reasons; they might be unobserved by the researcher or they might be hard to quantify (Brooks, 2008). In this study both reasons could be possible since some of the data is not easily accessible. It is hard to tell which variables this would be and therefore also what effect it has on the study's results.

The last assumption states that the error terms should be normally distributed. This assumption is important for the hypothesis tests of the model parameters (Brooks, 2008) and is examined with a Jarque-Bera test that is performed in Eviews. If the assumption is fulfilled, inferences about the regression models' parameters can be drawn with confidence intervals and hypothesis tests based on the t-distribution (Westerlund, 2005). The Jarque-Bera test also controls if the skewness and the kurtosis of the residuals probability distribution looks similar to the normality distribution. None of the models in the study pass the test (see appendix 7), but if the sample is large enough (>100), as it is in this study (539), non-normality is usually not a problem (Brooks, 2008). By logging the residuals, non-normality can be partially avoided. This is also one of the most common ways to approach the problem of non-normality.

As seen in the table, the p-value is zero which indicates non-normality, but our sample size compensates for this (Brooks, 2008). The non-normality can be due to some outliers in the sample. The values for skewness and kurtosis can also be seen. A normally distributed sample

should have a skewness of zero and a kurtosis of three (Brooks, 2008). The skewness and kurtosis can be found in appendix 7.

3.6 Reliability and validity

3.6.1 Reliability

Reliability in research methods concerns the quality of measurement and the repeatability of the studies (Bryman & Bell, 2011, Ch. 2). The authors strive to achieve this by only using public data when data is collected and processed. The information is also available for an eventual replication of this study, since only trustworthy databases such as Thompson Reuters Datastream and Thompson Reuters Eikon are used. Since the study should be replicable, the authors have been restrictive when it comes to possible exclusions of information and as accurate and detailed as possible when an M&A has been excluded to enhance the reliability of the study. Furthermore, the reliability is improved by using standardized approaches for data processing in line with MacKinlay (1997).

Conducting an event study results in a lot of manual work. This since every event has a different event date and different estimation windows and event windows are used for every event. In order to make sure that the right dates and numbers are used in the calculation of the abnormal returns and in the regression, date controls are performed. To further minimize the risk of mistakes affecting the result of the study, the authors have switched which M&A-events to work with continuously. All these efforts help making the reliability stronger, even though the human factor needs to be taken into consideration.

Literary sources are to a great extent collected from LUBsearch, which is the library search engine for Lund University. These sources have either been published in reputable academic journals, such as *The Journal of Finance* and *The Financial Review*, or actual, published course literature. The authors also try to stay objective when referring to previous work, with reservation for possible misinterpretations.

3.6.2 Validity

Validity in research methods is the absence of systematic errors, and it can be split into internal and external validity (Bryman & Bell, 2011). Internal validity dictates how the research method is structured and is high if the method really measures the effect it is intended to measure.

When using an event study, internal validity is always a bit problematic. The assumption of exogeneity is violated if any effect other than the one caused by the event is captured during the event window. By using a short event window of $t-1$ to $t+1$ the risk of an unwanted effect is mitigated. Further, by having a large sample size, the impact of undesired external influence decreases. Another aspect of the internal validity problem refers to the fact that the measurement of estimated returns will, without doubt, provide less than perfect estimations. However, the market model will provide sufficient estimations in comparison with other more sophisticated approaches. (MacKinlay, 1997)

Loss of data is also a general problem since it could bias the sample selection (Westerlund, 2005). Especially, this study does not include acquisitions made by firms listed within a year prior to the acquisition, since historical stock data for at least one year is necessary to calculate the expected return. If the frequency of such acquisitions is high it could lead to distorted results. To be able to conduct the research, these exclusions have to be made anyways.

The internal validity is also challenged by the deal characteristic variables used in the regression analysis. An example of this is the relative size between the target and acquirer. When the relative size is estimated, the bid size is used as a proxy for the target's market value. The bid size includes the premium, which can result in a potential problem since an increase in premium has a negative impact on abnormal returns, whereas the relative size as a measure is positively related with the abnormal returns. Therefore, this might result in an underestimation of the coefficient and significance of that variable. Nevertheless, there is a specific reason for using bid prices as proxies, namely that there is not an actual market price present for private firms.

External validity for the study concerns the qualification and suitability of the method used. In other words, this means if the chosen models are appropriate regarding answering the research questions (Bryman & Bell, 2011). When it comes to investigating announcement effects, event studies are commonly used and furthermore MacKinlay's (1997) steps of conducting an event

study are followed. Further, the statistical tests are performed in accordance with Körner & Wahlgren (2006). Lastly, the regression models used are based on Brooks (2008). The problem of endogeneity is discussed, but is not tested or controlled for, which could be a potential problem. Apart from that, the external validity of the research should be strong.

CHAPTER 4 – RESULTS

In chapter four, the empirical results of the study will be presented in the form of tables and diagrams with comments to facilitate the interpretation. Statistical tests are also performed to examine if the results are statistically significant in regards to abnormal returns and characteristics. Outliers are controlled for and the hypotheses and results are summarized in the end.

4.1 Descriptive statistics of data

The total sample consists of 539 M&A deals between the 1st of January 2009 and the 1st of February 2015 (see appendix 10 for further details about the deals). Out of these deals, 78 % are paid in cash, 46 % are focused deals, 64 % are foreign deals, the transaction value in the different deals is on average 38 % of the acquiring firm's market value the previous year, shares are bought in 50 % of the deals and the average deal size is \$ 193.2 million.

In appendix 1, the sample is divided into three different groups; the total sample, public targets and private targets.

4.2 Presentation of the results

The results of the study are classified by the total sample, public targets, private targets and public versus private targets. The results are built on the study's short-term event window of $t-1$ day to $t+1$ day, but the emphasis lies on the cumulative abnormal results (CAR). All the hypotheses that have been tested in the study are built on the formulation that the null hypothesis is accepted if the actual return does not differ from the expected return and otherwise, the alternative hypothesis is accepted.

4.3 Event Study

4.3.1 Tables and figures

The table below shows the average abnormal returns for day $t-1$, the event day (t) and the day $t+1$ and it also shows the cumulative average abnormal returns (CAAR) for the total event window. The results are shown for the total sample, public targets, private targets and public versus private

targets respectively. The table also shows the results of the non-parametric statistical tests that have been performed on the data.

Table 4.1 Tests of significance

		Total sample	Public targets	Private targets	Public versus private
H0		$\mu = 0$	$\mu = 0$	$\mu = 0$	$\mu = 0$
Observations		539	172	367	172; 367
Statistical test		Wilcoxon Signed Rank	Wilcoxon Signed Rank	Wilcoxon Signed Rank	Wilcoxon Sum Rank
AR (t-1)	Mean	0,10%	0,07%	0,12%	0,07%; 0,12%
	Probability	0.302	0.692	0.328	0.838
AR (t)	Mean	0,62%	-0,29%	1,05%	(-)0,29%; 1,05%
	Probability	0.000***	0.887	0.000***	0.003***
AR (t+1)	Mean	0,22%	-0,07%	0,35%	(-)0,07%; 0,35%
	Probability	0.073*	0.957	0.030**	0.179
CAR (t+1 - t-1)	Mean	0,94%	-0,29%	1,52%	(-)0,29%; 1,52%
	Probability	0.000***	0.853%	0.000***	0.000***

* significant at a 10 % level

** significant at a 5 % level

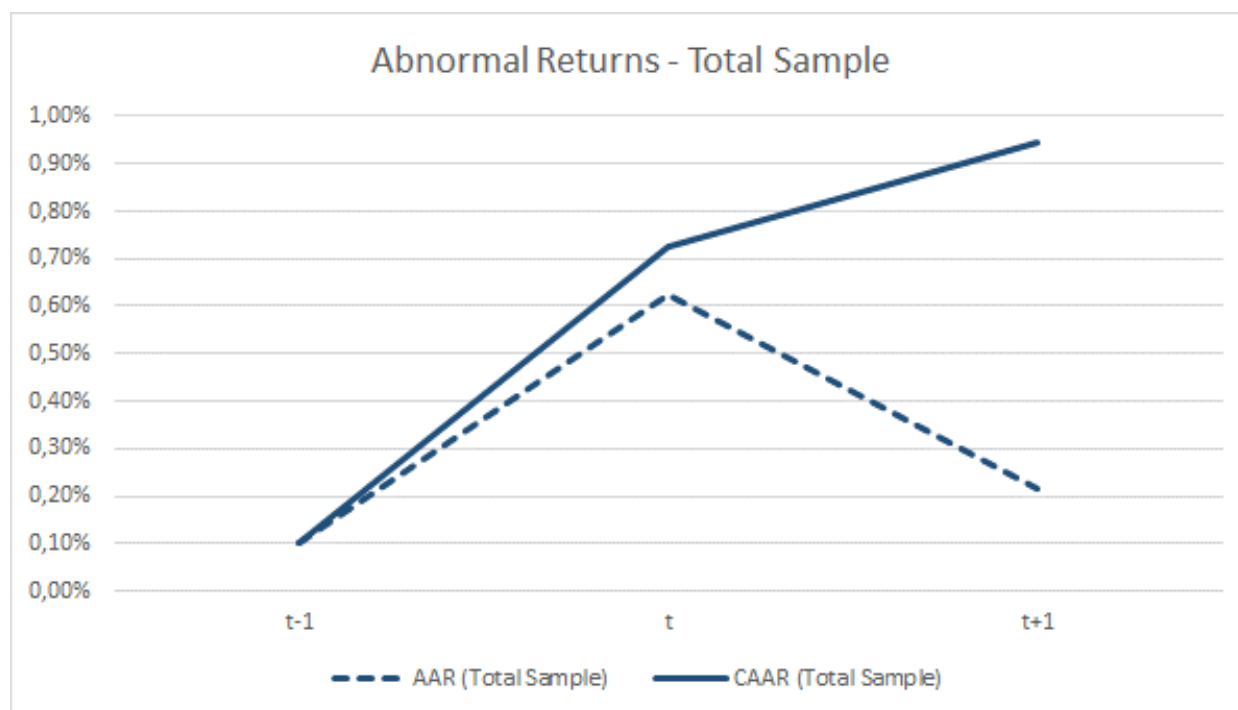
*** significant at a 1 % level

Source: Created by the authors

As can be seen in table 4.1, the average abnormal returns are positive for the total sample during all days in the event window. The abnormal returns are significantly different from zero on the event day, t (0.62 %), and on the day $t+1$ (0.22 %), as well as a significant CAAR (cumulative average abnormal return) over the entire three day event window (0.94 %). Both AAR on the event day, t , and CAAR are statistically significant at the 1 % level, whilst AAR $t+1$ only is significant on a 10 % level.

The results of the statistical tests therefore conclude that H_0 for the total sample is rejected. Complete information regarding the normality tests and statistical tests, see appendix 5 and table 4.1 respectively.

Figure 4.1 Abnormal returns (total sample)



Source: Created by the authors

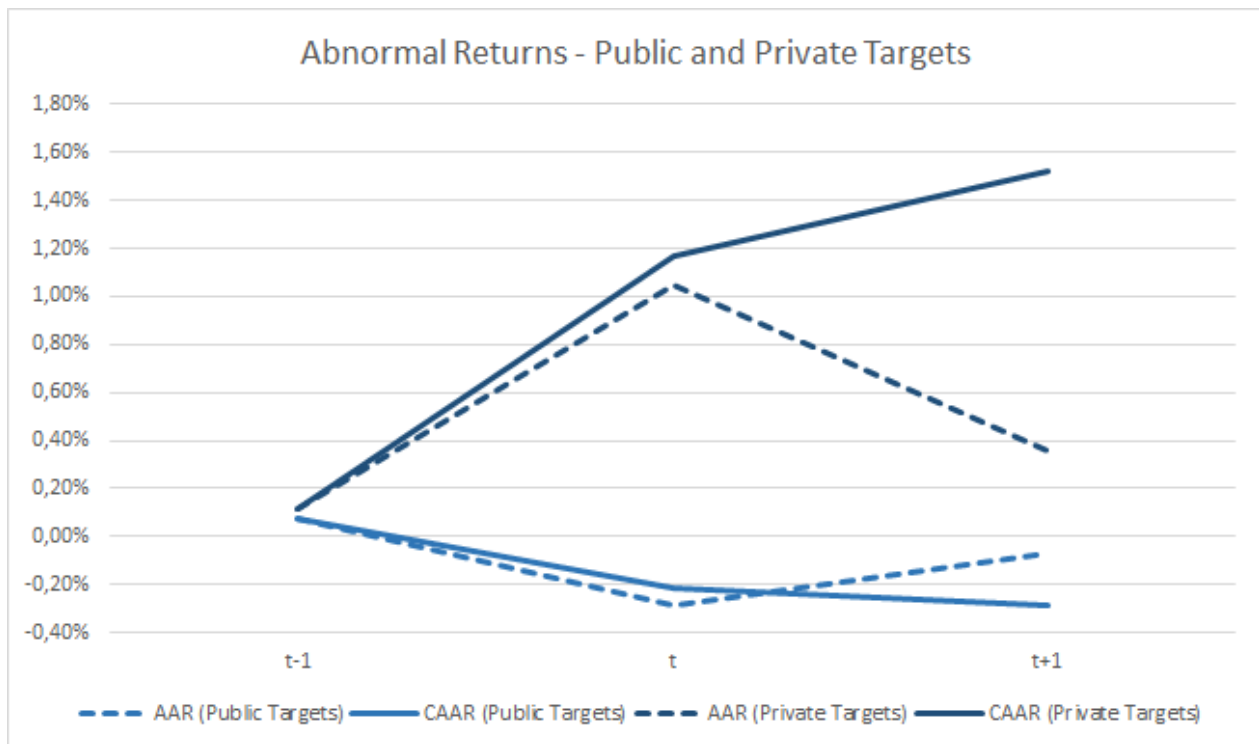
Figure 4.1 illustrates the average abnormal returns (AAR) and cumulative average abnormal returns (CAAR) for the total sample over the entire event window. The markets' reaction is shown mainly on the event day, t , and the day after the event, $t+1$.

When public targets are examined, table 4.1 shows that there are no statistically significant results, neither in AAR nor the CAAR over the entire event window. None of the results are even close to being significant and therefore it is concluded that H_0 for the public targets is not rejected.

The sample of private targets, on the other hand, looks completely different. The sample has AARs significantly different from zero on the event day (1.05 %), t , and the day after the event, $t+1$ (0.35 %). The sample also shows a CAAR that is statistically significant over the entire event window (1.52 %). The AAR on the event day, t , and CAAR are statistically significant on a 1 % level and the AAR on the day after the event, $t+1$, is statistically significant on a 5 % level. This implies that H_0 for private targets is rejected.

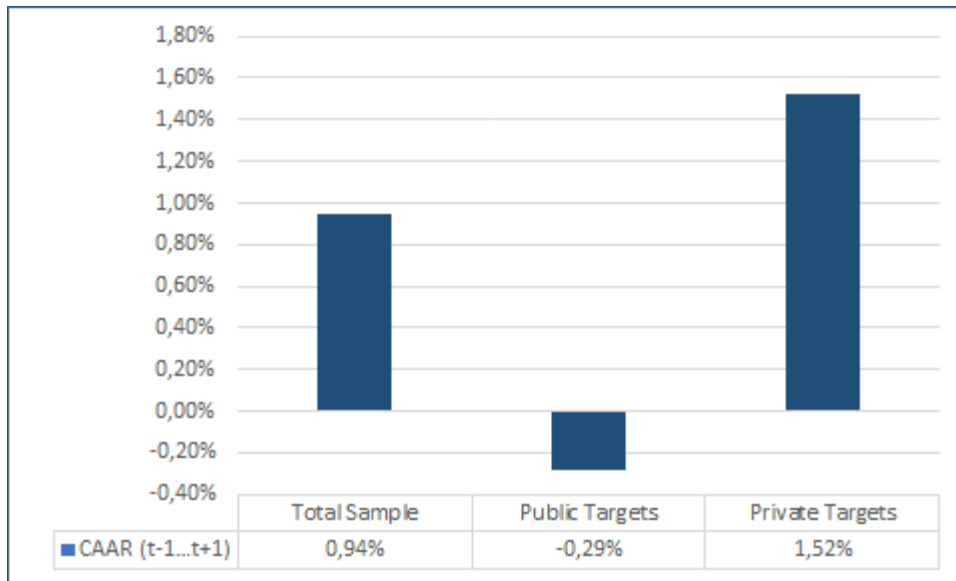
To see if the arguments for a private firm discount holds, the public targets need to be compared to the private targets. This since the above results only show if the public and private targets, respectively, are statistically different from zero. The results in table 4.1 show that the public targets are statistically different from the private targets regarding AAR on the event day, t , and CAAR for the whole event window. AAR on the event day, t , is statistically significant on a 1 % level, whereas CAAR is statistically significant on a 1 % level, which indicates strong significance. The AAR on the event day, t , is - 0.29 % for public targets whereas the number is 1.05 % for private targets. The CAAR is further - 0.29 % for public targets in comparison to 1.52 % for private targets. The result of the differences between public and private targets implies that H_0 for public versus private targets is rejected. This difference is illustrated in figure 4.2 below.

Figure 4.2 Abnormal returns (public and private targets)



Source: Created by the authors

Figure 4.3 Cumulative average abnormal returns



Source: Created by the authors

In figure 4.3 the above results are illustrated, dependent on if the cumulative abnormal return for the total sample, public targets or private targets is examined.

Table 4.2 Summary of the study's hypotheses and results

	Hypothesis	Tests if	Results
Total Sample	H_0	$CAAR (t-1 \dots t+1) = 0$	<i>Rejected</i>
	H_1	$CAAR (t-1 \dots t+1) \neq 0$	<i>Accepted</i>
Public Targets	H_0	$CAAR_{Public}, (t-1 \dots t+1) = 0$	<i>Accepted</i>
	H_1	$CAAR_{Public}, (t-1 \dots t+1) \neq 0$	<i>Rejected</i>
Private Targets	H_0	$CAAR_{Private}, (t-1 \dots t+1) = 0$	<i>Rejected</i>
	H_1	$CAAR_{Private}, (t-1 \dots t+1) \neq 0$	<i>Accepted</i>
Public Targets versus Private Targets	H_0	$CAAR_{Public}, (t-1 \dots t+1) = CAAR_{Private}, (t-1 \dots t+1)$	<i>Rejected</i>
	H_1	$CAAR_{Public}, (t-1 \dots t+1) \neq CAAR_{Private}, (t-1 \dots t+1)$	<i>Accepted</i>

Source: Created by the authors

Table 4.2 summarizes the study's hypotheses and also the results of the study.

4.4 Regression analysis

Table 4.3 Regression output – total sample

Total Sample				
Dependent Variable: CAR				
Included observations: 538 after adjustment				
Variable	Coefficient	Standard Error	t-statistic	Probability
Target Legal Status	0.018444	0.005105	3.612721	0.0003***
Deal Size	0.001005	0.001400	0.717794	0.4732
Domestic versus Cross-Border	0.002517	0.004505	0.558781	0.5765
Focused versus Diversified	0.003066	0.003833	0.799810	0.4242
Form	0.008081	0.004341	1.861527	0.0632*
Method of Payment	0.010925	0.006104	1.789723	0.0741*
Relative Size	0.003040	0.000835	3.640542	0.0003***
R-squared	0.085070			
F-statistic	6.148255			
Prob(F-statistic)	0.000000***			
* significant at a 10% level				
** significant at a 5% level				
*** significant at a 1% level				

Source: Created by the authors

The regression model is statistically significant on a 1 % level, which can be seen in the Prob(F-statistic) in table 4.3. Furthermore, the fit of the model is 8.5 %.

The main variable target legal status is statistically significant on a 1 % level, which implies that acquirers of private targets should gain higher abnormal returns than acquirers of public targets.

Deal size is not statistically significant and therefore it cannot be stated whether deal size has a positive or negative relationship with abnormal returns.

If the deal is domestic or cross-border or if the deal is focused or diversified are further also non-statistically significant and nothing can therefore be said about the relation with abnormal returns.

On the other hand, the form of the deal, i.e. if shares or assets are acquired, as a variable is statistically significant, but only on the 10 % level. This implies that it is more profitable to acquire a target through shares than by acquiring the assets.

Another variable that is statistically significant on the 10 % level is the method of payment. The market reacts therefore more positively when the deal is paid in cash than stock.

Finally, as can be seen in table 4.3, the relative size is statistically significant on a 1 % level. This means that variable relative size has a positive relationship with abnormal returns, i.e. the more the relative size increases, the larger abnormal returns to gain.

