UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

A THESIS SUBMITTED FOR THE DEGREE MASTER OF SCIENCE IN FINANCE

THE (NON) IMPORTANCE OF CEO OWNERSHIP? AN AGENCY THEORETIC PERSPECTIVE ON M&A

EMIL FURVIK AND ANDRÉ WINSTRÖM

Friday 3rd June, 2022

Spring 2022

Supervised by Evert Carlsson

School of Business, Economics and Law, University of Gothenburg, Sweden

Graduate School

Abstract

For decades, corporate acquisitions and subsequent shareholder returns have been studied, only to yield ambivalent results at best. As global M&A volumes have recently reached multi-trillion dollar levels, understanding the drivers of positive abnormal returns is now, more than ever, vital. In this thesis, we employ an agency-theoretic perspective on Swedish mergers and acquisitions by examining the effect of CEO ownership on shareholder returns. We argue that there is a positive non-linear relationship between CEO ownership and cumulative abnormal returns as a result of aligning interests and entrenchment by the CEO. We document positive and significant cumulative abnormal announcement returns of 1.3%, 1.5%, and 1.2% in the three event windows. We do not find convincing evidence for alignment of interests or entrenchment for the full sample. However, we find a persistent size effect. Large firms provide significantly lower cumulative abnormal returns to shareholders, and their cumulative abnormal returns increases with CEO ownership. Thus, we conclude that the effect of aligning interest holds, but only in the case of large firms.

Keywords: Agency Theory, Mergers and Acquisitions, CEO ownership, Corporate Governance

JEL Classification: G14, G34, L25, M21

Acknowledgements

First and foremost, we would like to thank our supervisor Evert Carlsson for the support provided while writing this thesis. We are grateful for the continuous discussions and insights within the field of finance, not only during this thesis, but during these two years in our Master's studies. We would also like to thank our fellow students for support and ideas throughout this thesis.

Table of Contents

1 Introduction

The global market for corporate acquisitions have been booming since financial markets recovered after the Covid-19 pandemic. In 2021, the global M&A deal value reached $4.9 trillon, of which strategic deals (corporate acquisitions and PE portfolio add-ons) accounted for $3.9 trillon, as reported by Bain & Company (2022) in their annual global M&A report. The same report outlined how 80% of their surveyed corporate executives responded that corporate deals are part of their broader business strategy. The Swedish deal market followed suit and in September of 2021, the number of deals recorded in the last 12 months amounted to 664 according to PwC (2021), breaking every previous record.

This paper set out to investigate, based on agency theory, whether or not alignment of interests through CEO ownership have a positive impact on the cumulative abnormal returns (CAR) around the announcement date of mergers and acquisitions (M&A). The existing research in this field is extensive, however, the majority of studies are done on a sample of US or UK firms. In this thesis, we contribute by providing a nuanced picture of whether or not these results apply to Swedish firms, given the differences in ownership structures. Previous research propose the possibility of a potential size effect, and differences in ownership structures in small and large firms. We investigate these possibilities by making in-sample analysis based on the size of the acquirer.

Existing literature on mergers and acquisitions is ambiguous in terms of the wealth effects of M&As on the acquiring firm, with the majority of the literature implying negative or zero abnormal returns (Dodd, 1980; Fuller *et al.*, 2002; Martynova and Renneboog, 2008; Moeller *et al.*, 2005; Travlos, 1987). Although, more recent evidence from an extensive sample of US firms shows that after the financial crisis in 2008 to 2009, the abnormal returns to acquirers are positive (Alexandridis *et al.*, 2017). Given the ambiguity regarding the wealth effects of M&A, previous research has tried to identify reasons why firms continue to participate in M&As. By analyzing performance from a sample of acquisitions, Berkovitch and Narayanan (1993) find three main motives for conducting takeovers, namely: synergy, agency, and hubris. Their result shows that synergy effects

are the primary motive driving acquisitions. This, however, might be influenced by the fact that the majority of the acquisitions show positive abnormal returns. By performing an in-sample analysis, they conclude that acquisitions with negative abnormal returns are primarily driven by agency issues rather than hubris.

As proposed above, one of the most discussed motives for M&A is connected to Agency Theory, developed by Jensen and Meckling (1976). From the perspective of a firm, this theory well describes the stockholder-manager relationship, in which the manager of a firm will try to maximize the profits available to the shareholder. However, when the interests of management and shareholders are not aligned, there is a risk that the management utilizes the assets of the firm to maximize their own wealth and utility, rather than the shareholders. This is described as the agency problem.