Table 4.4 Regression output – public targets

Public Targets				
Dependent Variable: CAR				
Included observations: 171 after adjustment				
Variable	Coefficient	Standard Error	t-statistic	Probability
Deal Size	0.001361	0.001748	0.778832	0.4372
Domestic versus Cross-Border	-0.004783	0.007310	-0.654336	0.5138
Focused versus Diversified	-0.000208	0.007520	-0.027668	0.9780
Form	0.001785	0.009799	0.182135	0.8557
Method of Payment	0.015360	0.008382	1.832404	0.0687*
Relative Size	-0.004845	0.005185	-0.934299	0.3515
<hr/>				
R-squared	0.047421			
F-statistic	1.159195			
Prob(F-statistic)	0.329144			

* significant at a 10% level

** significant at a 5% level

*** significant at a 1% level

Source: Created by the authors

The only variable that is statistically significant (on a 10 % level) is the method of payment, but the model as a whole is not statistically significant (Prob(F-statistic) of 0.32). Therefore, the coefficients are assumed to be unstable, which then implies unreliable results.

Table 4.5 Regression output – private targets

Private Targets				
Dependent Variable: CAR				
Included observations: 366 after adjustment				
Variable	Coefficient	Standard Error	t-statistic	Probability
Deal Size	0.001746	0.002551	0.684483	0.4941
Domestic versus Cross-Border	0.008053	0.005729	1.405713	0.1607
Focused versus Diversified	0.006441	0.004633	1.390060	0.1654
Form	0.009245	0.004797	1.927373	0.0547*
Method of Payment	0.003167	0.008654	0.365911	0.7146
Relative Size	0.002916	0.000876	3.328760	0.0010***
<hr/>				
R-squared	0.086204			
F-statistic	4.824597			
Prob(F-statistic)	0.000033***			

* significant at a 10% level

** significant at a 5% level

*** significant at a 1% level

Source: Created by the authors

When examining private targets, it can be seen in table 4.5 that the model is significant on a 1 % level (strong significance) and the fit of the model is approximately 8.6 %.

Deal size, if the deal is domestic or cross-border and if the deal is focused or diversified are just as for the whole sample statistically insignificant. Therefore nothing can be concluded about the relationship between these variables and abnormal returns.

The form of the deal is something the market reacts to. Being statistically significant at a 10 % level, this shows again that acquisition of shares is more profitable than acquisition of assets.

Regarding private targets, the method of payment seems uninteresting to the market, since the variable is not even close to being statistically significant.

Finally, the relative size is, again, statistically significant on a 1 % level, implying a strongly positive relationship with abnormal returns.

CHAPTER 5 – ANALYSIS

The analysis aims to compare the results of this study to previous research as well as discuss the theories which the study is built on in comparison to the actual result.

5.1 Analysis of the event study

5.1.1 Total sample

The abnormal returns surrounding M&A announcements for the total sample is noticeably positive since the market reacts both on the event day, t , and the day after, $t+1$. Despite the indications of abnormal returns on day $t+1$, the results should be interpreted with caution due to the fact that they are only statistically significant on a 10 % level. However, the CAAR (0.94 %) is statistically significant on a 1 % level and the results of these tests therefore conclude that H_0 , which states that the CAAR is not statistically different from zero for the acquiring firms in the total sample over the entire event window, is rejected.

No significant abnormal returns are shown on day $t-1$, which means that there is no significant leakage of information prior to the announcement. The largest part of the abnormal returns is found on the event day t , but since abnormal returns are also found on day $t+1$, this indicates that it takes some time for the market to completely incorporate the announcement in the share price.

Another explanation for the effect on day $t+1$ could be the problem of estimating exactly when the announcement is released. If the announcement is released after the market has closed then the actual effect and reaction of the market is reflected on the day after instead, $t+1$.

Either way, there is evidence of at least semi-strong market efficiency since the abnormal returns are seen immediately following the announcements, as illustrated in table 4.1.

The average positive M&A announcement effect for the acquiring firm in this study is contrary to what most previous research has suggested. Previous research has concluded the target's shareholders to be the "winners", and that the acquiring firm's shareholders earn negative, insignificantly different from zero or at best, slightly positive abnormal returns (Jensen & Ruback, 1983, Andrade et al, 2001, Bruner, 2002, Moeller et al, 2003). There are, however, some possible aspects that should be taken into consideration when comparing previous empirical

findings to this study's results. This study is performed on Western Europe, whilst a lot of the previous research, as stressed earlier, has been conducted on the U.S. or the UK market. The different sample populations examined may affect how the markets react. A thorough analysis of this is however beyond the scope of this study.

Another possible explanatory factor is that this study is conducted during another time period, which also might affect how the market reacts. The fact that most previous studies have excluded private targets may also be a great part of the explanation of the contrary result, especially since the largest part of this study's sample are private targets (which show positive abnormal returns).

Furthermore, the results for the total sample find no evidence for Roll's (1986) hubris hypothesis. According to this hypothesis, the motive for acquiring a target is that managers act under hubris and as a result of this generally overpay for the target. This is due to the fact that managers overestimate the increase in economic value of the combined entity and hence, destroy value for the acquiring firm's shareholders. The implication of this theory would therefore be that around a takeover, the value of the target should increase, while the value of the bidding firm should decrease as shareholders oppose the deal.

The result of this study also contradicts the agency theory's underlying motives for pursuing M&As. When managers obtain a large enough personal gain, the firm's market value is sacrificed to pursue the M&A and this further leads to an overpayment for the target and value destruction for the acquiring firm's shareholders (Berkovitch & Narayanan, 1993). The results of the total sample show, however, a CAAR of 0.94 % for the whole event window for the acquiring firm.

5.1.2 Public targets

When only considering acquisitions of public targets, the result shows no significant positive or negative abnormal returns surrounding the announcement. None of the results are close to being significant and therefore H_0 , stating that acquisition announcements of publicly held targets do not produce CAAR for the acquiring firm over the event window, is not rejected.

Since the market apparently does not react neither positive nor negative surrounding an M&A announcements, it is hard to conclude anything about the market efficiency.

The failure to significantly distinguish the AAR and CAAR from zero when it comes to public targets implies more or less that there is no effect on the share price surrounding the M&A announcement. This is partly in accordance with previous empirical findings, since the main part of previous studies show either zero, as this study does, or negative abnormal returns. For example, Fuller et al (2002) find a significantly negative CAR that is increasing the larger the relative size is, whereas Faccio et al (2006) find that acquirers of public targets earn zero or even slightly negative abnormal returns.

The findings can be explained by the information hypothesis. It can be argued that public firms, which are strictly regulated regarding information disclosure and are highly monitored by other stakeholders, have low information asymmetry and are correctly priced. The acquirer pays the correct price for the public target plus the expected value of the synergies, which implies that the acquiring firms' market value should remain unchanged. Since public firms are correctly priced to start with, no market reactions, and therefore, no abnormal returns occur.

In line with this, the theory of information asymmetry and the signaling hypothesis state that managers can send signals to the market even before the M&A is actually announced. This can be done in various ways such as by communicating the M&A strategy or acquisition plans, or simply their past M&A record. If these signals are credible, the market will adapt to this information, resulting in a small, or non-existing, announcement effect. This implies that an acquisition of a publicly held firm, which often are large deals, is already expected by the market. In that case, the share price has already adapted to this information (according to the efficient market hypothesis). The effect of the announcement should then be smaller or totally absent, depending on how strong the signals have been to start with and to which extent the market relies on these. Moreover, insiders can have gained abnormal returns already prior the announcement of the deal due to the fact that they can act on their informational advantage resulting in an adjustment of the stock price. From the outside it still looks as if the bidder gains negative, zero or slightly positive abnormal returns but this may not reflect the actual value creation.

5.1.3 Private targets

If only private targets are considered instead, the result looks completely different. Noticeably positive abnormal returns are shown, particularly on the event day and if the whole event window is considered, but also on the day after the event, $t+1$. With a CAAR of 1.52 % it is therefore

concluded that the H_0 for private targets, stating that announcement acquisitions for privately held targets do not produce any CAAR for the acquirer during the event window, is rejected.

Regarding the market efficiency, the same can be concluded about the market as for the total sample, since the results are similar. The largest abnormal return is shown on the event day, which implies that the market is efficient and incorporates most of the announcements fast. No significant abnormal return during day $t-1$ implies that there is no significant information leakage prior the announcement. Finally, a small, but significant abnormal return on day $t+1$ implies that it takes some time for the market to fully incorporate the M&A announcement in the share price. So, yet again there is evidence of at least semi-strong market efficiency.

The findings regarding the private targets in this sample are in line with what previous empirical research has concluded. Among them are Chang (1998), Fuller et al (2002), Conn et al (2005) and Faccio et al (2006) who all find significant positive abnormal returns for the acquiring firm's shareholders when acquiring public targets.

The reason for the positive abnormal returns is most likely due to the so called private firm discount, which itself can be explained by several reasons. These reasons will be discussed further in section 5.1.4 below, but among them are information asymmetry, reduced bidder competition and illiquidity in the stocks.

5.1.4 Private versus public targets

A comparison between the two subsamples has also been made to test if there is evidence of a private firm discount. The results of this comparison shows a significant difference in abnormal returns during both the event day, t , and over the entire event window, between the two groups. This result implies that the H_0 for private versus public targets, stating that there is no difference in CAAR between private and public firms regarding M&A announcements, is rejected.

When comparing to previous research that has compared private and public targets, the results of this test is supported. Chang (1998) means that the positive wealth effect for private targets is related to monitoring activities and reduced information asymmetries, and Fuller et al (2002) continue along the same line with the private firm discount explaining the positive CAR return in acquisitions of private targets. According to Fuller et al (2002), this discount is what investors demand for less liquid assets and the information asymmetry that exists. Furthermore, two studies

on the U.S. market, Officer (2007) and Block (2007) both show a high private firm discount of 15-30 % and 20-25 % respectively. When the European market is studied instead, as in Klein and Scheibel (2012), this discount is still significantly positive, but considerably lower (5 %).

Madura and Susnjara (2013), on the other hand, show a completely different result, namely that private targets receive relatively higher valuation multiples than comparable public targets. Madura and Susnjara find their result to be intriguing because of the illiquidity and asymmetric information that private targets show. However, it supports their hypothesis of an acquiring firm's ability to pay a high multiple for a target in which there is lack of transparency.

This is questionable when studying this research's results, but Madura and Susnjara's argument for it is as follows; when private targets are acquired the liquidity disadvantage disappears and since the value of the private target is a bit uncertain, the valuation could be discounted. However, this uncertainty also gives the acquiring firm an incentive to set a payment without constraints. Important to keep in mind here is though that Madura and Susnjara's study examines both the U.S. and the Western European market, which differ greatly in a lot of ways, e.g. market settings to mention one, and since the other previous empirical findings are in line with this study's results, the results should be reliable.

Furthermore, as stated earlier, there are several potential reasons for the private firm discount. The first reason is illiquidity. Private targets are not traded at a public marketplace and are therefore referred to as illiquid. Several authors, among them Capron and Shen (2007), claim that the illiquidity of private firms is the main reason for the discount, since the acquirer can capture a larger part of the combined value if the premium paid does not increase by the same amount. Altogether this implies that a private firm discount should be applied when acquiring private targets. Furthermore, the implication of this is that an implicit synergy based on liquidity could be created by the acquirer when acquiring a private firm. In other words, the target firm is worth more for a public acquirer than for the target firms' shareholders, and given that the premium paid does not increase by the same amount, there may be room for a larger value creation for the acquiring firm.

The second reason is information asymmetry, which is one of the key differences between private and public firms. Private firms usually operate less transparent than public firms and their

managers typically have better control over the information they want to communicate (Reuer and Ragozzino, 2007). The effect of this difference on abnormal returns is that it, according to Akerlof (1970), puts bidders at risk of overpaying, and hence the response from the acquirer is to reduce the offer price. This is done to adjust for the possibility of the target being a lemon. This study finds, in line with Cheng et al (2008), a positive relation between information asymmetry and abnormal returns for the acquiring firm, assuming that private firms in fact have higher information asymmetry. This relation could also be explained by investors' belief in that managers incorporate the discount in their valuation.

The third reason is the lower competition in the bidding process. Capron and Shen (2007) argue that bidders face less competition in the market for private firms due to the lack of visibility, transparency, and the market price associated with private firms, which creates frictions when acquiring private firms. This was previously discussed in section 2.3. The lower number of bidders decreases the bargaining power of the target relative to the acquirer. In the end, the lower bidder competition decreases the final premium paid and the acquirer receives the larger part of the synergies between the firms. Hence, the acquirer would earn a higher abnormal return, which is also supported by this study. (Capron & Shen, 2007)

5.2 Analysis of value-creating characteristics

5.2.1 Total sample

The fit of the model, R^2 , is 8.5 % and should adopt as high a value as possible. In a similar study by Draper and Paudyal (2006), the R^2 for the total sample is 6.35 %. A possible explanation for the low R^2 -values is the presence of noise in the models and that there are many different unobserved factors that affect the value creation surrounding an M&A.

The variable *target legal status* is statistically positive on a 1 % level, i.e. there is a positive relationship between acquiring private instead of public targets and the cumulative abnormal return. This is in line with most previous research, such as Fuller et al, 2002; Conn et al, 2005; Draper & Paudyal, 2006; Faccio et al, 2006. As discussed in the previous section, the reason for this positive relationship can probably be derived from the so called private firm discount and the fact that the acquirer captures a larger share of the combined value of the firms when acquiring private targets.

Deal size is not statistically significant and can therefore not be stated to have neither a positive nor a negative impact on the abnormal returns surrounding the announcements.

Previous research on the effect of deal size on the abnormal returns is mixed and the findings cannot be generalized. Alexandridis et al (2011) argue that larger deals destroy value for the shareholders of the acquiring firms' due to increased uncertainty and complexity in the deals and Loderer and Martin (1990) claim that larger deals increases the risk of overpayment due to an increased risk of hubris and managerial over-confidence. On the contrary, Tuch & O'Sullivan (2007) and Gordon, Kahl & Rosen (2009) found that larger deals create more value for the acquiring company, mainly because fewer companies are capable of buying such large firms, and hence the bidder competition and acquisition premiums decrease.

A possible explanation for the insignificant results may be that only deals above \$ 50 million are included in this study. Even though similar delimitations have been used in previous studies, the limit is set relatively high and many smaller transactions are excluded, which may impair the results of the regression. If a lower limit had been used it is possible that the effect of deal size would have been higher. It is also worth noticing that it is possible that larger deals get more coverage from both media and analysts, often even before the actual announcement, which provides the market with relevant information and thus evens out the expectations. Hence, the market reaction should be smaller when the deal is finally announced. It should also be noted that the average deal size is higher for public targets than for private targets, and since acquisitions of public firms on average generate smaller abnormal returns this also weakens the relationship.

Furthermore, the variable *domestic versus cross-border* is not statistically significant in determining the abnormal returns for the total sample. In a large study performed by Conn et al (2005), domestic acquisitions of public targets generally resulted in negative abnormal returns, but in contrast, both domestic and cross-border acquisitions of private targets resulted in positive abnormal returns for the acquirer. Overall they concluded that domestic acquisitions resulted in higher abnormal returns for the acquirer following M&A announcements. Goergen and Renneboog (2004) performed a similar study and also found that domestic M&A announcements generally trigger higher abnormal returns compared to cross-border operations.

It is not clear why the results of this study are not in line with the previous research. One possible explanation could be that this study is conducted in a subsequent time period in comparison to previous empirical studies. The global business world is constantly developing and is becoming increasingly international and interconnected. As the country borders are of less importance and new communication possibilities make it easier to realize synergies across country borders, it is possible that the geographical position of the target becomes increasingly insignificant.

According to the regression, the variable *focused versus diversified* does not have any statistically significant impact either. A number of previous studies have investigated this relationship and most of them find that the relationship is positive. Goergen and Renneboogs' (2004) study finds that diversifying M&As do not have any short-term announcement effect on the bidder, claiming that the market thinks that it is harder to realize synergy effects in these types of deals. Several other researchers have also found a general diversification discount for firms (Berger & Ofek, 1995, Lang & Stultz, 1994).

The results of this study are not in line with most of the previous research, and it can only be speculated about the potential reasons. First of all, it is important to notice that a larger portion of the public acquisitions in this study are focused compared to the private target acquisitions. Since the abnormal returns following acquisition announcements for public firms are lower, this also impairs the results for this variable. Another possible explanation is that the markets studied simply consider diversifying M&As as good and hence the stock prices react accordingly, instead of interpreting the announcement negatively. The shareholders seem to trust the management teams' ability to realize synergies from diversifying acquisitions to a higher degree than in previous studies.

The variable *form of the transaction* is statistically significant on a 10 % level. This implies that it is more profitable to acquire a target by acquiring the outstanding shares compared to acquiring certain assets in the company. Bieshaar et al (2001) finds that the form of the transaction is important to explain differences in abnormal returns, where acquisitions of shares generally generate higher abnormal returns for the acquiring firm compared to acquisitions of assets. The results of this study are in line with Bieshaar et al's (2001) research, and the reason for this result is probably reduced information asymmetry, since the cash-flows from the entire firm are easier to estimate than the cash-flows from separate assets. Thus, a discount is applied for acquisition of

assets and it is likely that a bigger part of the value is captured by the acquirer. It has to be kept in mind however that the variable only is significant at a 10 % level.

The variable *method of payment* also has a statistically significant coefficient, which implies that the market reacts more positively when the deal is paid in cash compared to stock. Several researchers have provided evidence that cash bids are associated with higher abnormal returns than stock bids in the short run (Travlos, 1987, Asquith et al, 1987, Draper & Paudyal, 1999, Andrade et al, 2001, Dong et al, 2005).

The results of this study is therefore in line with previous research, i.e. that the method of payment has a significant impact on the announcement effect. As stated in 2.3.3, there are several possible hypotheses to explain this. First of all, firms performing acquisitions financed with equity are likely to issue new common stock, and firms paying with cash are likely to issue new debt. According to the signaling hypothesis the type of security issued conveys information about the firm, and debt issues are generally viewed as a preferred alternative over equity issues. Moreover, there are generally tax benefits associated with debt and debt also has a higher disciplinary power over management than equity (Yook, 2003). The above arguments seem to be applicable for the markets examined in this study as well and the results further strengthens the current empirical research.

Finally, the regression analysis for the total sample shows that the *relative size* has a statistically significant impact on the announcement effect at the 1 % level. The higher the relative size between the bidder and the target, the higher the average cumulative average abnormal return.

Several researchers have examined this relationship before, and even though different methods have been used to calculate the relative size, most studies have found a positive relation between the bidders' abnormal returns and the relative size to the acquirer (Asquith et al, 1983, Loderer et al, 1990). The results of this study are hence in line with these previous findings. However, the results are not in line with a study by Madura and Susnjara (2013) in which they examine acquisitions in the U.S. and Western Europe during 1997-2009. This is interesting considering a part of their sample overlaps the sample of this study, and hence one could expect similar results. Though, one possible explanation for the differences can be that Madura and Susnjara only look

at premiums paid for private targets and they also use a different method to estimate the acquisition premiums.

One possible explanation for the results of this study is simply that deals with lower relative size between the target and the acquirer are not financially significant enough to affect the stock returns. Hence, only larger deals have a significant impact on the cumulative average abnormal return, which seems to be the case in this study.

5.2.2 Public Targets

The fit of the model is 4.7 % and the only statistically significant variable in the regression of public target abnormal returns is the *method of payment*, but since the model as a whole is not statistically significant, the coefficients are assumed to be unstable, leading to unreliable results. Therefore, the results from this regression will not be further analyzed. The main reason for the unstable model is probably the lower number of observations included, which makes the model more sensitive and therefore causes problems with the underlying OLS assumptions.

5.2.3 Private Targets

The fit of the model is 8.6 %. The arguments for this low R^2 - value are the same as for the total sample.

The regression analysis for the sample of private targets yields statistically significant results for the coefficients of *form of the transaction* and *relative size*. The other variables are insignificant and fail to explain any of the cumulative abnormal return. The model as a whole is significant at a 1 % level.

As in the case of the total sample, *deal size* is still insignificant, and the reasoning is most likely the same as previously argued. First of all, the relatively high delimitation of \$50 million excludes many smaller transactions which probably impairs the results. Secondly, there is a higher probability that larger deals are anticipated by the market and hence the reaction from the market is smaller when the announcement is released. Another possible explanation is that the actual spread of deal size is too narrow to have an influence on the abnormal returns.

Moreover, both *domestic versus cross-border* and *focused versus diversified* are still insignificant, and most of the reasons presented above hold for acquisitions of private targets as well. Domestic versus cross-border is probably not relevant since a more globalized economy and better communication possibilities make country borders less important and nowadays it is easier to realize synergies even if the firms are not located in the same country. The insignificance of focused versus diversified implies that the shareholders in the markets examined seem to believe that companies are able to realize synergies in diversifying M&As as well.

The *form of the transaction* is still significant at a 10% level with the difference that the coefficient is a bit higher in the total sample regression. A possible explanation for the higher explanatory power is that the information asymmetry is higher when acquiring private firms, and therefore the difference in uncertainty when estimating cash flows for specific assets and the entire firm is lower. Hence, the difference in abnormal return for the two alternatives should be smaller as well. Again, it has to be kept in mind that this result needs to be interpreted with caution, since the variable only is significant on a 10 % level.

The *method of payment* was significant for the total sample but is far from significant when examining private targets only. One theory is that the shareholders of private firms are more informed about the prospects of the acquiring firms, and as a result they are more prone to accept stock as payment method (Chang, 1998). The result is that the difference in abnormal return between paying deals in stock or cash decreases, and the variable becomes less significant in these deals.

Again, the *relative size* between the target and acquirer is a significant variable, i.e. a higher relative size tends to generate higher abnormal returns. In line with the previous argument, deals with smaller relative size may not be financially significant enough to affect the stock returns, and hence no abnormal return is detected in these deals.

CHAPTER 6 – CONCLUSION

In this final chapter a concluding discussion regarding the results of the study is held. The purpose of the study and our research questions are tied to the results and analysis and potential reasons and causes that led us there are reflected over and analyzed in a wider perspective. Finally, proposals for future research within the field are presented.

6.1 General conclusions

The purpose of this study was to examine the abnormal returns surrounding M&A announcements for the acquiring firms, where the emphasis lay on the difference between acquiring public versus private targets. Secondly, the thesis aimed to get theoretical insights by examining the relationship between the magnitude of abnormal returns and different deal characteristics. With this in mind our purpose was divided into two different research questions:

1. Are there abnormal returns following M&A-announcements, and if so, is there a difference in the announcement effect depending on if the target is public or private?
2. How much relevance has each deal characteristic, previously found to be value creating, for the abnormal returns in public and private deals respectively?

The event study shows an overall significant positive announcement effect following acquisitions of the total sample, i.e. both public and private targets included. When public and private targets are studied individually instead, the findings in line with the expectations. When acquiring a private firm, the acquiring firm's shareholders receive a CAAR of 1.52 %. In bids for public firms, on the other hand, no value creation is shown over the three day event window since the results are not statistically significant. The abnormal returns for the two sub-samples, public targets and private targets, are then compared, and since a statistical difference is found between the two groups, we conclude that there exists a private firm discount. The first research question can thus be answered as follows: There are abnormal returns following M&A announcements, but only when private firms are acquired, and hence a difference exists in the announcement effect depending on if the target is public or private.

6.2 Event study and private firm discount

When analyzing the results, the markets seem to be at least semi-strong, since most of the abnormal returns are generated on the event day, following the announcement.

This implies, however, that the markets do not seem to anticipate the announcements and hence this unpredicted part results in abnormal returns. Efficient markets is also a necessary assumption for the result of the event study to be valid. Important to notice is that no announcement effect is found for public targets. Possible causes for this, in terms of efficient markets, are that acquisitions of public targets on average involve larger deals and a greater risk of information leakage before the actual announcement exists. This results in an earlier adjusted stock price in comparison to acquisitions of private targets. The expectations of the markets seem to be largely based on the information in the announcement and hence the content of the announcement becomes extremely important. The implication of this is that in order for the market to be able to make a correct judgment of the deal, transparency of the acquiring firm's management regarding the deal, the motives behind it, the expected synergy effects and so on is of greatest importance.

However, the above analysis is built on the assumption of rational markets, i.e. that all information is rationally analyzed. Abnormal returns are then generated when the expected value of acquiring the "new" firm exceeds the price paid for the same.

Some previous empirical findings also indicate that the markets are not always rational and investors are influenced by a variety of biases and heuristics in their judgment of firms. There is always a risk that deals are misjudged. Therefore, it is harder to assess how the market will respond to different types of deals. The further implication of this is that managers to a lesser extent can affect the stock price by acting rationally.

Important to consider is that M&A deals can be pursued due to other reasons than pure financial motives. A lot of acquisitions are made with the purpose to get rid of a competitor on the market or get access to specific patents, know-how, assets, key employees and so on. Then the value of short-term abnormal returns becomes less important. It is however impossible to determine the effect of this in our study since we do not have any information regarding exact motives behind the different deals.

Why does the difference in abnormal returns exist between private and public firms?

In line with previous empirical findings, we believe that this difference depends on the private firm discount, which in its turn results from, among other things, a higher degree of information asymmetry, less liquid stocks and lower bidding competition.

These factors combined result in the acquiring firm being able to pay less for private targets in comparison to public targets, and in the long run they also get the largest part of the value of the combined entity.

The largest contribution of our research is that these findings also seem consistent with our studied market and time period. Even if Western Europe consists of different markets regarding size, development, market efficiency, type of investors, etc., they still seem to react as expected when aggregated. The financial crisis does not seem to have a huge impact either on the market view of these different deals, since our findings are in line with previous research that was conducted on data prior the financial crisis.

What is the implication of this in a wider perspective?

Despite the widespread knowledge about the private firm discount and the knowledge about the acquiring firm receiving a discount when acquiring private targets, the targets fail to demand a higher premium in these deals. The main part of the synergy effects and the value creation simply ends up in the acquiring firm, in comparison to an acquisition of a public target.

If firms are rational and confide in previous empirical findings, they should to a larger extent concentrate their M&A strategies on private targets. However, it should be added that the market's reaction largely depends on how well synergies can be realized between firms. Therefore, finding the "right" firm is still probably more important than the target legal status.

Previous research shows that the discount for private firms largely is dependent on a higher degree of information asymmetry, illiquidity and lower bidding competition. This can imply that these firms could increase their value through:

- Lowering the information asymmetry. By becoming more transparent (as public firms), and supplying the bidder with all information needed, the risks of becoming a lemon decreases and the acquirer will be willing to pay a larger amount.
- Improving the liquidity of the stock. This can be done in several ways, among them organizing some kind of trade in the stock, if the firms stocks are not publicly listed on an organized stock exchange already. This should be possible if the firm is owned by several smaller shareholders. The only thing opposing this would be legal rules.

Since our results mostly conforms to previous studies, we cannot discern any large changes in neither the firms' tendency to pursue M&As (since the M&A-market has recovered as discussed in the background) or in the valuation of private versus public targets (there still exists a private firm discount).

What we on the other hand find is that the percentage of acquisitions of private targets steadily has increased from the crisis year 2008 to later years.

A theory about this is linked to the firm's risk appetite. Under financial crises, when economies and markets are characterized by high uncertainty, it is possible that firms to a greater extent avoid acquisitions of private targets, since the uncertainty in those deals is higher due to a larger degree of information asymmetry and the like.

Another aspect that needs to be taken into consideration when analyzing the results is the effect of the benchmark indices chosen to calculate the expected return. In this study, Datastream Global Equity Indices is used as the benchmarking indices. These indices are value-weighted price indices covering all listed shares in each of the 17 markets studied. These indices are affected by a number of factors that do not need to be of importance for all the studied firms. By using smaller and more relevant industry indices the research could be considered even more reliable. Such indices are, however, difficult to obtain and the complexity of the research would also increase significantly. Considering the research's time limit and the size of the sample, these indices have been deselected.

A factor that restricts the applicability of the results in this study is that we have studied 17 different markets. Even if these markets share many common characteristics and all are both

developed and liquid, there can be regional differences that make the results inapplicable and not generalizable in each individual country. There is also a risk of the results being biased towards the largest markets, where most of the acquisitions are completed, e.g. the UK who alone stands for approximately 37 % of all the M&As.

6.3 Value-creating characteristics

When turning to our second research question, regarding the relevance of several deal characteristics, the results of the regression show that for the total sample, the variables *target legal status*, *form of the transaction*, *method of payment* and the *relative size* all are statistically significant. When instead public targets are analyzed, the *method of payment* is the only variable that is statistically significant. However, since the regression model as a whole is not statistically significant, the results are not reliable. Lastly, the regression output for private targets shows that the *form of the transaction* and the *relative size* are significant explanatory factors.

Even if the above analysis does not guarantee any success in M&As, we believe that managers of acquiring firms in Western Europe have a lot to learn from the empirical research in order to maximize the value-creation for their shareholders.

First and foremost, the managers, somewhat surprising, do not need to consider the absolute deal size, whether the target operates in the same country or whether the target operates within the same industry. These are deal characteristics that have been shown to be important in other markets and during other time periods, but based on our results these characteristics are not critical. The reasons for this can be many and different theories are presented in chapter 5, but generally our choice of market differs from a lot of previous studies, and there are also differences between the countries that need to be considered. One reason why studies on the U.S. market have found e.g. cross-border transactions to be significantly negative can be that the actual geographical distances are larger than in our study. In Western Europe a cross-border deal may well be aimed at a neighbor country, where the physical distance is smaller and synergies are therefore easier to realize. It should also be kept in mind that we have studied a subsequent time period, which probably has made e.g. cross-border transactions more attractive since we live in an increasingly global economy. Another thing that should be added is that the markets no longer only consist of traditional industrial firms and the like. Nowadays, rather large IT firms and the

service sector take more room and they also operate under completely different market settings which in the end can affect which acquisitions that are successful or not.

If managers should draw any lessons from this study, it is that the markets to a higher degree reward (1) stock deals in favor of asset deals (important to remember the 10 % significance level though), (2) that the relative size between the firms is as large as possible, and (3) that the acquisition is paid in cash instead of stock.

The third conclusion is however not possible to ensure when only examining private targets, which probably depends on the fact that the shareholders in these firms to a greater extent get involved in different prospects of acquiring firms and therefore also are more susceptible to accept stock as payment method.

Of course there are a bunch of other factors that affect the success in deals, but managers that choose not to follow this advice should logically expect a more skeptical reaction from the market. To minimize these problems managers should as far as possible identify and communicate the expected synergy effects to the market and explain why this particular type of transaction is to prefer. This study has also specifically focused on the short-term announcement effect and therefore nothing can be said about the long-term implications of the deals.

The most relevant findings in our study can be summarized as follows:

- Our result shows that the announcement of M&As (regarding the total sample) lead to short-term abnormal returns for the acquiring firms in Western Europe.
- The markets seem to a greater degree prefer acquisitions of private targets in comparison to public targets, which is supported by the theory of a private firm discount.
- The markets prefer to a greater extent (1) stock deals in favor of assets deals, (2) that the relative size between the firms is as large as possible, and (3) that the acquisitions is paid in cash instead of stock. The third conclusion is however not possible to ensure when only examining private targets.

6.4 Proposed future research

This study has found some new conclusions regarding acquisitions of private versus public targets. However, a number of untested parts and parts that can be improved remain.

- This study has comprised of all M&A announcements (fulfilling the criteria) of \$ 50 million or more between January 2009 and February 2015. Future research could perform a similar study but with a smaller deal size limit. Since this variable was shown to not be significant, a smaller deal size limit could create a larger variance in the variable and thus improve the results.
- The study could also be performed on another/other markets to see if the results hold, since there are few empirical studies based on post-financial crisis data. It would also be interesting to thoroughly look at the causes of why the different markets potentially differ from each other.
- The market model has been used in this study to determine the stock's expected return. Future research could use other models such as the arbitrage pricing model or the capital asset pricing model and then compare the results. This could improve and make the results more reliable.
- Insiders can act on their informational advantage prior the M&A announcements and thereby gain abnormal returns even if it, from the outside, looks like the returns are negative, zero or slightly positive at best. For this reason, it would be interesting to study a longer event window prior the announcements, e.g. one week, to see how the results of the study are affected.
- Since this study only concludes that a private firm discount is to be found on the West European market and not how large this discount is, it would be of great interest to further investigate this with another method than an event study. The causes of this discount can be more thoroughly examined as well.
- The business cycle affects the stock market. Therefore it would be interesting to see if managers and investors' behavior and the possibility of gaining abnormal returns changes

as the stock market changes. A suitable comparison would be to examine a period before the financial crisis and then compare it with a period after the crisis, e.g. the period we have chosen.

- The reliability of the study could also be increased by using smaller and more relevant industry indices for each country to be able to calculate the shares' expected returns in a more appropriate way. It would be interesting to see how this would affect the result.
- The study includes 17 different West European countries, but as stated earlier they differ in a lot of ways and some countries also pursue a larger share of the total amount of M&A deals. The results could therefore be more generalizable if the countries were studied one by one and then compared to each other.
- Further, the scope of the study could be widened by including more deal characteristics that have been found to be significant in previous empirical findings, e.g. key metrics and other synergy motives.

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APPENDICES

Appendix 1 – Summary statistics for the announcements

	Total Sample	Public targets	Private targets
Number of events	539	172	367
Variables			
Public (1); Public (0)	32%	100%	0%
Domestic (1); Cross-border	36%	44%	32%
Focused (1); Diversified (0)	46%	53%	42%
Cash (1); Other (0)	78%	62%	85%
Shares (1); Assets (0)	50%	79%	36%
Average deal size (M USD)	187,1	196,5	182,7
Average relative size	38%	24%	44%
Abnormal returns			
AAR (t-1)	0,10%	0,07%	0,12%
AAR (t)	0,62%	-0,29%	1,05%
AAR (t+1)	0,22%	-0,07%	0,35%
CAAR (t-1 - t+1)	0,94%	-0,29%	1,52%

Appendix 2 – Amount of M&As per country

Country	Number of deals
United Kingdom	201
France	58
Switzerland	49
Sweden	40
Germany	38
Netherlands	34
Ireland	31
Italy	21
Spain	14
Finland	13
Denmark	11
Norway	10
Austria	6
Belgium	5
Luxembourg	4
Greece	3
Iceland	1

Appendix 3 – Sample characteristics and returns per year

Measure	2009	2010	2011	2012	2013	2014 -->
Number of deals	70	88	109	83	83	106
Target legal status (% private)	59%	63%	64%	76%	75%	72%
Domestic versus cross-border (% domestic)	43%	31%	36%	35%	40%	33%
Focused versus diversified (% focused)	51%	53%	55%	41%	41%	33%
Relative size	31%	63%	69%	27%	16%	14%
Payment method (% paid with cash)	76%	77%	83%	78%	80%	74%
Form (% share acquisitions)	57%	56%	47%	49%	47%	45%
AR (t-1)	0,46%	-0,36%	0,18%	0,16%	0,24%	0,02%
AR (t)	0,93%	1,26%	0,09%	0,49%	0,34%	0,77%
AR (t+1)	0,68%	-0,09%	0,47%	0,39%	-0,03%	-0,03%
CAR (t-1 to t+1)	2,08%	0,80%	0,74%	1,03%	0,55%	0,76%

Appendix 4 – Loss of data

Date	Target name	Acquirer name	Reason for exclusion
2014-12-05	Woodleigh Community Care	Cambian Group PLC	Missing stock data (estimation window)
2014-11-13	Lusomedicamenta Sociedade Tecnica Farmac	Recipharm AB	Missing stock data (estimation window)
2014-08-06	Nonstop Games Ltd	King Digital Entertainment PLC	Missing stock data (estimation window)
2014-07-08	Base79 Ltd	Rightster Group Plc	Missing stock data (estimation window)
2014-06-17	627 Greenwich Street,Manhattan,New York	Bcre-Brack Capital Real Estate Investr	Missing stock data (estimation window)
2014-04-07	Questcor Pharmaceuticals Inc	Mallinckrodt PLC	Missing stock data (estimation window)
2014-02-11	Cadence Pharmaceuticals Inc	Mallinckrodt PLC	Missing stock data (estimation window)
2013-11-26	Solar Power Plants Portfolio(31)	CDON Group AB	Missing stock data (estimation window)
2013-09-26	Lambert Smith Hampton PLC	EAM Solar ASA	Missing stock data (estimation window)
2012-11-19	AltoStor	Wandisco PLC	Missing stock data (estimation window)
2012-03-20	Viterra Inc	Glencore International PLC	Missing stock data (estimation window)
2012-02-02	Xstrata PLC	Glencore International PLC	Missing stock data (estimation window)
2011-10-13	Dominion Petroleum Ltd	Ophir Energy PLC	Missing stock data (estimation window)
2011-08-10	ZaZa Energy LLC	Toreador Resources Corp (WAS 89104	Missing stock data (estimation window)
2011-08-01	Great White Energy Services Inc	Archer Ltd	Missing stock data (estimation window)
2011-06-08	i-PoP Networks Pte Ltd	InternetQ PLC	Missing stock data (estimation window)
2011-04-28	Tretti AB	CDON Group AB	Missing stock data (estimation window)
2011-03-14	Century Mining Corp	White Tiger Gold Ltd	Missing stock data (estimation window)
2011-02-04	CNC Collections BVBA	SuperGroup PLC	Missing stock data (estimation window)
2011-01-13	Jokelfjord Laks AS	Morpol ASA	Missing stock data (estimation window)
2010-09-17	Marine Farms ASA	Morpol ASA	Missing stock data (estimation window)
2010-08-03	Stratic Energy Corp	EnQuest PLC	Missing stock data (estimation window)
2010-06-07	Talecris Biotherapeutics Holdings Corp	Grifols SA	Missing stock data (estimation window)
2009-05-14	Telemobil SA	Cosmote Mobile Telecommunication	Missing stock data (estimation window)
2012-02-17	Interativa Industria Comercio e Representacc	IMI PLC	Overlapping (event window)
2012-02-16	Remosa SpA	IMI PLC	Overlapping (event window)
2011-08-04	Interbaires SA	Dufry AG	Overlapping (event window)
2011-08-04	Undisclosed Airport Retail Operations,Monte	Dufry AG	Overlapping (event window)
2011-08-02	American Access Care LLC	Fresenius Medical Care AG & Co KGa/	Overlapping (event window)
2011-08-02	Liberty Dialysis LLC	Fresenius Medical Care AG & Co KGa/	Overlapping (event window)
2011-05-31	Telvent GIT SA	Schneider Electric SA	Overlapping (event window)
2011-05-30	Luminous Power Technologies(P) Ltd	Schneider Electric SA	Overlapping (event window)
2011-03-30	Bedele Brewery SC	Heineken NV	Overlapping (event window)
2011-03-30	Harar Brewery SC	Heineken NV	Overlapping (event window)
2009-11-17	Undisclosed Shopping Centre, Italy	Eurocommercial Properties NV	Overlapping (event window)
2009-11-17	Undisclosed Shopping Centre, Paris	Eurocommercial Properties NV	Overlapping (event window)
2014-12-08	GAMA Aviation Ltd	Hangar 8 PLC(NOW 5C3101)	Missing stock data
2014-02-24	Dixons Retail PLC	Carphone Warehouse Ltd	Missing stock data
2014-03-07	Undisclosed Real Estate Portfolio,Germany(4	Estavis AG	Missing stock data
2014-02-27	NewLaw Legal Ltd	Helphire Group PLC	Missing stock data
2012-07-30	The Shaw Group Inc	Chicago Bridge & Iron Co NV	Missing stock data
2012-10-03	S&T System Integration & Technology Distrib	Quanmax AG	Missing stock data
2011-11-14	Cliq BV	Bob Mobile AG	Missing stock data
2011-05-02	Volcom Inc	PPR SA	Missing stock data
2011-04-05	Selena Oil & Gas AB	Emitor Holding AB	Missing stock data
2010-06-21	Subsea 7 Inc	Aceryg MS Ltd	Missing stock data
2011-12-06	Dagon AB	Klovern AB	Missing stock data
2009-10-19	SAF Simulation, Analysis and Forecasting AG	Systeme Anwendungen Produkte AG	Missing stock data

Appendix 5 – Normality tests (abnormal returns)

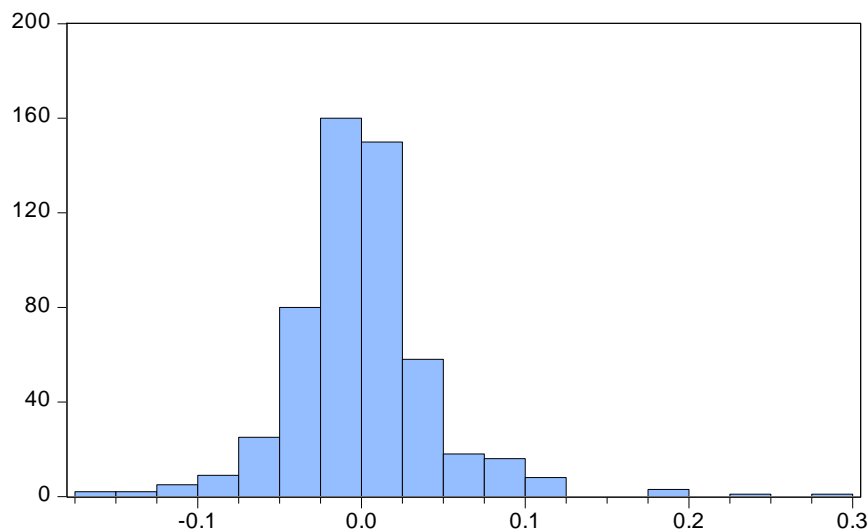
Abnormal return	Number of Observations	Kolmogorov-Smirnov (Significance)	Decision
Total Sample - AR (t-1)	539	0,000	Reject the null hypothesis
Total Sample - AR (t)	539	0,000	Reject the null hypothesis
Total Sample - AR (t+1)	539	0,000	Reject the null hypothesis
Total Sample - CAR	539	0,000	Reject the null hypothesis
Public - AR (t-1)	172	0,032	Reject the null hypothesis
Public - AR (t)	172	0,000	Reject the null hypothesis
Public - Total Sample - AR (t+1)	172	0,000	Reject the null hypothesis
Public - Total Sample - CAR	172	0,000	Reject the null hypothesis
Private - Total Sample - AR (t-1)	367	0,000	Reject the null hypothesis
Private - Total Sample - AR (t)	367	0,000	Reject the null hypothesis
Private - Total Sample - AR (t+1)	367	0,000	Reject the null hypothesis
Private - Total Sample - CAR	367	0,000	Reject the null hypothesis

Appendix 6 – Correlation matrix

	Target public status	Relative size	Payment method	Form	Focused versus diversified	Domestic versus cross-border	Deal size
Target legal status	1.000000						
Relative size	0.029089	1.000000					
Payment method	0.259343	-0.156523	1.000000				
Form	-0.401835	0.038114	-0.311607	1.000000			
Focused versus diversified	-0.099878	0.023441	-0.131905	0.146643	1.000000		
Domestic versus cross-border	-0.119645	0.105842	-0.246211	0.046725	-0.086123	1.000000	
Deal size	0.237796	0.053023	0.082203	-0.100904	0.021933	-0.018322	1.000000

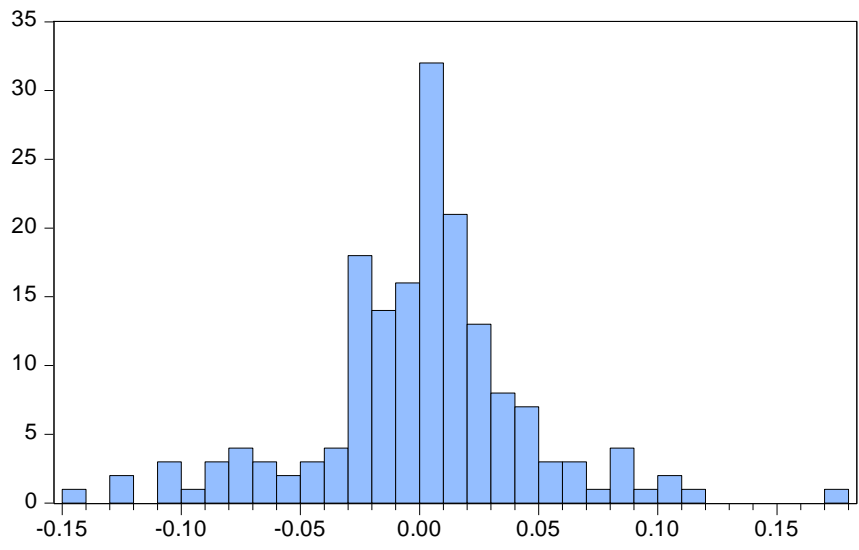
Appendix 7 – Normality Regression Tables

Total sample CAR



Series: Residuals	
Sample 2 539	
Observations 538	
Mean	5.88e-16
Median	-0.002192
Maximum	0.297955
Minimum	-0.164136
Std. Dev.	0.044852
Skewness	1.031795
Kurtosis	9.596910
Jarque-Bera	1071.015
Probability	0.000000

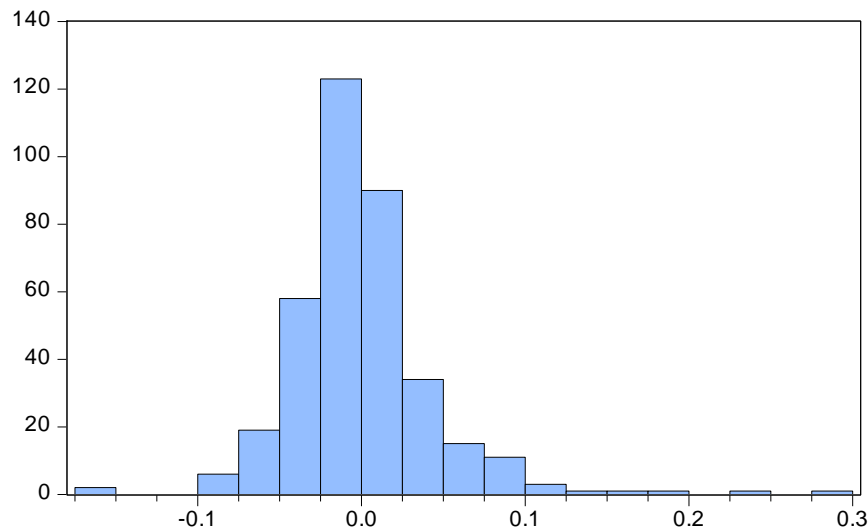
Public targets CAR



Series: Residuals	
Sample 2 172	
Observations 171	
Mean	-3.12e-16
Median	0.002566
Maximum	0.171726
Minimum	-0.144898
Std. Dev.	0.045493
Skewness	-0.121839
Kurtosis	4.977840
Jarque-Bera	28.29502
Probability	0.000001

Source: Created by the authors using Eviews

Private targets CAR



Series: Residuals	
Sample 2 367	
Observations 366	
Mean	6.57e-16
Median	-0.004507
Maximum	0.295970
Minimum	-0.156660
Std. Dev.	0.043905
Skewness	1.591128
Kurtosis	11.77114
Jarque-Bera	1327.660
Probability	0.000000

Source: Created by the authors using Eviews

Appendix 8 – Regression results

Total Sample - CAR

Total Sample - CAR				
Dependent Variable: CAR_3				
Method: Least Squares				
Date: 04/01/15 Time: 16:27				
Sample (adjusted): 2 539				
Included observations: 538 after adjustments				
Convergence achieved after 5 iterations				
White heteroskedasticity-consistent standard errors & covariance				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C__DEAL_SIZE_LN__M_USD__	0.001005	0.001400	0.717794	0.4732
C__DOMESTIC_VS__CROSS_B	0.002517	0.004505	0.558781	0.5765
C__FOCUSED_VS__DIVERSID	0.003066	0.003833	0.799810	0.4242
C__FORM__SHARES_1_	0.008081	0.004341	1.861527	0.0632
C__PAYMENT_METHOD__CASH	0.010925	0.006104	1.789723	0.0741
C__RELATIVE_SIZE__INFLA	0.003040	0.000835	3.640542	0.0003
H__TARGET_LEGAL_STATUS	0.018444	0.005105	3.612721	0.0003
C	-0.023652	0.008969	-2.636925	0.0086
AR(1)	-0.015940	0.045657	-0.349124	0.7271
R-squared	0.085070	Mean dependent var		0.009442
Adjusted R-squared	0.071233	S.D. dependent var		0.046890
S.E. of regression	0.045189	Akaike info criterion		-3.339321
Sum squared resid	1.080262	Schwarz criterion		-3.267591
Log likelihood	907.2773	Hannan-Quinn criter.		-3.311263
F-statistic	6.148255	Durbin-Watson stat		1.995130
Prob(F-statistic)	0.000000	Wald F-statistic		5.898183
Prob(Wald F-statistic)	0.000001			

Public Targets - CAR

Public Targets - CAR					
Dependent Variable: CAR_3					
Method: Least Squares					
Date: 04/01/15 Time: 16:30					
Sample (adjusted): 2 172					
Included observations: 171 after adjustments					
Convergence achieved after 6 iterations					
White heteroskedasticity-consistent standard errors & covariance					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C__DEAL_SIZE_LN__M_USD__	0.001361	0.001748	0.778832	0.4372	
C__DOMESTIC_VS__CROSS_B	-0.004783	0.007310	-0.654336	0.5138	
C__FOCUSED_VS__DIVERSID	-0.000208	0.007520	-0.027668	0.9780	
C__FORM__SHARES_1__	0.001785	0.009799	0.182135	0.8557	
C__PAYMENT_METHOD__CASH	0.015360	0.008382	1.832404	0.0687	
C__RELATIVE_SIZE__INFLA	-0.004845	0.005185	-0.934299	0.3515	
C	-0.015975	0.013633	-1.171826	0.2430	
AR(1)	-0.014280	0.085386	-0.167236	0.8674	
R-squared	0.047421	Mean dependent var		-0.002939	
Adjusted R-squared	0.006512	S.D. dependent var		0.046611	
S.E. of regression	0.046459	Akaike info criterion		-3.254823	
Sum squared resid	0.351831	Schwarz criterion		-3.107845	
Log likelihood	286.2874	Hannan-Quinn criter.		-3.195186	
F-statistic	1.159195	Durbin-Watson stat		1.975022	
Prob(F-statistic)	0.329144	Wald F-statistic		1.488959	
Prob(Wald F-statistic)	0.184944				

Private Targets - CAR

Private targets - CAR				
Dependent Variable: CAR_3				
Method: Least Squares				
Date: 04/01/15 Time: 16:33				
Sample (adjusted): 2 367				
Included observations: 366 after adjustments				
Convergence achieved after 5 iterations				
White heteroskedasticity-consistent standard errors & covariance				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C__DEAL_SIZE_LN__M_USD__	0.001746	0.002551	0.684483	0.4941
C__DOMESTIC_VS__CROSS_B	0.008053	0.005729	1.405713	0.1607
C__FOCUSED_VS__DIVERSID	0.006441	0.004633	1.390060	0.1654
C__FORM__SHARES_1__	0.009245	0.004797	1.927373	0.0547
C__PAYMENT_METHOD__CASH	0.003167	0.008654	0.365911	0.7146
C__RELATIVE_SIZE__INFLA	0.002916	0.000876	3.328760	0.0010
C	-0.005571	0.016032	-0.347503	0.7284
AR(1)	-0.026656	0.053319	-0.499933	0.6174
R-squared	0.086204	Mean dependent var		0.015359
Adjusted R-squared	0.068336	S.D. dependent var		0.045929
S.E. of regression	0.044332	Akaike info criterion		-3.372603
Sum squared resid	0.703587	Schwarz criterion		-3.287300
Log likelihood	625.1864	Hannan-Quinn criter.		-3.338706
F-statistic	4.824597	Durbin-Watson stat		1.985577
Prob(F-statistic)	0.000033	Wald F-statistic		3.698553
Prob(Wald F-statistic)	0.001401			

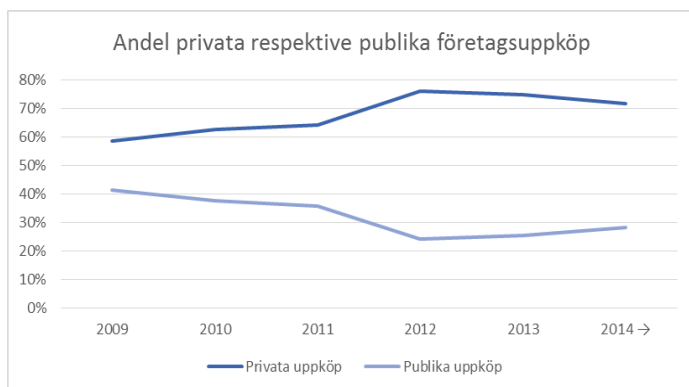
Uppköp av privata företag attraktivare än på länge

I Skadden's 2015 Insights* kunde man tidigare i år utläsa att M&A aktiviteten, enbart i Europa, ökade med 40.5 % under föregående år. Europa har därmed sett sin högsta nivå av M&A aktivitet sedan den finansiella krisen. I en aktuell studie vid Lunds Universitet har M&As på den västeuropeiska marknaden studerats och skillnaden mellan uppköp av publika respektive privata företag analyserats. Studien konstaterar att uppköp av privata företag i en högre grad är värdeskapande.

➤ Studien täcker alla tillkännagivanden av uppköp och sammanslagningar som uppgår till ett värde av \$ 50 miljoner eller mer på 17 börser i Västeuropa mellan januari 2009 och februari 2015. Baserat på företagets tillkännagivanden har effekten på aktiekurserna studerats över sammanlagt tre dagar (+/- en dag från tillkännagivandet) och även olika karaktärsdrag på uppköpen har studerats för att kunna konstatera vad som är värdeskapande vid ett M&A. Resultaten visar på att aktieägare till företag som köper upp publika företag varken kan förvänta sig en positiv eller en negativ överavkastning, medan en signifikant positiv överavkastning, om 1.52 %, finns att vinna vid uppköp av privata företag.

De två masterstudenterna som står bakom undersökningen är inte överraskade av upptäckten.

– Ser man till vår data består 68 % av alla M&As i Västeuropa av privata företag, därav skulle det vara förvånande om resultaten visade att dessa inte är värdeskapande. Tidigare studier har även visat på signifikanta skillnader i överavkastning i uppköp av privata företag i jämförelse med publika företag, även om dessa studier inte genomförts på en Europeisk marknad, säger Isabella Lendt.



Största anledningen bakom detta fenomen sägs vara en så kallad *private firm discount*, där privata företag säljs billigare på grund av bland annat illikviditet i bolagen, en större mängd informationsasymmetri och lägre budgivningskonkurrens.

Att just privata bolag inte handlas på marknaden och därmed också att aktierna i dessa bolag är svårare att både köpa och sälja brukar framhåvas som den största anledningen till att dessa säljs billigare än publika företag.

Vidare visar studien på att marknaden generellt föredrar aktieförvärv före tillgångsförvärv, att den relativa storleken mellan det uppköpande företaget och målföretaget ska vara så stor som möjligt och att uppköpen bör betalas kontant istället för med aktier.

Vad som dock förvånar studenterna är att varken storleken på budet eller om uppköpet är fokuserat eller diversifierat spelar någon roll, och vad gäller privata företag så verkar inte heller betalningsmetod spela roll. De tre variablerna har nämligen visats ha betydelse i tidigare studier.

– Enligt tidigare studier bör större affärer resultera i högre värdeskapande för det uppköpande företaget. En trolig anledning till att vi inte kan se något liknande i våra resultat är att större affärer är mer övervakade av både media och analytiker, vilket gör att marknaden är mer informerad och således förutser uppköpen i en högre utsträckning, säger Petter Lindkvist. Även om det rent intuitivt känns som att fokuserande uppköp borde belönas mer, då de hålls inom ens kärnverksamhet, så verkar vår studerade marknad även tro på diversifierande uppköp, fortsätter Isabella Lendt. Att betalningsmetoden inte spelar någon roll tror författarna beror på att aktieägarna i privata företag är mer informerade om det uppköpande företagens prospekt och är därmed mer villiga att acceptera aktier som betalningsmetod.

Slutligen finner undersökningen att andelen uppköp av privata företag har ökat ständigt sedan finanskrisen. En möjlig förklaring till detta är enligt författarna att uppköp av privata företag omges av en högre grad av osäkerhet i form av bland annat informationsasymmetri. I takt med att marknaderna gradvis stabiliserats har dessa affärer återigen blivit mer intressanta.

Även om det finns en hel del andra faktorer att ta hänsyn till vid ett M&A än vad vi undersökt, så tror vi definitivt att företagsledningen i uppköpande västeuropeiska företag har mycket att lära av denna undersökning för att maximera värdeskapandet för aktieägarna, säger Petter Lindkvist.

Kort och gott är den västeuropeiska marknaden en allt viktigare aktör på den internationella M&A-marknaden och att köpa upp privata företag är ytterst lönsamt med dagens marknadsläge. Om företagsledningen bara kan identifiera och kommunicera de förväntade synergieffekterna till marknaden finns mycket att vinna. Dock får inte glömmas att detta bara gäller på kort sikt, och såvida inte kan ge några implikationer på lång sikt, avslutar Isabella Lendt med.

Appendix 10 – Total Data Sample

Announcement date	Acquirer	Target	Target legal status	Domestic vs. cross-border	Focused vs. diversified	Payment method	Form	Deal Size (M USD)	Relative Size	AR (t-1)	AR (t)	AR (t+1)	CAR
			Public = 1 Private = 0	Domestic =1 Cross-border = 0	Focused = 1 Diversified = 0	Cash = 1 Other = 0	Shares = 1 Assets = 0						
2009-01-09	Peter Hambro Mining PLC	Aricom PLC	1	1	1	0	1	280	62%	-3,04%	3,55%	0,52%	1,03%
2009-01-12	RWE AG	Essent NV	0	0	1	1	1	11,489	0%	-3,29%	-1,70%	1,06%	-3,92%
2009-01-22	Autonomy Corp PLC	Interwoven Inc	1	0	1	1	1	596	19%	6,11%	3,69%	2,74%	12,54%
2009-02-09	H Lundbeck A/S	Ovation Pharmaceuticals Inc	0	0	1	1	1	900	21%	-2,20%	5,10%	5,48%	8,39%
2009-02-09	BG Group PLC	Pure Energy Resources Ltd	1	0	1	1	1	714	2%	1,34%	-1,61%	-1,56%	-1,83%
2009-02-10	GERRY WEBER International AG	GERRY WEBER International AG	1	1	1	1	1	325	61%	0,30%	0,25%	-0,12%	0,42%
2009-02-16	Dana Petroleum PLC	Bow Valley Energy Ltd	0	0	1	1	1	344	29%	4,71%	2,08%	-3,39%	3,40%
2009-03-10	Sodexo SA	Radhakrishna Hospitality Services Pvt Ltd	0	0	0	1	0	100	1%	2,59%	-0,87%	-0,07%	1,65%
2009-03-13	TDC A/S	Fullrate A/S	0	1	0	1	0	73	1%	1,79%	1,11%	-1,12%	1,78%
2009-03-18	Koninklijke Boskalis Westminster NV	Smit Internationale NV	1	1	0	1	1	1,603	0%	0,40%	-9,78%	-0,71%	-10,09%
2009-04-07	Corio NV	Tekira Shopping Centre	0	0	0	1	0	90	3%	0,69%	-0,89%	3,30%	3,10%
2009-04-14	Avocet Mining PLC	Wega Mining ASA	1	0	1	0	0	75	59%	0,29%	1,71%	5,42%	7,43%
2009-04-15	Sanofi-Aventis SA	BiPar Sciences Inc	0	0	0	1	0	500	1%	-3,03%	1,64%	-0,20%	-1,60%
2009-04-17	Peab AB	Annehem Fastigheter AB	1	1	0	1	1	59	6%	-1,12%	-3,64%	2,19%	-2,57%
2009-04-20	GlaxoSmithKline PLC	Stiefel Laboratories Inc	0	0	1	1	1	3,6	0%	-0,37%	0,93%	1,73%	2,29%
2009-04-22	Hunting PLC	National Coupling Co Inc	0	0	0	1	0	60	7%	-4,91%	0,79%	1,94%	-2,18%
2009-04-28	TNT NV	Expresso Aracatuba Transportes e Logistica Ltda	0	0	0	1	0	71	1%	-0,42%	1,11%	4,57%	5,26%

2009-05-06	Micro Focus International PLC	Borland Software Corp	1	0	1	1	1	73	8%	4,56%	15,82%	-2,52%	17,87%
2009-05-22	Segro PLC	Brixton PLC	1	1	0	0	1	1,6	0%	-3,49%	4,60%	0,28%	1,40%
2009-05-25	Koninklijke Philips Electronics NV	Saeco International Group SpA	1	0	0	1	1	280	2%	-0,23%	0,42%	0,12%	0,31%
2009-05-25	Ruukki Group Oyj	Mogale Alloys Ltd	0	0	1	1	0	243	43%	-1,09%	2,76%	-7,10%	-5,43%
2009-05-28	Unipapel SA	Adimpo SL	0	1	0	1	1	63	36%	2,06%	0,28%	2,68%	5,02%
2009-05-29	The Conygar Investment Co PLC	The Advantage Property Income Trust Ltd	1	1	1	0	1	211	303%	0,21%	-0,31%	0,54%	0,44%
2009-06-10	AMEC PLC	GRD Ltd	1	0	1	1	1	112	3%	-0,04%	-2,74%	0,82%	-1,96%
2009-06-17	British American Tobacco PLC	Bentoel Internasional Investama Tbk PT	1	0	1	1	0	645	1%	0,64%	1,08%	1,70%	3,42%
2009-06-19	BIC SA	Norwood Promotional Products Inc	0	0	0	1	0	162	6%	-0,39%	0,37%	-0,37%	-0,39%
2009-06-25	Arcadis NV	Malcolm Pirnie Inc	0	0	1	0	1	221	24%	3,67%	4,37%	2,18%	10,23%
2009-06-26	Fastighets AB Balder	Din Bostad Sverige AB	1	1	0	0	1	626	623%	4,18%	-3,57%	-0,55%	0,05%
2009-06-29	Celesio AG	Panpharma Participacoes SA	0	0	0	1	0	282	8%	0,10%	2,65%	3,13%	5,89%
2009-07-01	RPS Group PLC	Conics Ltd	0	0	1	1	1	52	7%	0,10%	-0,72%	1,79%	1,18%
2009-07-20	Realia Business SA	Torre Realia	0	1	0	1	0	178	27%	2,76%	-1,47%	-0,80%	0,50%
2009-07-23	Mobimo Holding AG	LO Holding Lausanne-Ouchy SA	1	1	1	0	1	345	58%	-0,44%	0,71%	0,26%	0,53%
2009-08-13	Volkswagen AG	Porsche Holding GmbH	0	0	1	1	0	4,546	0%	2,06%	2,53%	-4,29%	0,31%
2009-08-25	Aker Exploration ASA	Det norske oljeselskap ASA	1	1	1	0	1	277	130%	1,02%	0,00%	-0,76%	0,27%
2009-09-07	bwin Interactive Entertainment AG	Gioco Digitale SpA	0	0	0	0	1	164	13%	0,15%	3,60%	-0,98%	2,78%
2009-09-10	Weatherford International PLC	Integrity Energy International LLC	0	0	0	0	1	108	1%	-1,34%	0,06%	0,04%	-1,24%
2009-09-14	Alcon Inc	ESBATech AG	0	1	0	1	1	589	1%	-1,05%	-0,69%	0,05%	-1,70%
2009-09-16	Eurasian Natural Resources Corp Plc	Central African Mining & Exploration Co PLC	1	1	1	1	1	913	5%	0,78%	2,34%	-4,21%	-1,09%
2009-09-16	Chemring Group PLC	Hi-Shear Technology Corp	1	0	1	1	1	129	10%	0,89%	0,64%	4,28%	5,81%

2009-09-17	Balfour Beatty PLC	Parsons Brinckerhoff	0	0	1	1	1	490	18%	-3,28%	7,06%	-6,05%	-2,28%
2009-09-18	AerCap Holdings NV	Genesis Lease Ltd	1	0	0	0	1	302	41%	-0,16%	1,21%	0,57%	1,62%
2009-09-23	Qiagen NV	DxS Ltd	0	0	0	1	0	130	3%	-1,17%	-3,92%	-1,17%	-6,27%
2009-09-30	Fonciere Developpement Logements SA{FDL}	Housing Units(422)	0	1	0	1	0	183	16%	-1,13%	0,05%	32,40%	31,32%
2009-10-02	Compagnie des Alpes SA	Deux Alpes Loisirs SA	0	1	0	1	0	68	6%	0,92%	-0,33%	2,88%	3,47%
2009-10-12	Jeudan A/S	Undisclosed Real Estate Portfolio,Copenhagen	0	1	0	1	0	238	41%	0,56%	2,17%	-0,37%	2,36%
2009-10-15	Siemens AG	Solel Solar Systems Ltd	0	0	0	1	0	418	72%	3,51%	-0,81%	-2,16%	0,55%
2009-10-15	Outotec Oyj	Larox Oyj	1	1	1	0	0	99	7%	0,62%	4,79%	-0,22%	5,19%
2009-10-20	Adecco SA	MPS Group Inc	1	0	1	1	1	1,157	0%	-0,68%	-5,30%	-1,73%	-7,71%
2009-10-30	Immobiliare Grande Distribuzione SIIQ SpA	Katane Shopping Center	0	1	0	1	0	145	21%	7,01%	-1,57%	-2,42%	3,01%
2009-11-04	Novartis AG	Zhejiang Tianyuan Bio- pharmaceutical Co Ltd	0	0	1	1	0	125	0%	0,51%	-1,11%	0,26%	-0,35%
2009-11-05	Biovitrum AB	Swedish Orphan International AB	0	1	1	0	1	584	137%	0,11%	5,75%	0,86%	6,72%
2009-11-05	Metso Oyj	Tamfelt Oyj Abp	1	1	0	0	1	301	7%	-0,22%	0,65%	1,57%	2,01%
2009-11-09	Qiagen NV	SABiosciences Corp	0	0	1	1	0	90	2%	0,39%	1,55%	3,17%	5,11%
2009-11-10	Logitech International SA	LifeSize Communications	0	0	0	1	0	405	12%	0,02%	-0,02%	0,43%	0,42%
2009-11-23	Inmarsat PLC	Segovia Inc	0	0	0	1	0	110	2%	0,42%	0,51%	2,08%	3,01%
2009-11-23	G4S PLC	Champions of the West Inc	0	0	1	1	0	60	1%	0,30%	-0,98%	0,73%	0,05%
2009-12-09	Meyer Burger Technology AG	3S Industries AG	1	1	1	0	1	270	36%	0,59%	7,31%	-1,16%	6,75%
2009-12-11	Whitbread PLC	coffeeheaven international PLC	1	1	1	1	1	57	2%	-0,74%	2,68%	2,75%	4,69%
2009-12-16	Essilor International SA	FGX International Holdings Ltd	1	0	1	1	1	562	5%	0,61%	0,27%	-0,23%	0,65%
2009-12-17	Gruppo Coin SpA	Upim Srl	0	1	1	0	1	63	7%	1,10%	4,23%	-3,16%	2,17%

2009-12-18	Mears Group PLC	Supporta PLC	1	1	0	0	1	72	22%	-0,14%	-1,45%	2,19%	0,60%
2009-12-18	TAG Immobilien AG	Undisclosed Residential Real Estate Portfolio, Berlin	0	1	0	1	0	62	83%	4,01%	9,60%	-7,83%	5,77%
2009-12-21	Sanofi-Aventis SA	Chattem Inc	1	0	1	1	1	2,107	0%	2,68%	-0,58%	0,79%	2,89%
2009-12-21	Fiat SpA	Zastava Automobili	0	1	1	1	0	143	1%	-1,38%	-0,82%	-1,14%	-3,33%
2009-12-21	The Capita Group PLC	Synetrix(Holdings)Ltd	0	1	0	1	0	120	2%	0,40%	1,10%	0,75%	2,25%
2009-12-23	Icade SA	Cie la Lucette SA	1	1	0	1	0	1,703	0%	-0,92%	-1,27%	3,89%	1,70%
2009-12-23	Novartis AG	Corthera Inc	0	0	0	1	1	620	0%	0,52%	0,09%	0,01%	0,62%
2009-12-23	AstraZeneca PLC	Novexel SA	0	0	1	1	1	505	1%	1,65%	-0,18%	0,50%	1,98%
2009-12-23	Telefonica SA	JAJAH Inc	0	0	1	1	0	208	0%	0,06%	0,21%	-0,04%	0,23%
2009-12-23	HMV Group PLC	MAMA Group PLC	1	1	0	1	1	55	8%	1,13%	-1,70%	1,36%	0,79%
2010-01-06	Sonova Holding AG	InSound Medical Inc	0	0	1	0	0	75	1%	-0,15%	2,12%	-2,09%	-0,13%
2010-01-18	Tyco International Ltd	Brink's Home Security Holdings Inc	1	0	1	0	1	1,855	0%	1,85%	-0,07%	0,22%	2,00%
2010-02-03	Jacquet Metals SA	International Metal Service SA {IMS}	1	1	1	0	1	406	308%	-2,56%	-0,04%	0,30%	-2,31%
2010-02-09	Autonomy Corp PLC	MicroLink LLC	0	0	0	1	0	55	1%	-1,30%	0,01%	-5,94%	-7,23%
2010-02-15	Babcock International Group PLC	VT Group PLC	1	1	0	0	1	2,184	0%	-1,22%	-9,47%	7,28%	-3,41%
2010-02-18	Eurasian Natural Resources Corp Plc	Enya Holding BV	0	0	1	1	1	300	2%	2,04%	0,88%	-1,78%	1,14%
2010-02-25	LBI International NV	LBI International AB	1	0	0	0	1	150	132%	1,42%	-1,14%	-4,85%	-4,57%
2010-02-27	Corio NV	Nailloux Outlet Management SARL	0	0	0	1	0	60	1%	-0,99%	-1,05%	0,15%	-1,89%
2010-02-28	Merck KGaA	Millipore Corp	1	0	0	1	1	6,869	0%	0,00%	2,10%	-0,19%	1,90%
2010-03-09	Foraco International SA	Adviser Drilling SA	0	0	0	1	1	51	36%	1,08%	0,41%	3,72%	5,20%
2010-03-14	Compagnie Financiere Richemont SA	NET-A-PORTER Ltd	0	0	0	1	0	359	2%	0,56%	0,52%	0,45%	1,52%
2010-03-15	Wilh Wilhelmsen ASA	Wilh Wilhelmsen ASA	1	1	1	0	1	306	35%	-0,66%	2,22%	1,96%	3,52%
2010-03-16	Healthcare Locums PLC	Healthcare Australia Holdings Pty Ltd	0	0	1	1	1	118	30%	-1,84%	-0,98%	0,04%	-2,78%

2010-03-30	Praesepe PLC	Beacon Entertainments Ltd	0	1	0	0	1	68	228%	0,06%	-4,40%	-1,33%	-5,67%
2010-04-21	Vallourec SA	Serimax SAS	0	1	0	1	1	201	2%	-0,11%	-0,01%	0,91%	0,78%
2010-05-06	Rheinmetall AG	Simrad Optronics ASA	1	0	0	1	1	95	3%	-2,29%	3,90%	-2,22%	-0,60%
2010-05-11	Hochtief AG	EE Cruz & Co Inc	0	0	1	1	0	53	1%	1,67%	-0,42%	-2,94%	-1,70%
2010-05-18	Britvic PLC	Fruite Entreprises SA	0	0	1	1	1	294	5%	-3,73%	3,62%	2,35%	2,25%
2010-05-19	Pearson PLC	Melorio PLC	1	1	0	1	0	156	1%	0,62%	-1,62%	-1,06%	-2,06%
2010-05-19	Sanofi-Aventis SA	Nepentes SA	0	0	1	1	0	77	0%	-0,77%	0,90%	-4,38%	-4,25%
2010-05-24	RusForest AB	Nord Timber Group	0	0	1	0	1	67	102%	0,59%	17,30%	-4,05%	13,84%
2010-05-28	Royal Dutch Shell PLC	East Resources Inc	0	0	1	1	0	4,7	0%	0,84%	0,01%	-0,83%	0,02%
2010-05-28	Travis Perkins PLC	The BSS Group PLC	1	1	0	0	1	924	40%	-3,12%	6,07%	-0,04%	2,91%
2010-06-01	The Capita Group PLC	Premier Medical Group Ltd	0	1	1	1	1	88	1%	0,01%	0,15%	-0,26%	-0,10%
2010-06-08	Compass Group PLC	SSC Service Solutions	0	0	0	1	1	65	0%	0,57%	-0,61%	1,94%	1,90%
2010-06-09	Dassault Systemes SA	Exalead SA	0	1	1	1	0	162	2%	-1,29%	1,39%	0,97%	1,07%
2010-06-10	GlaxoSmithKline PLC	Laboratorios Phoenix SAcyF	0	0	1	1	1	253	0%	-0,08%	-0,38%	2,63%	2,17%
2010-06-11	Danone SA	Medical Nutrition USA Inc	1	0	0	1	1	50	0%	-0,57%	-0,90%	0,08%	-1,40%
2010-06-15	Conwert Immobilien Invest SE	Eco Business-Immobilien AG	1	1	0	1	1	643	73%	0,12%	2,81%	-1,09%	1,84%
2010-06-17	Rhodia SA	Jiangsu Feixiang Chemical Co Ltd	0	0	1	1	1	489	29%	0,55%	2,84%	-0,12%	3,27%
2010-06-23	YIT Oyj	caverion GmbH	0	0	1	1	1	90	4%	-0,25%	1,90%	-0,50%	1,15%
2010-06-28	Noble Corp	FDR Holdings Ltd	0	0	1	1	1	2,16	0%	2,32%	2,93%	4,30%	9,55%
2010-06-29	Gemalto NV	Cinterion Wireless Modules GmbH	0	0	0	1	0	199	6%	1,76%	0,28%	1,04%	3,08%
2010-06-30	Sanofi-Aventis SA	TargeGen Inc	0	0	1	1	0	560	1%	0,23%	1,52%	-0,49%	1,27%
2010-06-30	Shire PLC	Lexington Technology Park, Lexington,Massachusetts	0	0	0	1	0	165	1%	-1,26%	-0,22%	-1,37%	-2,85%
2010-07-02	Landi Renzo SpA	AEB Srl	0	1	1	1	1	53	13%	1,74%	-5,38%	-0,08%	-3,72%
2010-07-06	Hexagon AB	Intergraph Corp	0	0	0	1	0	2,125	0%	0,01%	0,89%	5,46%	6,36%

2010-07-06	Alcon Inc	LenSx Lasers Inc	0	0	0	1	0	744	2%	-0,06%	0,60%	-0,24%	0,29%
2010-07-07	DS Smith PLC	Otor SA	1	0	0	1	0	238	34%	0,13%	0,50%	-0,66%	-0,03%
2010-07-09	UNIT4 NV	Teta SA	0	0	1	1	1	56	9%	-0,53%	-0,53%	-0,11%	-1,18%
2010-07-21	Reckitt Benckiser Group PLC	SSL International PLC	1	1	0	1	1	3,872	0%	-1,25%	2,51%	-1,26%	0,00%
2010-07-21	Firestone Diamonds PLC	Kopane Diamond Developments PLC	1	1	1	0	1	79	121%	1,52%	-	-2,62%	-
2010-07-26	Pace PLC	2Wire Inc	0	0	0	1	0	475	60%	2,86%	12,74%	-1,83%	13,77%
2010-07-29	Aegis Group PLC	Mitchell Communication Group Ltd	1	0	1	0	1	300	15%	-0,20%	2,07%	-1,00%	0,87%
2010-08-02	WS Atkins PLC	The PBSJ Corp	0	0	1	1	1	296	27%	-1,49%	2,38%	2,01%	2,90%
2010-08-25	Compass Group PLC	VSG Group Ltd	0	1	0	1	0	99	1%	2,87%	1,20%	0,75%	4,82%
2010-08-29	Sanofi-Aventis SA	Genzyme Corp	0	0	0	1	1	23,525	0%	0,79%	0,98%	-0,61%	1,16%
2010-08-30	Meda AB	Alaven Pharmaceutical LLC	0	0	1	1	0	350	15%	0,50%	5,59%	-1,98%	4,12%
2010-09-07	BAE Systems PLC	OASYS Technology LLC	0	0	1	1	0	55	0%	0,20%	0,60%	-0,16%	0,63%
2010-09-09	Axel Springer SE	SeLoger.com SA	1	0	0	1	0	732	19%	-1,49%	-1,89%	1,27%	-2,11%
2010-09-13	William Demant Holding AS	Otix Global Inc	1	0	1	1	1	62	2%	1,45%	0,29%	-0,37%	1,37%
2010-09-20	Safran SA	L-1 Identity Solutions Inc	1	0	0	1	1	1,595	0%	0,08%	3,40%	5,37%	8,85%
2010-09-21	Experian PLC	Mighty Net Inc	0	0	1	1	0	208	2%	0,08%	-0,24%	0,34%	0,19%
2010-09-27	Unilever PLC	Alberto-Culver Co	1	0	0	1	1	3,728	0%	-0,47%	1,54%	1,02%	2,08%
2010-09-27	Temenos Group AG	Odyssey Financial Technologies SA	0	0	1	1	0	101	6%	-1,92%	1,05%	2,09%	1,23%
2010-09-28	UPM-Kymmene Oyj	Myllykoski Oy	0	1	1	0	0	1,128	0%	-1,98%	3,76%	-0,34%	1,45%
2010-10-01	Spectris PLC	N-TRON Corp	0	0	0	1	0	51	3%	2,26%	0,24%	0,40%	2,91%
2010-10-06	Johnson Matthey PLC	Intercat Inc	0	0	1	1	0	56	1%	0,55%	0,26%	0,85%	1,65%
2010-10-11	Electrolux AB	Olympic Group for Financial Investments SAE	1	0	1	1	0	249	3%	0,81%	3,45%	-0,32%	3,94%
2010-10-11	Assa Abloy AB	Actividentity Inc	1	0	0	1	1	76	1%	-2,09%	-0,60%	0,20%	-2,49%
2010-10-13	Balfour Beatty PLC	Halsall Associates Ltd	0	0	1	1	0	53	2%	0,07%	-1,20%	1,86%	0,73%
2010-10-18	Eurasian Natural Resources Corp Plc	Mineracao Minas Bahia SA	0	0	1	1	1	304	2%	1,01%	-2,44%	-0,46%	-1,88%
2010-10-20	OMV AG	Petrol Ofisi AS	1	0	0	1	0	1,392	0%	-0,91%	-0,94%	-5,05%	-6,90%

2010-10-22	Fagerhult AB	LTS Licht & Leuchten GmbH	0	0	1	1	1	85	37%	-0,44%	6,15%	-0,32%	5,39%
2010-10-22	Dechra Pharmaceuticals PLC	DermaPet Inc	0	0	1	1	0	64	13%	-1,38%	7,09%	1,69%	7,39%
2010-10-28	Stora Enso Oyj	Inpac International Print & Packaging Co Ltd	0	0	1	1	0	115	2%	1,29%	-2,27%	-0,98%	-1,96%
2010-10-28	Sanofi-Aventis SA	BMP Sunstone Corp	1	0	1	1	1	533	1%	0,37%	-0,04%	1,02%	1,35%
2010-11-10	Daisy Group PLC	SpiriTel PLC	1	1	1	1	1	63	15%	-2,90%	2,72%	-1,54%	-1,72%
2010-11-15	Nyrstar NV	Farallon Mining Ltd	1	0	1	1	1	396	26%	-2,35%	1,66%	-	-
2010-11-15	SolarWorld AG	Solarparc AG	1	1	0	0	1	76	5%	-2,24%	-3,25%	-0,68%	-6,17%
2010-11-19	BTG PLC	Biocompatibles International PLC	1	1	0	0	1	234	22%	0,61%	-7,68%	-1,78%	-8,85%
2010-11-22	Prysmian SpA	Draka Holding NV	1	0	0	0	1	1,647	0%	0,71%	-3,41%	-0,90%	-3,60%
2010-11-22	K+S AG	Potash One Inc	1	0	0	1	1	420	3%	0,36%	-1,72%	2,80%	1,44%
2010-11-23	Laird PLC	Cattron Group International Inc	0	0	1	1	0	90	15%	0,79%	10,64%	-4,62%	6,81%
2010-11-24	Danone SA	YoCream International Inc	0	0	1	1	1	103	0%	-0,51%	0,07%	-0,09%	-0,53%
2010-11-30	Inmeta ASA	Crayon Group AS	0	1	0	0	1	55	131%	-2,22%	0,07%	4,06%	1,92%
2010-11-30	ABB Ltd	Baldor Electric Co	1	0	1	1	1	3,886	0%	1,11%	1,41%	-0,90%	1,61%
2010-11-30	Obrascon Huarte Lain SA	Judlau Contracting Inc	0	0	1	1	0	72	2%	-0,07%	-1,32%	3,99%	2,60%
2010-12-02	Young & Co's Brewery PLC	Geronimo Inns Ltd	0	1	0	1	0	93	36%	-0,84%	0,00%	-0,88%	-1,73%
2010-12-06	Rio Tinto PLC	Riversdale Mining Ltd	1	0	1	1	1	3,661	0%	0,45%	0,07%	-0,37%	0,15%
2010-12-10	Assura Group Ltd	AH Medical Properties PLC	1	1	1	0	1	196	83%	-3,78%	3,40%	-1,35%	-1,74%
2010-12-13	Assa Abloy AB	Cardo AB	1	1	0	1	0	1,056	0%	1,58%	-1,99%	1,45%	1,04%
2010-12-13	John Wood Group PLC	Production Services Network (UK)Ltd	0	1	1	0	1	959	24%	0,17%	5,25%	2,34%	7,75%
2010-12-21	DPA Group NV	De Nederlandse Interim Groep BV{NIG}	0	1	1	0	0	54	101%	-0,07%	3,98%	0,01%	3,92%
2010-12-22	BAE Systems PLC	ETI A/S	0	0	0	1	0	211	1%	1,71%	-0,96%	0,59%	1,34%
2010-12-23	The Capita Group PLC	BSI Holdings Ltd	0	1	0	1	0	66	1%	-0,45%	0,45%	0,56%	0,57%
2010-12-30	Digital Vision AB	Image Systems AB	0	1	0	0	0	170	3649%	-	41,39%	0,53%	19,94%

										21,98%			
2010-12-31	Vivendi SA	Digitick SA	0	1	0	1	0	60	0%	-0,36%	-0,57%	0,62%	-0,31%
2011-01-10	Biotie Therapies Oyj	Synosia Therapeutics Holding AG	0	0	1	0	1	119	112%	9,01%	2,89%	13,66%	25,56%
2011-01-19	Glanbia PLC	Bio-Engineered Supplements & Nutrition Inc	0	0	0	1	0	145	10%	-0,66%	3,87%	-1,32%	1,90%
2011-01-31	Greene King PLC	Cloverleaf Restaurants Ltd	0	1	1	1	1	104	7%	-0,83%	5,42%	0,49%	5,08%
2011-02-07	Enso PLC	Pride International Inc	1	0	1	0	1	8,685	0%	-1,34%	-5,00%	-2,13%	-8,46%
2011-02-09	Klepierre SA	Romagna Retail Park	0	0	0	1	0	95	1%	0,52%	1,65%	-1,29%	0,88%
2011-02-11	Carillion PLC	Eaga PLC	1	1	1	1	1	410	17%	-0,37%	1,87%	0,90%	2,40%
2011-02-14	Sinclair Pharma PLC	IS Pharma PLC	1	1	1	0	1	89	63%	-0,95%	1,56%	1,01%	1,62%
2011-02-14	Nutreco NV	Shihai Co Ltd	0	0	1	1	1	54	2%	5,42%	-1,61%	-0,08%	3,74%
2011-02-14	Fluidra SA	Aqua Products Inc	0	0	1	1	1	50	13%	-0,94%	2,89%	0,31%	2,27%
2011-02-15	Wm Morrison Supermarkets PLC	Kiddicare.com Ltd	0	1	0	1	0	113	1%	-0,57%	2,07%	-0,15%	1,34%
2011-02-16	Clariant AG	Sued Chemie AG	1	0	1	1	0	1,597	0%	0,94%	-	-0,74%	-
2011-02-21	CSR PLC	Zoran Corp	1	0	1	0	1	224	19%	-0,09%	-8,95%	-2,54%	-
2011-02-21	AMEC PLC	The qedi Group	0	1	0	1	0	54	1%	-0,90%	0,90%	-0,61%	-0,62%
2011-02-24	Henkel AG & Co KGaA	Schwarzkopf Inc	0	0	0	1	1	57	1%	-0,08%	-2,87%	0,97%	-1,97%
2011-02-25	TiGenix NV	Cellerix SA	0	0	1	0	1	86	1%	-0,70%	4,26%	0,10%	3,65%
2011-03-02	BBA Aviation PLC	GE Aviation Systems LLC- Legacy fuel measurement business	0	1	0	1	0	62	4%	-1,01%	-5,81%	-0,77%	-7,59%
2011-03-07	LVMH Moet Hennessy Louis Vuitton SA	Bulgari SpA	1	0	1	0	0	3,001	0%	-0,42%	1,76%	0,42%	1,76%
2011-03-07	Pearson PLC	Education Development International PLC	1	1	0	1	1	166	1%	3,58%	1,02%	0,02%	4,62%
2011-03-08	Halma PLC	Medicel AG	0	0	0	1	0	75	4%	0,53%	-0,12%	5,15%	5,56%
2011-03-09	DCC PLC	Advent Data Ltd	0	0	0	1	1	52	2%	0,06%	0,55%	0,29%	0,90%
2011-03-15	Serco Group PLC	The Listening Co Ltd	0	1	1	1	0	90	2%	1,56%	-0,94%	-1,73%	-1,12%

2011-03-16	NH Hoteles SA	Undisclosed Hotels(10)	0	0	1	1	0	321	21%	-1,43%	3,11%	2,20%	3,88%
2011-03-21	Tyco International Ltd	KEF Holdings Ltd	0	0	0	1	0	300	1%	-0,48%	0,91%	-0,84%	-0,41%
2011-03-24	Schneider Electric SA	Summit Energy Services Inc	0	0	0	1	0	268	1%	-0,93%	-0,30%	-0,12%	-1,34%
2011-04-04	Solvay SA	Rhodia SA	1	0	1	1	1	5,981	0%	-1,11%	1,71%	-1,50%	-0,90%
2011-04-05	Evolva Holding SA	Abunda Nutrition Inc	0	0	1	0	1	65	29%	2,27%	-6,23%	-1,17%	-5,13%
2011-04-05	Capgemini SA	Avantias SAS	0	1	1	1	1	57	1%	0,62%	0,86%	-1,64%	-0,16%
2011-04-07	Synergy Health PLC	BeamOne LLC	0	0	1	1	0	55	7%	1,16%	-1,27%	1,22%	1,11%
2011-04-11	NIBE Industrier AB	Schulthess Group AG	0	0	0	0	0	471	35%	0,86%	-1,30%	-0,58%	-1,01%
2011-04-11	Medivir AB	BioPhausia AB	1	1	1	0	1	101	16%	-1,33%	-1,15%	-1,58%	-4,06%
2011-04-11	TGS-NOPEC Geophysical Co ASA	Stingray Geophysical Ltd	0	0	0	1	1	80	3%	2,18%	-1,01%	1,48%	2,66%
2011-04-15	Nieuwe Steen Investments NV	VastNed Offices/Industrial NV	1	1	1	0	1	1,171	0%	1,21%	0,47%	1,65%	3,33%
2011-04-15	The Capita Group PLC	Right Document Solutions Holdings Ltd	0	1	1	1	0	65	1%	1,41%	1,26%	0,71%	3,38%
2011-04-19	Svenska Capital Oil AB	Misen Enterprises AB	0	1	1	0	1	135	6264%	0,48%	15,30%	-0,32%	15,46%
2011-04-19	Buongiorno SpA	Dada SpA	1	1	1	1	1	104	51%	2,60%	2,30%	0,80%	5,70%
2011-04-26	Pearson PLC	SchoolNet Inc	0	0	0	1	0	230	2%	-0,01%	0,23%	1,61%	1,82%
2011-04-27	Mediq NV	PBG Groep BV	0	1	0	1	0	59	5%	1,35%	2,18%	-1,38%	2,15%
2011-05-02	QSC AG	INFO Gesellschaft fuer Informationssysteme AG	1	1	1	1	0	50	10%	-1,24%	-2,16%	-4,33%	-7,73%
2011-05-03	Experian PLC	Computec SA	1	0	0	1	0	382	3%	-0,08%	0,68%	0,43%	1,04%
2011-05-05	Capital Product Partners LP	Crude Carriers Corp	1	1	1	0	1	403	96%	0,02%	-	1,60%	-
2011-05-11	TDC A/S	OnFone ApS	0	1	0	1	1	55	1%	1,22%	1,71%	0,17%	3,10%
2011-05-17	Shire PLC	Advanced Biohealing Inc	0	0	1	1	0	750	4%	-1,38%	-1,21%	1,78%	-0,80%
2011-05-23	Bigben Interactive SA	Modelabs Group SA	1	1	0	1	1	79	52%	0,17%	0,53%	-0,10%	0,60%

2011-05-26	British American Tobacco PLC	Productora Tabacalera de Colombia SA{Protabaco}	0	0	1	1	1	452	1%	-1,55%	1,14%	-0,66%	-1,07%
2011-05-26	Sportingbet PLC	Centrebet International Ltd	1	0	0	1	1	158	41%	-0,50%	-10,56%	1,28%	-9,78%
2011-06-15	Nyrstar NV	Breakwater Resources Ltd	1	0	1	1	1	480	22%	2,18%	3,58%	5,02%	10,78%
2011-06-15	Qiagen NV	Ipsogen SA	1	0	1	1	0	58	1%	-0,74%	0,32%	-1,59%	-2,01%
2011-06-16	austriamicrosystems AG	Texas Advanced Optoelectronic Solutions Inc	0	0	0	0	1	320	55%	-0,73%	-1,71%	2,10%	-0,34%
2011-06-16	Immofinanz AG	Adama Holding Public Ltd	0	0	0	1	1	60	1%	-0,42%	0,54%	-0,64%	-0,52%
2011-06-21	ElektA AB	Nucletron BV	0	0	1	1	0	526	13%	3,20%	3,78%	-1,04%	5,94%
2011-06-22	CompuGroup Medical AG	LAUER FISCHER GmbH	0	1	1	1	0	75	9%	-0,84%	0,69%	0,99%	0,84%
2011-06-23	ERG SpA	IVPC Power 3 SpA	0	1	0	1	1	143	7%	1,07%	0,24%	0,90%	2,21%
2011-06-23	AB Sagax	Properties(2),Stockholm	0	1	0	1	0	54	13%	-1,36%	1,74%	-0,17%	0,22%
2011-06-28	Experian PLC	Medical Present Value Inc	0	0	0	1	0	185	1%	-1,18%	0,86%	1,13%	0,81%
2011-06-29	Saab AB	Sensis Corp	0	0	1	1	0	195	8%	0,69%	0,67%	-0,31%	1,06%
2011-06-30	Akzo Nobel NV	Schramm Holding AG	1	0	0	1	0	206	1%	0,15%	-1,35%	-0,57%	-1,78%
2011-06-30	Corio NV	Centre Saint Jacques	0	0	0	1	0	139	2%	0,62%	0,29%	0,72%	1,63%
2011-07-01	Recordati SpA	Dr F Frik Ilac Sanayi ve Ticaret AS	0	0	1	1	1	130	6%	0,32%	-0,36%	0,49%	0,44%
2011-07-04	Nestle SA	Hsu Fu Chi International Ltd	0	0	1	1	0	1,698	0%	0,02%	-0,03%	0,76%	0,75%
2011-07-11	Lonza Group Ltd	Arch Chemicals Inc	1	0	0	1	1	1,474	0%	1,09%	2,74%	2,59%	6,42%
2011-07-11	Aegis Group PLC	MediaVest(Manchester)Ltd	0	1	1	1	0	151	5%	-0,19%	-1,20%	2,76%	1,37%
2011-07-14	BHP Billiton PLC	Petrohawk Energy Corp	1	0	0	1	1	15,557	0%	0,59%	-0,93%	-1,88%	-2,22%
2011-07-18	Meridiana Fly SpA	Air Italy Holding Srl	0	1	1	1	1	134	107%	-0,88%	2,89%	2,91%	4,92%
2011-07-19	Tyco International Ltd	Chemguard Inc	0	0	0	1	0	130	1%	-0,68%	-0,10%	-0,05%	-0,82%

2011-07-19	Greene King PLC	The Capital Pub Co PLC	1	1	1	1	1	136	8%	-1,69%	-0,11%	0,65%	-1,15%
2011-07-19	bioMerieux SA	Argene SA	0	1	0	1	0	53	1%	-0,40%	-0,11%	-1,75%	-2,26%
2011-07-20	Randstad Holding NV	SFN Group Inc	1	0	1	1	1	730	10%	1,92%	1,63%	1,72%	5,26%
2011-07-26	DryShips Inc	OceanFreight Inc	1	1	1	0	1	242	16%	-1,43%	-0,78%	2,39%	0,19%
2011-07-27	Eni SpA	Nuon Belgium NV,Nuon Power Generation Walloon BV	0	0	0	1	0	226	0%	-0,82%	0,32%	-0,59%	-1,09%
2011-07-27	Industria de Diseno Textil SA	Undisclosed Real Estate,Milan	0	0	0	1	0	148	0%	-0,41%	0,97%	-1,05%	-0,49%
2011-07-29	UBM PLC	International Business Events Ltd	0	1	0	1	0	83	4%	-1,21%	6,03%	-1,17%	3,65%
2011-08-01	Telecity Group PLC	Data Electronics Services Ltd	0	0	1	1	0	144	8%	0,27%	1,47%	-1,20%	0,54%
2011-08-08	Aryzta AG	Honeytop Speciality Foods Ltd	0	0	1	1	0	130	3%	-0,07%	-1,96%	-0,89%	-2,92%
2011-08-12	Hunting PLC	Dearborn Precision Tubular Products Inc	0	0	1	1	0	84	5%	-0,65%	-4,13%	2,83%	-1,95%
2011-08-15	Spectris PLC	Omega Engineering Inc	0	0	1	1	0	475	17%	1,06%	3,33%	-0,75%	3,65%
2011-08-19	Electrolux AB	CTI Cia Tecno Industrial SA	1	0	1	1	0	551	10%	-2,98%	0,39%	0,62%	-1,97%
2011-08-26	San Leon Energy PLC	Realm Energy International Corp	1	0	1	0	1	116	42%	-2,98%	-4,02%	-0,15%	-7,14%
2011-09-01	Svenska Cellulosa AB SCA	Pro Descart Industria e Comercio Ltda	0	0	1	1	0	70	1%	-1,62%	-1,58%	1,41%	-1,79%
2011-09-06	Sodexo SA	Puras do Brasil SA	0	0	0	1	1	735	6%	-1,69%	2,70%	1,05%	2,05%
2011-09-15	Cobham PLC	Trivec Avant Corp	0	0	0	1	1	144	4%	-0,06%	-1,61%	-0,03%	-1,70%
2011-09-15	Tyco International Ltd	Visonic Ltd	1	0	0	1	1	84	0%	-1,36%	0,68%	2,54%	1,86%
2011-09-21	DIC Asset AG	Office Properties Karlsruhe,Leipzig(2)	0	1	0	1	0	85	22%	-2,08%	3,10%	-1,40%	-0,38%
2011-09-29	Ultra Electronics Holdings PLC	AEP Networks Inc	0	0	0	1	0	58	4%	0,91%	-1,31%	0,01%	-0,38%

2011-10-03	Hikma Pharmaceuticals PLC	Societe de Promotion Pharmaceutique du Maghreb SA	1	0	1	1	0	111	6%	0,76%	-0,22%	2,82%	3,36%
2011-10-05	Premier Oil PLC	EnCore Oil PLC	1	1	1	0	1	289	12%	1,61%	-4,20%	0,28%	-2,32%
2011-10-14	Unilever PLC	OAO Kontsern "Kalina"	1	0	0	1	0	555	1%	1,36%	1,85%	-0,88%	2,33%
2011-10-17	Statoil ASA	Brigham Exploration Co	1	0	1	1	1	4,782	0%	0,02%	0,21%	0,94%	1,16%
2011-10-19	Rio Tinto PLC	Hathor Exploration Ltd	1	0	1	1	1	564	1%	-3,46%	-1,81%	-1,86%	-7,13%
2011-10-24	SDL PLC	Alterian PLC	1	1	1	1	1	98	12%	-0,21%	-0,25%	-1,77%	-2,23%
2011-10-24	Vistaprint NV	Albumprinter BV	0	1	0	1	0	91	8%	1,53%	3,58%	-0,64%	4,47%
2011-11-03	BayWa AG	Turners & Growers Ltd	1	0	0	1	0	125	9%	0,95%	-1,12%	1,15%	0,98%
2011-11-04	Oxford Instruments PLC	Platinum Medical Imaging LLC	0	0	1	1	0	55	8%	2,49%	0,01%	-1,67%	0,83%
2011-11-09	May Gurney Integrated Services PLC	TransLinc Ltd	0	1	0	1	0	104	32%	1,06%	-1,37%	0,55%	0,24%
2011-11-14	Ingenico SA	Xiring SA	1	1	0	1	0	63	3%	0,01%	2,97%	3,03%	6,02%
2011-11-15	Velti PLC	Mobile Interactive Group Ltd	0	0	1	1	0	93	19%	3,27%	-1,16%	7,20%	9,31%
2011-11-18	Filtrona PLC	Richco Inc	0	0	1	1	1	110	9%	1,53%	-0,78%	1,62%	2,38%
2011-11-21	Covidien PLC	BARRX Medical Inc	0	0	1	1	1	325	1%	0,56%	-3,37%	0,12%	-2,69%
2011-11-21	Pearson PLC	Global Education & Technology Group Ltd	1	0	0	1	1	162	1%	0,89%	1,26%	-0,15%	1,99%
2011-11-28	Senior PLC	Weston EU Ltd	0	1	1	1	1	84	8%	1,69%	-1,75%	5,39%	5,34%
2011-12-01	Outotec Oyj	Energy Products of Idaho Inc	0	0	1	1	0	91	5%	-0,27%	2,98%	0,13%	2,85%
2011-12-02	Advanced Medical Solutions Group PLC	RESORBA Wundversorgung GmbH & Co KG	0	0	1	1	0	85	42%	-5,23%	14,03%	0,30%	9,10%
2011-12-05	Ultra Electronics Holdings PLC	Zu Industries Inc	0	0	0	1	0	77	5%	-0,27%	1,09%	1,29%	2,11%
2011-12-12	Carrefour SA	Guyenne et Gascogne SA	1	1	1	1	1	603	4%	1,89%	-0,91%	-0,87%	0,11%
2011-12-12	ABB Ltd	Newave Energy Holding SA	1	1	0	1	0	157	0%	0,29%	-0,46%	0,49%	0,32%

2011-12-13	Icade SA	Societe Immobiliere de Location pour l'Industrie et le Commerce SA	1	1	1	0	1	3,387	0%	-1,46%	-1,77%	-0,18%	-3,41%
2011-12-19	Vistaprint NV	Webs Inc	0	0	0	0	0	118	9%	2,76%	-6,87%	-0,36%	-4,46%
2011-12-19	Sweco AB	Finnmap Consulting Oy	0	0	0	0	1	85	14%	0,53%	5,01%	4,53%	10,08%
2011-12-21	Alma Media Oyj	LMC sro	0	0	0	1	0	51	8%	0,15%	-0,34%	-1,33%	-1,52%
2011-12-23	The Capita Group PLC	Applied Language Solutions Ltd	0	1	1	1	0	105	2%	1,01%	-0,33%	0,02%	0,70%
2012-01-03	Fastighets AB Balder	Residential Block Oesterfaelled,Copenhagen	0	0	1	1	0	189	35%	0,14%	0,75%	3,23%	4,13%
2012-01-05	Cooper Industries PLC	Blinda Industria e Comercio Ltda	0	0	1	1	0	56	1%	-0,32%	-0,24%	-0,96%	-1,52%
2012-01-06	Eurasia Groupe SA	MB Retail Europe SA	1	1	0	1	1	254	323%	0,11%	0,01%	0,01%	0,14%
2012-01-09	EnQuest PLC	Canamens Energy North Sea Ltd, Canamens UK 814 & 815 Ltd	0	1	1	1	0	90	8%	2,03%	3,46%	0,74%	6,23%
2012-01-25	Weir Group PLC	Novatech LLC	0	0	0	1	0	176	3%	3,29%	2,52%	0,37%	6,18%
2012-01-30	ABB Ltd	Thomas & Betts Corp	1	0	0	1	1	3,924	0%	0,39%	-0,40%	0,74%	0,73%
2012-02-13	AB SKF	General Bearing Corp	0	0	1	1	0	125	1%	0,07%	0,83%	-0,64%	0,26%
2012-02-22	Jeudan A/S	Property Portfolio	0	1	0	1	0	81	11%	0,94%	2,24%	-1,50%	1,68%
2012-02-25	Atlantia SpA	Autostrade Sud America Srl	0	0	1	1	1	760	7%	-0,19%	-0,72%	0,07%	-0,84%
2012-02-25	Svenska Cellulosa AB SCA	Everbeauty Corp	0	0	1	1	1	290	3%	-0,15%	1,42%	1,28%	2,56%
2012-03-05	Abcam PLC	Epitomics International Inc	0	0	0	0	1	154	16%	-1,00%	8,83%	0,55%	8,37%
2012-03-07	Prosegur Compania de Seguridad SA	Nordeste Seguranca de Valores Paraiba Ltda	0	0	1	1	1	467	15%	-1,09%	1,57%	10,78%	11,27%
2012-03-15	Shire PLC	Ferrokin Biosciences Inc	0	0	0	1	0	325	2%	-0,07%	-3,19%	0,47%	-2,79%

2012-03-19	Covidien PLC	superDimension Ltd	0	0	1	1	1	300	1%	-2,33%	-1,26%	0,66%	-2,93%
2012-03-22	Covidien PLC	Newport Medical Instruments Inc	0	0	1	1	1	108	0%	0,17%	0,04%	-0,05%	0,16%
2012-03-22	Huhtamaki Oyj	Josco(Holdings)Ltd	0	0	0	1	0	88	6%	0,79%	0,00%	1,44%	2,23%
2012-03-26	Aggreko PLC	Cia Brasileira de Locacoes	0	0	1	1	1	255	3%	-0,09%	0,17%	-0,10%	-0,02%
2012-03-26	Monitise PLC	ClairMail Inc	0	0	1	0	0	173	37%	-1,73%	-2,95%	5,86%	1,17%
2012-04-03	Cairn Energy PLC	Agora Oil & Gas AS	0	0	1	0	0	447	15%	-2,99%	4,82%	3,19%	5,02%
2012-04-05	Covidien PLC	Oridion Systems Ltd	1	0	1	1	1	306	1%	1,73%	0,41%	-0,02%	2,12%
2012-04-18	Betsson AB	Nordic Gaming Group Ltd	0	0	0	1	1	85	8%	1,84%	9,28%	2,10%	13,22%
2012-04-19	GlaxoSmithKline PLC	Human Genome Sciences Inc	1	0	0	1	1	3,269	0%	0,51%	0,84%	0,81%	2,16%
2012-04-23	AstraZeneca PLC	Ardea Biosciences Inc	1	0	0	1	1	1,033	0%	1,20%	-0,49%	0,35%	1,05%
2012-04-24	Smiths News PLC	Hedgelane Ltd	0	1	1	1	0	61	24%	-0,20%	7,33%	0,52%	7,65%
2012-04-26	Dassault Systemes SA	Gemcom Software International Inc	0	0	0	1	1	360	3%	-1,06%	9,59%	-3,72%	4,81%
2012-04-30	Seat Pagine Gialle SpA	Lighthouse International Co SA	0	0	1	0	1	746	669%	-1,61%	1,15%	0,16%	-0,30%
2012-05-03	Koninklijke DSM NV	Kensley Nash Corp	1	0	0	1	1	349	3%	1,70%	0,36%	-1,58%	0,48%
2012-05-07	Lagardere SCA	LeGuide.com SA	1	1	0	1	0	79	2%	4,81%	-0,80%	-4,40%	-0,38%
2012-05-15	GlaxoSmithKline PLC	Cellzome Ltd	0	1	0	1	1	98	0%	0,62%	0,53%	0,11%	1,26%
2012-05-25	Pearson PLC	GlobalEnglish Corp	0	0	0	1	0	90	1%	0,81%	0,51%	0,83%	2,15%
2012-05-31	Siegfried Holding AG	Alliance Medical Products Inc	0	0	0	1	0	58	14%	-0,48%	0,31%	0,48%	0,31%
2012-05-31	Ultra Electronics Holdings PLC	Giga Communications Ltd	0	1	0	1	0	57	3%	-0,08%	0,31%	-1,56%	-1,33%
2012-06-01	Moneysupermarket.com Group PLC	MoneySavingExpert.com	0	1	1	0	0	135	15%	3,12%	0,87%	-0,04%	3,95%
2012-06-08	Hera SpA	Acegas-APS Holding Srl	0	1	0	0	1	180	12%	-2,66%	1,86%	-0,39%	-1,20%
2012-06-08	Air Liquide SA	LVL Medical Groupe SA	1	1	0	1	0	288	1%	0,35%	0,15%	0,78%	1,29%
2012-06-11	AEVIS Holding SA	Swiss Healthcare Properties AG	0	1	0	0	1	144	79%	-0,11%	-4,24%	2,73%	-1,62%

2012-06-18	Industria de Diseno Textil SA	Undisclosed Real Estate Property,London	0	0	0	1	0	243	0%	-1,15%	0,81%	1,48%	1,13%
2012-06-20	TOM TAILOR Holding AG	BONITA Gmbh & Co KG	0	1	0	1	1	279	119%	0,56%	0,98%	4,70%	6,24%
2012-06-28	Jeudan A/S	Office Buildings,Copenhagen(7)	0	1	0	1	0	58	7%	-0,53%	0,17%	-0,73%	-1,09%
2012-07-01	Linde AG	Lincare Holdings Inc	1	0	0	1	1	4,327	0%	1,67%	-2,66%	0,17%	-0,82%
2012-07-02	Covidien PLC	MindFrame Inc	0	0	1	1	0	75	0%	-0,83%	1,16%	-0,41%	-0,08%
2012-07-09	Remy Cointreau SA	Bruichladdich Distillery Co Ltd	0	0	1	1	1	90	2%	0,78%	-2,87%	3,00%	0,91%
2012-07-11	Royal Dutch Shell PLC	Gasnor AS	0	0	0	1	1	74	0%	0,84%	1,25%	-0,02%	2,08%
2012-07-26	Glanbia PLC	Aseptic Solutions USA	0	0	1	1	0	60	3%	0,15%	-0,71%	-0,69%	-1,26%
2012-08-03	Zardoya Otis SA	Enor SA	0	1	1	0	1	235	6%	-1,60%	1,55%	-0,91%	-0,95%
2012-08-08	Koninklijke DSM NV	Tortuga Cia Zootechnica Agraria	0	0	0	1	0	606	7%	-4,68%	-0,07%	-0,03%	-4,78%
2012-08-08	Gunnebo AB	Hamilton Safe	0	0	0	1	0	65	20%	-0,55%	0,18%	1,15%	0,78%
2012-08-17	Petroceltic International PLC	Melrose Resources PLC	1	0	1	0	1	586	195%	-0,58%	-	0,28%	-
2012-08-24	Tornier NV	OrthoHelix Surgical Designs Inc	0	0	1	0	0	186	25%	0,63%	1,19%	0,82%	2,64%
2012-09-03	Davide Campari-Milano SpA	Lascelles deMercado & Co Ltd	1	0	1	0	1	294	7%	-0,04%	7,24%	1,18%	8,38%
2012-09-07	AF AB	Advansia AS	0	0	1	1	1	52	8%	3,23%	0,01%	3,33%	6,56%
2012-09-11	Patrizia Immobilien AG	Real Estate Portfolio(1030)	0	1	0	1	0	321	96%	1,36%	-0,56%	-1,72%	-0,92%
2012-09-20	Publicis Groupe SA	LBI International NV	1	0	1	1	1	559	5%	-0,64%	0,99%	0,86%	1,21%
2012-09-21	John Wood Group PLC	Mitchell's Oil Field Services Inc	0	0	1	1	0	135	3%	-1,53%	0,75%	-0,20%	-0,98%
2012-09-24	Smurfit Kappa Group PLC	Orange County Container Group LLC	0	0	1	1	0	340	17%	-0,37%	3,75%	-0,06%	3,33%
2012-09-24	Fastighets AB Balder	Stockholm Sparvagnen 4 Property	0	1	0	0	0	168	21%	3,25%	-3,66%	1,74%	1,33%

2012-09-28	Fonciere Developpement Logements SA{FDL}	Residential Portfolio(943), Berlin	0	0	0	1	0	97	6%	1,17%	0,93%	-0,02%	2,08%
2012-10-08	Persimmon PLC	Hillreed Homes Ltd	0	1	0	1	1	57	2%	-0,93%	0,12%	-1,22%	-2,03%
2012-10-11	Coca-Cola Hellenic Bottling Co SA	Coca-Cola Hellenic Bottling Co SA	1	1	1	0	1	5,739	0%	1,10%	-4,92%	4,28%	0,45%
2012-10-17	ASML Holding NV	Cymer Inc	1	0	0	0	1	2,343	0%	1,19%	-6,01%	0,66%	-4,16%
2012-10-23	C&C Group PLC	Vermont Hard Cider Co LLC	0	0	1	1	1	305	18%	0,83%	1,58%	0,95%	3,36%
2012-10-23	Johnson Matthey PLC	Axeon Holdings PLC	1	1	0	1	1	65	1%	-1,89%	-0,24%	-0,70%	-2,82%
2012-11-02	Luxtistica Group SpA	Alain Mikli International SAS	0	0	0	1	1	117	1%	0,75%	0,31%	-0,48%	0,58%
2012-11-05	Land Securities Group PLC	The Printworks	0	1	0	1	0	150	1%	0,59%	0,25%	0,02%	0,87%
2012-11-05	Capital & Counties Properties plc	Wellington Portfolio(3)	0	1	0	1	0	69	3%	0,05%	0,04%	0,03%	0,12%
2012-11-06	London & Stamford Property PLC	Metric Property Investments PLC	1	1	1	0	1	381	38%	-0,36%	-2,89%	-0,45%	-3,70%
2012-11-08	Siemens AG	LMS International NV	0	0	0	1	0	895	1%	-0,08%	2,61%	-0,27%	2,27%
2012-11-08	Koninklijke DSM NV	Fortitech Inc	0	0	0	1	0	634	7%	0,36%	-0,42%	3,06%	2,99%
2012-11-08	Hochschild Mining PLC	Andina Minerals Inc	1	0	1	1	1	99	4%	3,48%	-1,24%	-1,37%	0,87%
2012-11-08	Ricardo PLC	AEA Technology PLC	1	1	0	1	1	87	29%	-1,23%	0,16%	1,59%	0,52%
2012-11-14	BT Group PLC	Tikit Group PLC	1	1	0	1	1	88	0%	1,01%	-0,38%	0,63%	1,26%
2012-11-15	Reckitt Benckiser Group PLC	Schiff Nutrition International Inc	1	0	0	0	1	1,434	0%	-0,53%	-0,20%	-0,63%	-1,36%
2012-11-19	TAG Immobilien AG	TLG Wohnen GmbH	0	1	0	1	0	602	54%	-2,23%	-1,51%	2,63%	-1,12%
2012-11-19	Swiss Prime Site AG	Riverside Business Park	0	1	0	1	0	95	2%	-0,82%	0,69%	-0,53%	-0,66%
2012-11-21	Gemfields PLC	Faberge Ltd	0	0	0	0	1	133	62%	-2,80%	-6,80%	-4,60%	-
2012-11-28	Smith & Nephew PLC	Healthpoint Biotherapeutics Ltd	0	0	0	1	0	782	8%	0,38%	-1,26%	0,67%	-0,21%
2012-12-03	Quindell Portfolio PLC	Abstract Legal Holdings Ltd	0	1	0	0	0	98	12%	1,69%	-1,93%	-7,23%	-7,46%
2012-12-06	Cineworld Group PLC	City Screen Ltd	0	1	1	1	0	76	14%	-1,74%	3,32%	1,00%	2,58%

2012-12-10	Zodiac Aerospace SA	Northwest Aerospace Technologies Inc{NAT}	0	0	0	1	0	81	1%	0,46%	0,22%	-1,60%	-0,92%
2012-12-11	Tullow Oil PLC	Spring Energy Norway AS	0	0	1	1	0	672	3%	0,85%	-8,81%	2,31%	-5,66%
2012-12-13	XANO Industri AB	AGES Industrier i Unnaryd AB	0	1	0	1	1	70	110%	3,29%	22,05%	-4,83%	20,52%
2012-12-17	Oxford Instruments PLC	Asylum Research Corp	0	0	1	1	0	80	7%	1,00%	0,34%	-0,18%	1,16%
2012-12-18	Halma PLC	MicroSurgical Technology Inc	0	0	0	1	0	102	4%	-0,70%	-0,99%	1,08%	-0,61%
2013-01-02	Brenntag AG	Altivia Corp	0	0	1	1	0	125	2%	-0,04%	-1,51%	-0,05%	-1,60%
2013-01-08	Shire PLC	Lotus Tissue Repair Inc	0	0	0	1	1	324	2%	-0,45%	2,83%	1,72%	4,10%
2013-01-09	Atlantia SpA	Generale Mobiliare Interessenze Azionarie SpA {Gemina}	1	1	1	0	1	4,104	0%	-0,41%	-1,56%	-4,21%	-6,19%
2013-01-17	Rotork PLC	Schischek GmbH Explosionproof	0	0	0	1	1	57	2%	-0,33%	1,18%	2,08%	2,93%
2013-01-22	Dignity PLC	Yew Holdings Ltd	0	1	0	1	1	92	10%	2,67%	2,37%	2,71%	7,74%
2013-01-31	LondonMetric Property PLC	Retail Warehouse Assets(6)	0	1	0	1	0	146	15%	-0,82%	-0,71%	-0,09%	-1,61%
2013-02-15	Opera Software ASA	Skyfire Labs Inc	0	0	0	1	0	155	20%	-1,75%	-4,31%	2,88%	-3,18%
2013-02-20	Aryzta AG	Klemme AG	0	0	1	1	0	372	7%	0,21%	-2,62%	-0,67%	-3,08%
2013-02-20	Inchcape PLC	Trivett Classic Pty Ltd	0	0	1	1	0	103	3%	1,37%	2,09%	0,03%	3,49%
2013-03-13	Tesco PLC	Giraffe Concepts Ltd	0	1	1	1	1	73	0%	0,72%	-1,04%	2,27%	1,95%
2013-03-15	Technopolis Oyj	UAB Domestast,UAB Urban housing ,UAB Gama projektai	0	0	0	1	1	80	21%	0,21%	-1,01%	-0,65%	-1,45%
2013-04-19	Econocom Group SA	Osiatis SA	1	0	0	0	0	113	15%	-0,96%	-0,96%	1,06%	-0,86%
2013-04-22	ABB Ltd	Power-One Inc	1	0	0	1	1	821	2%	-0,87%	-0,91%	0,95%	-0,83%
2013-04-24	Kier Group PLC	May Gurney Integrated Services PLC	1	1	0	0	1	413	56%	-0,70%	-5,64%	-1,36%	-7,70%

2013-04-24	Quindell Portfolio PLC	Crusader Assistance Group Holdings Ltd	0	1	0	0	1	113	14%	0,07%	-0,41%	-1,28%	-1,62%
2013-04-29	Qiagen NV	Ingenuity Systems Inc	0	0	0	1	0	105	2%	0,31%	-0,10%	-4,64%	-4,44%
2013-05-02	Wallenstam AB	Commercial Properties, Gothenburg(9)	0	1	0	1	0	59	3%	-0,07%	-0,30%	-1,08%	-1,46%
2013-05-07	Adveo Group International SA	Groupe BURO+	0	0	0	1	0	497	257%	1,05%	-1,06%	0,45%	0,44%
2013-05-10	Cobham PLC	Axell Wireless Ltd	0	1	0	1	1	131	3%	2,15%	0,83%	0,41%	3,39%
2013-05-13	Ashtead Group PLC	Accession Group Ltd	0	1	1	1	0	54	1%	-1,58%	0,65%	1,34%	0,40%
2013-05-17	Accenture PLC	Acquity Group Ltd	1	0	0	1	1	316	1%	0,42%	0,75%	0,41%	1,58%
2013-05-21	Ossur HF	TeamOlmed Nord AB	0	0	1	1	1	54	9%	0,08%	1,39%	0,00%	1,48%
2013-05-22	Victoria Park AB	Property Portfolio	0	1	0	1	0	137	308%	-0,24%	7,99%	1,21%	8,97%
2013-05-23	BTG PLC	EKOS Corp	0	0	0	1	0	220	13%	1,39%	1,91%	4,68%	7,98%
2013-05-24	Waterlogic International Ltd	Cool Clear Water Beverages Ltd	0	0	0	1	0	58	26%	-0,64%	0,29%	-0,05%	-0,40%
2013-05-28	AstraZeneca PLC	Omthera Pharmaceuticals Inc	1	0	1	1	1	486	1%	-0,05%	1,67%	-0,82%	0,80%
2013-05-29	GlaxoSmithKline PLC	Okairos AG	0	0	0	1	1	324	0%	1,04%	-2,30%	-0,50%	-1,77%
2013-05-29	Dassault Systemes SA	Apriso Corp	0	0	0	1	0	205	1%	0,93%	0,85%	0,85%	2,63%
2013-06-10	AstraZeneca PLC	Pearl Therapeutics Inc	0	0	0	1	1	1,15	0%	-0,16%	0,25%	-0,27%	-0,18%
2013-06-11	Swiss Prime Site AG	TERTIANUM AG	0	1	0	1	1	535	12%	0,35%	-2,29%	0,97%	-0,97%
2013-06-12	Jeudan A/S	Properties Portfolio	0	1	0	1	0	146	15%	1,24%	-0,30%	-0,37%	0,57%
2013-06-17	Sweco AB	Vectura Consulting AB	0	1	0	1	1	143	16%	-1,18%	7,20%	-0,08%	5,94%
2013-06-19	Tyco International Ltd	Exacq Technologies Inc	0	0	0	1	0	150	1%	0,20%	0,46%	-0,55%	0,11%
2013-07-01	Noble Corp	Noble Corp	1	1	1	0	1	9,973	0%	-0,71%	0,15%	0,19%	-0,37%
2013-07-02	Dialog Semiconductor GmbH	iWatt	0	0	1	1	0	345	36%	1,63%	8,70%	-2,28%	8,04%

2013-07-03	Gecina SA	Rue Marbeuf Office Building, Paris	0	1	0	1	0	159	2%	3,05%	-0,59%	-0,73%	1,73%
2013-07-08	LVMH Moet Hennessy Louis Vuitton SA	Loro Piana SpA	0	0	0	1	0	2,574	0%	0,33%	1,07%	1,29%	2,69%
2013-07-11	Schneider Electric SA	Invensys PLC	1	0	0	0	1	4,636	0%	-0,44%	0,81%	-3,85%	-3,48%
2013-07-15	Ipsen SA	Syntaxin Ltd	0	0	0	1	0	206	7%	0,31%	-0,65%	0,09%	-0,25%
2013-07-15	LondonMetric Property PLC	Argos Distribution Warehouse, Bedford	0	1	0	1	0	78	8%	-0,08%	-0,08%	-0,12%	-0,28%
2013-07-16	Cargotec Oyj	Hatlapa Uetersener Maschinenfabrik GmbH & Co KG	0	0	1	1	0	211	14%	-0,04%	0,80%	0,72%	1,47%
2013-07-25	Helical Bar PLC	Tech Belt	0	1	0	1	0	54	11%	0,63%	1,84%	-0,05%	2,42%
2013-07-31	Eutelsat Communications SA	Satelites Mexicanos SA de CV {SATMEX}	0	0	1	1	1	1,119	0%	-0,18%	-6,42%	0,16%	-6,44%
2013-08-06	STADA Arzneimittel AG	Thornton & Ross Ltd	0	0	1	1	0	346	13%	-0,02%	1,28%	-0,63%	0,63%
2013-08-15	L'Oreal SA	Magic Holdings International Ltd	1	0	0	1	1	718	1%	-0,11%	0,39%	-0,27%	0,01%
2013-08-19	Atlas Copco AB	Edwards Group Ltd	1	0	1	1	1	1,606	0%	0,18%	1,69%	0,59%	2,46%
2013-08-19	Rockwool International A/S	Chicago Metallic Corp	0	0	0	1	0	140	8%	-1,84%	-1,12%	0,77%	-2,19%
2013-08-20	Deutsche Wohnen AG	GSW Immobilien AG	1	1	0	0	0	2,224	0%	0,01%	-4,11%	1,49%	-2,62%
2013-08-21	Altisource Portfolio Solutions SA	Equator LLC	0	0	0	1	1	150	5%	-0,51%	7,06%	-2,77%	3,78%
2013-08-27	Tamedia AG	Ziegler Druck- und Verlags-AG	0	1	1	1	0	54	5%	-0,14%	-2,00%	1,56%	-0,58%
2013-08-30	Meda AB	Acton Pharmaceuticals Inc	0	0	1	1	0	145	4%	1,30%	-0,29%	1,94%	2,95%
2013-09-03	bioMerieux SA	BioFire Diagnostics Inc	0	0	1	1	1	450	11%	1,53%	0,21%	-2,21%	-0,47%
2013-09-05	Hera SpA	AMGA Azienda Multiservizi SpA	0	1	0	0	1	278	10%	-1,98%	-0,09%	-0,81%	-2,88%
2013-09-05	AB SKF	Kaydon Corp	1	0	1	0	1	1,243	0%	-0,48%	-0,18%	-0,68%	-1,34%
2013-09-05	iomart Group PLC	Redstation Ltd	0	1	1	0	1	242	52%	0,66%	0,71%	3,73%	5,11%

2013-09-05	Monitise PLC	Grapple Mobile Ltd	0	1	1	0	1	60	5%	15,49%	-5,02%	2,59%	13,06%
2013-09-09	Recordati SpA	Laboratorios Casen Fleet SL	0	0	1	1	1	123	5%	0,75%	1,06%	-0,19%	1,62%
2013-09-11	Assura Group Ltd	Trinity Medical Developments Ltd	0	1	0	1	1	99	35%	-0,04%	1,74%	-0,71%	0,99%
2013-09-16	Delticom AG	Tirendo Holding GmbH	0	1	0	1	1	67	11%	2,29%	9,13%	-1,78%	9,63%
2013-09-25	Origin Enterprises PLC	Origin Enterprises PLC	1	1	1	0	1	127	11%	-0,63%	3,47%	-0,01%	2,83%
2013-09-30	Fonciere Developpement Logements SA	Undisclosed Residential Real Estate Portfolios, Berlin& Dresden(4)	0	0	0	1	0	475	30%	0,00%	0,01%	0,29%	0,30%
2013-10-03	Falkland Oil & Gas Plc	Desire Petroleum PLC	1	1	1	0	1	88	60%	1,37%	-2,33%	2,11%	1,15%
2013-10-07	Solvay SA	Chemlogics Group LLC	0	0	1	1	0	1,345	0%	-0,52%	1,53%	-0,22%	0,78%
2013-10-10	CANCOM SE	Pironet NDH AG	1	1	0	1	0	55	15%	-1,22%	1,16%	-1,35%	-1,41%
2013-10-18	RPS Group PLC	OEC Consulting AS	0	0	1	1	0	51	5%	0,67%	0,71%	1,73%	3,11%
2013-10-23	Pace PLC	Aurora Networks Inc	0	0	0	1	0	323	24%	-1,99%	11,18%	-3,16%	6,03%
2013-10-23	Capita PLC	ParkingEye Ltd	0	1	0	0	0	95	1%	-1,16%	0,60%	-0,88%	-1,45%
2013-10-24	Chime Communications PLC	Just Marketing Inc	0	0	1	1	0	76	17%	0,06%	0,14%	-2,12%	-1,92%
2013-10-24	AEVIS Holding SA	Victoria-Jungfrau Collection AG	1	1	0	1	0	59	12%	-0,05%	1,08%	-0,95%	0,09%
2013-11-06	Experian PLC	Passport Health Communications Inc	0	0	0	1	0	850	4%	0,71%	-6,61%	0,41%	-5,49%
2013-11-08	Essilor International SA	Costa Inc	1	0	1	1	1	303	1%	-0,80%	1,71%	-0,37%	0,54%
2013-11-10	Deutsche Telekom AG	GTS Central Europe	0	0	1	1	0	730	1%	0,03%	-1,36%	-0,32%	-1,65%
2013-11-11	Shire PLC	ViroPharma Inc	1	0	1	1	1	3,94	0%	0,25%	0,55%	-0,12%	0,67%
2013-11-18	Korian SA	Medica SA	1	1	1	0	1	2,093	0%	-0,33%	-3,16%	-1,24%	-4,72%
2013-11-19	Intertek Group PLC	Architectural Testing Inc	0	0	0	1	0	95	1%	0,53%	-2,19%	0,22%	-1,44%
2013-11-27	Wirecard AG	PT. Aprisma Indonesia	0	0	0	1	0	120	3%	0,85%	-0,28%	-0,26%	0,30%

2013-11-29	CALIDA Holding AG	Lafuma SA	1	0	1	1	0	56	23%	-0,81%	0,68%	0,01%	-0,12%
2013-12-03	Pearson PLC	Multi Brasil Franqueadora e Participacoes Ltda	0	0	0	1	1	828	5%	-0,04%	-0,25%	-2,64%	-2,93%
2013-12-03	blinkx PLC	Rhythm NewMedia Inc	0	0	1	0	0	65	5%	-1,50%	0,48%	0,87%	-0,15%
2013-12-08	Covidien PLC	Given Imaging Ltd	1	0	1	0	1	858	3%	-0,10%	-0,10%	-0,23%	-0,42%
2013-12-16	Ekornes ASA	IMG AS	0	1	1	1	0	88	17%	-1,27%	-0,72%	0,94%	-1,04%
2013-12-17	Ascencio SCA	Moyennes Surfaces Specialisees SA	0	1	0	1	1	117	38%	-0,72%	0,60%	-0,12%	-0,24%
2013-12-17	Babcock International Group PLC	Context Information Security Ltd	0	1	0	1	0	52	1%	0,82%	-0,23%	-0,41%	0,19%
2014-01-13	AMEC PLC	Foster Wheeler AG	1	1	1	1	1	2,761	0%	1,47%	2,16%	-3,53%	0,10%
2014-01-22	Svenskt Stal AB	Rautaruukki Oyj	1	0	0	0	1	2,488	0%	-1,69%	11,10%	0,28%	9,69%
2014-01-23	IP Group PLC	Fusion IP PLC	1	1	0	0	1	81	8%	2,73%	-2,07%	-0,87%	-0,21%
2014-01-23	Alternative Networks PLC	ControlCircle Ltd	0	1	0	1	0	66	17%	7,73%	4,16%	-2,74%	9,16%
2014-02-03	Smith & Nephew PLC	ArthroCare Corp	1	0	1	0	1	1,525	0%	-0,78%	1,63%	-1,27%	-0,42%
2014-02-04	TAG Immobilien AG	Undisclosed Residential Portfolio,Germany(4,000)	0	1	0	1	0	163	10%	-0,53%	0,48%	-0,60%	-0,66%
2014-02-10	ADLER Real Estate AG	Estavis AG	1	1	0	0	0	84	100%	-1,15%	1,41%	0,17%	0,43%
2014-02-13	Rexam PLC	United Arab Can Manufacturing Co	0	0	1	1	0	122	2%	-0,15%	1,74%	0,54%	2,13%
2014-02-13	Schibsted ASA	Milanuncios SL	0	0	0	1	0	68	1%	-0,23%	5,74%	-3,85%	1,66%
2014-02-27	Bayer AG	Dihon Pharmaceutical Group Co Ltd	0	0	0	1	1	580	1%	-0,63%	0,20%	2,15%	1,72%
2014-02-27	Essilor International SA	Coastal Contacts Inc	1	0	1	1	1	379	2%	0,22%	-3,19%	-1,23%	-4,20%
2014-03-03	St Ives PLC	Realise Holdings Ltd	0	1	0	0	0	72	19%	-0,36%	0,73%	-0,25%	0,11%
2014-03-11	Cape PLC	Motherwell Bridge Ltd	0	1	0	1	0	63	11%	0,16%	7,79%	1,65%	9,59%
2014-03-12	Davide Campari-Milano SpA	Forty Creek Distillery Ltd	0	0	1	1	0	167	46%	0,88%	-3,66%	-0,13%	-2,90%

2014-03-13	Vectura Group Plc	Activaero GmbH	0	0	1	0	1	178	19%	-0,88%	0,41%	-3,48%	-3,95%
2014-03-17	Koninklijke Philips Electronics NV	General Lighting Co JSC	0	0	0	1	0	235	1%	-0,23%	0,20%	-0,25%	-0,27%
2014-03-20	EKF Diagnostics Holdings PLC	Selah Genomics Inc	0	0	0	0	1	56	34%	-2,12%	-1,08%	2,98%	-0,22%
2014-03-24	Segro PLC	Magna Park	0	1	0	1	0	56	1%	-1,20%	0,79%	0,70%	0,29%
2014-03-31	ICON PLC	Aptiv Solutions LLC	0	0	0	1	0	144	5%	-2,37%	2,41%	-0,33%	-0,29%
2014-03-31	Regeneris PLC	Blancco Oy Ltd	0	0	0	0	1	83	28%	3,22%	9,74%	-3,89%	9,06%
2014-04-02	TE Connectivity Ltd	SEA CON Group	0	0	0	1	0	490	2%	-0,97%	1,97%	-0,18%	0,82%
2014-04-04	Loomis AB	Via Mat Management AG	0	0	0	1	1	224	13%	-1,40%	6,66%	0,53%	5,79%
2014-04-08	Sopra Steria Group SA	Steria SA	1	1	1	0	0	893	62%	0,07%	-0,02%	-	-
2014-04-14	Glencore Xstrata PLC	Caracal Energy Inc	1	0	0	1	1	1,311	0%	1,04%	1,94%	-0,66%	2,32%
2014-04-15	Informa PLC	Informa PLC	1	1	1	0	1	4,898	0%	-3,31%	0,14%	0,93%	-2,24%
2014-04-15	Davide Campari-Milano SpA	Fratelli Averna SpA	0	1	1	1	1	143	3%	2,24%	0,47%	0,65%	3,36%
2014-04-16	BioAlliance Pharma SA	TopoTarget A/S	1	0	0	0	1	88	38%	-1,60%	-1,28%	0,21%	-2,67%
2014-04-28	Ultra Electronics Holdings PLC	Forensic Technology WAI Inc	0	0	1	1	0	91	5%	-0,63%	0,00%	-0,27%	-0,91%
2014-05-01	RPC Group PLC	ACE Corp Holdings Ltd	0	0	1	0	0	427	25%	-1,66%	3,42%	-1,06%	0,69%
2014-05-01	Savills PLC	Studley Inc	0	0	1	0	1	285	20%	0,07%	0,52%	0,86%	1,45%
2014-05-01	St Ives PLC	The Health Hive Group Ltd	0	1	0	0	0	85	21%	-0,61%	1,62%	-1,32%	-0,31%
2014-05-02	Tyco International Ltd	Tyco International Ltd	1	1	1	0	1	18,097	0%	-0,42%	0,16%	-0,43%	-0,69%
2014-05-07	ITV PLC	Leftfield Entertainment Group	0	0	0	1	0	360	3%	1,00%	0,84%	-0,11%	1,73%
2014-05-08	H Lundbeck A/S	Chelsea Therapeutics International Ltd	1	0	0	1	1	611	11%	-1,68%	1,45%	0,75%	0,52%
2014-05-09	IGas Energy PLC	Dart Energy Ltd	1	0	1	1	1	143	31%	-1,87%	1,11%	-3,60%	-4,36%
2014-05-12	Shire PLC	Lumena Pharmaceuticals Inc	0	0	1	1	0	260	1%	-2,50%	-1,44%	1,36%	-2,58%

2014-05-15	Staffline Group PLC	Avanta Enterprise Ltd	0	1	1	1	0	76	23%	4,36%	14,39%	0,51%	19,26%
2014-05-16	Swisscom AG	PubliGroupe SA	1	1	0	1	0	485	2%	0,79%	-0,14%	0,94%	1,59%
2014-05-20	Cobham PLC	Aeroflex Holding Corp	1	0	0	1	1	1,434	0%	0,46%	-4,38%	0,78%	-3,15%
2014-05-20	Eurosic SA	SIIC de Paris SA	1	1	0	1	0	1,394	0%	-0,31%	0,24%	-0,03%	-0,10%
2014-05-20	Braemar Shipping Services PLC	ACM Shipping Group PLC	1	1	1	0	1	80	42%	3,71%	-4,76%	0,90%	-0,15%
2014-05-23	Rockhopper Exploration PLC	Mediterranean Oil & Gas PLC	1	1	1	0	1	59	12%	0,02%	-1,44%	0,15%	-1,27%
2014-05-26	Atos SE	Bull SAS	1	1	1	1	0	775	9%	-0,60%	5,54%	-0,85%	4,08%
2014-06-02	Halma PLC	Rohrback Cosasco Systems Inc	0	0	1	1	0	116	3%	1,84%	0,02%	1,74%	3,61%
2014-06-04	Ebro Foods SA	Pastificio Lucio Garofalo SpA	0	0	1	1	0	85	2%	-1,11%	-0,52%	-0,04%	-1,67%
2014-06-09	Acando AB	Connecta AB	1	1	1	0	1	80	55%	0,03%	-4,42%	-2,23%	-6,62%
2014-06-13	Assura Group Ltd	MP Realty Holdings Ltd	0	1	0	0	1	181	47%	-1,23%	0,19%	-0,37%	-1,42%
2014-06-13	Luxfer Holdings PLC	Innotech Products Ltd	0	0	0	1	0	64	13%	-0,34%	0,67%	-2,18%	-1,85%
2014-06-18	TE Connectivity Ltd	Measurement Specialties Inc	1	0	1	1	1	1,556	0%	0,07%	-0,61%	0,26%	-0,27%
2014-06-23	NIBE Industrier AB	WaterFurnace Renewable Energy Inc	1	0	0	1	1	323	11%	-0,13%	3,86%	7,31%	11,03%
2014-06-23	Stora Enso Oyj	Virdia Inc	0	0	0	1	1	62	1%	0,00%	-1,00%	1,12%	0,11%
2014-06-26	Monitise PLC	Markco Media Ltd	0	1	1	1	0	89	4%	-0,89%	0,74%	-3,84%	-4,00%
2014-06-26	Aryzta AG	Mette Munk A/S	0	0	1	1	0	68	1%	-0,16%	-1,05%	0,71%	-0,49%
2014-06-27	TUI AG	TUI Travel PLC	1	0	1	0	0	4,633	0%	3,44%	5,27%	-2,57%	6,14%
2014-06-30	Hansteen Holdings PLC	Multi-Let Industrial Property Portfolio	0	0	0	1	0	145	12%	-0,24%	0,40%	0,60%	0,75%
2014-07-01	Distribuidora Internacional de Alimentacion SA	Grupo El Arbol Distribucion y Supermercados SA	0	1	1	1	1	71	1%	0,10%	-0,77%	5,60%	4,93%
2014-07-24	Dassault Systemes SA	Quintiq Holding BV	0	0	0	1	0	337	2%	0,66%	4,83%	-1,12%	4,37%
2014-07-31	RTL Group SA	SpotXchange Inc	0	0	0	1	0	144	1%	0,50%	0,84%	-0,97%	0,38%
2014-08-01	PZ Cussons PLC	Five AM Life Pty Ltd	0	0	0	1	1	87	3%	-0,11%	2,49%	1,46%	3,85%

2014-08-05	Yara International ASA	Galvani Industria Comercio e Servicos SA	0	0	1	1	0	315	2%	0,53%	0,41%	-1,21%	-0,27%
2014-08-06	Palace Capital PLC	Property Investment Holdings Ltd	0	1	0	0	1	54	76%	-0,18%	-1,60%	-0,11%	-1,89%
2014-08-11	NewRiver Retail Ltd	Priory Meadow Shopping Centre,The Avenue Shopping Centre,Abbey Shopping Centre	0	1	0	1	0	235	47%	-3,19%	-2,52%	1,70%	-4,02%
2014-08-20	Infineon Technologies AG	International Rectifier Corp	1	0	0	1	1	2,257	0%	0,44%	-1,14%	-1,11%	-1,81%
2014-08-24	Roche Holding AG	InterMune Inc	1	0	0	1	1	7,989	0%	0,17%	-0,15%	-0,12%	-0,10%
2014-08-26	Eastern Property Holdings Ltd	Business Center Berlin House	0	0	0	1	1	148	77%	0,06%	0,06%	2,11%	2,22%
2014-09-03	AVG Technologies NV	Location Labs Inc	0	0	0	1	0	220	24%	0,37%	3,44%	-0,39%	3,42%
2014-09-12	Glanbia PLC	The Isopure Co LLC	0	0	1	1	0	153	3%	-1,77%	0,18%	-0,56%	-2,14%
2014-09-12	Telefonaktiebolaget LM Ericsson	Fabrix Systems	0	0	0	1	1	95	0%	1,31%	-0,34%	0,17%	1,14%
2014-09-15	TDC A/S	Get AS	0	0	0	1	0	2,159	0%	0,48%	-	4,22%	-6,42%
2014-09-25	KUKA AG	Swisslog Holding AG	1	0	0	1	0	329	16%	0,73%	0,97%	-0,57%	1,13%
2014-09-29	VTG AG	AAE Ahaus Alstaetter Eisenbahn Holding AG	0	0	1	0	1	1,574	0%	-2,39%	-2,14%	9,26%	4,73%
2014-09-30	Consort Medical PLC	Aesica Holdco Ltd	0	1	0	0	1	193	41%	-0,03%	-1,99%	0,36%	-1,66%
2014-09-30	Melrose Industries PLC	Eclipse Inc	0	0	0	1	1	158	4%	0,61%	4,71%	0,86%	6,17%
2014-09-30	Eastern Property Holdings Ltd	SEVERNOE SIYANIE Business Centre	0	0	0	1	0	153	81%	0,97%	3,86%	-0,04%	4,80%
2014-10-01	UBM PLC	Advanstar Inc	0	0	0	1	1	972	40%	-1,13%	-5,06%	-0,46%	-6,65%
2014-10-01	LondonMetric Property PLC	Dixons Retail distribution centre (Newark)	0	1	0	1	0	111	8%	0,39%	0,56%	-0,14%	0,82%
2014-10-01	WS Atkins PLC	Houston Offshore Engineering LLC	0	0	0	1	0	73	3%	-0,20%	1,33%	1,00%	2,12%

2014-10-03	Constellium NV	Wise Metals Intermediate Holdings LLC	0	0	0	1	0	1,4	0%	-2,66%	-6,40%	-6,77%	-	15,83%
2014-10-03	Nemetschek AG	Bluebeam Software Inc	0	0	1	1	1	104	10%	-1,75%	-0,21%	3,17%	1,20%	
2014-10-15	Mears Group PLC	Omega Group Ltd	0	1	0	1	0	64	9%	0,62%	3,29%	-1,44%	2,47%	
2014-10-17	Lafarge SA	Ciments Kercim SASU	0	1	1	1	0	102	1%	-0,35%	-1,30%	1,66%	0,01%	
2014-10-21	BAE Systems PLC	SilverSky Inc	0	0	0	1	0	232	1%	-0,29%	-0,65%	0,60%	-0,34%	
2014-11-03	Publicis Groupe SA	Sapient Corp	1	0	0	1	1	3,215	0%	0,72%	-1,72%	2,13%	1,12%	
2014-11-03	Antofagasta PLC	Duluth Metals Ltd	1	0	1	1	1	82	1%	0,54%	-0,13%	0,50%	0,91%	
2014-11-06	Assura Group Ltd	Metro MRI Ltd	0	1	0	0	1	99	13%	-0,03%	-0,62%	-1,13%	-1,79%	
2014-11-06	Hansteen Holdings PLC	Portfolio of Multi-let Offices (7) & Industrial Estates (5)	0	1	0	1	0	57	5%	-0,65%	-2,39%	-0,39%	-3,43%	
2014-11-06	DS Smith PLC	Andorrana del Carton Ondulado SA	0	0	0	1	0	55	1%	-0,64%	3,72%	0,26%	3,34%	
2014-11-12	COLT Group SA	KVH Co Ltd	0	0	0	1	1	161	9%	0,00%	1,37%	1,34%	2,71%	
2014-11-13	Tritax Big Box REIT Plc	The Range UK National Distribution Centre	0	1	0	1	0	76	12%	0,19%	-0,72%	-0,27%	-0,80%	
2014-11-14	Clarkson PLC	RS Platou ASA	0	0	1	0	1	441	65%	0,81%	1,19%	-0,46%	1,55%	
2014-11-14	IMI PLC	B&R Holding GmbH	0	0	0	1	0	191	4%	0,40%	1,17%	-2,45%	-0,89%	
2014-11-18	Evolva Holding SA	Allylix Inc	0	0	0	0	1	61	17%	-0,98%	2,24%	-1,08%	0,18%	
2014-11-24	Derwent London PLC	Angel Building	0	1	0	1	0	118	2%	-0,45%	0,47%	0,08%	0,10%	
2014-11-25	Schoeller-Bleckmann Oilfield Equipment AG	Resource Well Completion Technologies Inc	0	0	0	1	0	79	6%	0,87%	0,48%	0,14%	1,49%	
2014-11-27	RPC Group PLC	Promens hf	0	0	0	1	0	483	30%	1,25%	5,80%	1,39%	8,43%	
2014-12-01	Carillion PLC	Rokstad Power Corp	0	0	0	1	0	52	2%	-1,63%	0,24%	-1,25%	-2,64%	
2014-12-04	BTG PLC	PneumRx Inc	0	0	0	1	0	475	10%	0,89%	-1,48%	-0,84%	-1,43%	
2014-12-04	Atea ASA	Axcess A/S	0	0	0	1	1	52	5%	-0,78%	0,28%	0,11%	-0,38%	
2014-12-08	Eurofins Scientific SE	Boston Heart Diagnostics Corp	0	0	0	1	0	200	6%	0,19%	2,09%	5,73%	8,01%	
2014-12-11	Spectris PLC	Engineering Seismology Group	0	0	0	1	0	56	2%	1,46%	0,88%	2,46%	4,80%	
2014-12-17	Koninklijke Philips Electronics NV	Volcano Corp	1	0	0	0	1	1,183	0%	0,95%	-1,84%	1,58%	0,69%	

2014-12-19	Interpump Group SpA	Walvoil SpA	0	1	0	0	1	141	9%	0,60%	1,24%	0,97%	2,82%
2014-12-22	HEXPOL AB	Rhetech Inc	0	0	1	1	0	112	4%	-0,15%	3,24%	-0,42%	2,67%
2015-01-08	Industria de Diseno Textil SA	503-511 Broadway, New York, New York	0	0	0	1	0	280	0%	0,92%	1,88%	1,38%	4,18%
2015-01-11	Shire PLC	NPS Pharmaceuticals Inc	1	0	0	1	1	5,075	0%	2,43%	-0,93%	-4,08%	-2,57%
2015-01-28	Capita PLC	Constructionline	0	1	0	1	0	53	0%	0,18%	1,97%	-0,15%	2,01%