Applying the theory of Jensen and Meckling (1976) to mergers and acquisitions is a well-established research method. In an early work, Lewellen *et al.* (1985) find that M&As executed by firms where the CEO and senior management have low stock-holdings consistently underperform compared to firms with high ownership by senior management. By employing three measures for management ownership, they conclude that the high cost that comes with a high ownership stake decreases the probability of wealth-destroying investments. In an attempt to extend the field, Morck *et al.* (1988) propose the view of not only a linear relationship between management holdings and firm performance, but rather a non-linear relationship. Although the coefficient for ownership is positive and significant for all levels of ownership, the greatest effect is for intermediate levels. The positive effect is lower for low levels of ownership, and even lower for high levels of ownership, meaning that there are diminishing returns to high ownership. Their results are in favor of the Entrenchment Hypothesis as proposed by Shleifer and Vishny (1989).

Another view on aligning interests between managers and shareholders is proposed by Datta *et al.* (2001). They argue that the usage of equity-based compensation serves as an effective way to motivate value-increasing acquisitions, as the managers compensation increases with value-increasing investments. Consequently, firms with high equity-based compensation generate higher cumulative abnormal announcement returns than

low equity-based firms. In addition, managers with high equity-based compensation perform riskier acquisitions in high growth targets. Conversely, Harford and Li (2007) argue that compensation schemes, such as equity-based compensation, rather have devastating effects on aligning interests, as they find that the CEO's salary and compensation increase after an acquisition regardless of acquisition performance.

Depending on the levels of ownership held by the CEO and top management, the acquisition strategy for the firm may differ. When the manager holds a high stake in the firm, the potential costs of a value-decreasing acquisition are high, and vice versa if the holdings are low. Thus, Wright *et al.* (2002) find that when CEO equity ownership rises from moderate to high levels, they make less risky acquisitions, revealing a non-linear relationship. However, they only provide evidence for a positive linear relationship between CEO option holdings and acquisition risk-taking. Moreover, they find a non-linear relationship between CEO shareholdings, option holdings, and announcement returns. This non-linear relationship is also found by Walters *et al.* (2008). They stress the importance of an independent and experienced board in monitoring the investments by the CEO, as low or high CEO ownership may spur acquisitions motivated by other motives than wealth maximization, such as empire building or risk-reduction.

More recently, Bhagat and Bolton (2019) find evidence that CEO ownership is positively, and significantly correlated to future firm performance. They propose that CEO ownership should be considered as a future corporate governance measure, as it is a good proxy for future performance, being consistent and informative.

Using a sample of 198 mergers by Swedish publicly listed firms, we investigate the cumulative abnormal returns generated as a response to M&A announcements. As previous research has shown that CARs are positively related to the number of shares held by the CEO, as a measure of agency cost, we apply this theory to Swedish M&A announcements. To measure CEO ownership, we use two proxies: (i) the percentage of outstanding shares held by the CEO and (ii) the value of the holdings in relation to the CEO's annual base salary. Additionally, we examine if there is a significant size-effect in terms of CARs and the level of CEO ownership in Swedish mergers by dividing the sample into *small* and

large firms based on their total assets. The argument of a size-effect is based on Moeller *et al.* (2004) which present evidence that mergers by small firms outperform mergers of large firms, and La Porta *et al.* (1999), and Faccio and Lang (2002) which find a larger dispersion of ownership in large firms compared to in small firms. We argue that this dispersion of ownership leads to a higher importance of CEO ownership to successfully align the interest between the management and the shareholders.

Our results provide evidence that Swedish M&A announcements lead to positive CARs of 1.2%-1.5%, depending on the time frame. While the percentage returns are positive across the board, we find that the aggregate euro return is slightly negative in the three-day and eleven-day windows, while being highly positive in the 21-day window. We also find support for a size effect in the CARs, and show that small firms outperform large firms. Our findings do not, however, support the notion that the CEO ownership positively affect the CARs when examining the whole sample. We argue that this might be attributable to Swedish firms generally being family-owned, while US firms are generally widely held (La Porta *et al.*, 1999), making alignment of interests more crucial in US firms. However, when using in-sample regressions by dividing the sample into small and large firms, we do find that CEO ownership has a significant and positive impact on the CAR in large firms. In the subset of smaller firms, we instead find that an array of other firm characteristics are impacting the CARs.

The main contribution of our thesis is that we make in-sample analyses of the impact of CEO ownership based on firm size, in contrast to previous research which, to the best of our knowledge, solely draws conclusions on the full sample. Through these analyses, we provide an important nuance to the picture of M&A returns, and conclude that there exists an important difference regarding the impact of CEO ownership on the abnormal returns depending on the size of the acquirer.

The remainder of this paper is organized as follows. In Section 2 we present the empirical evidence and theoretical framework regarding M&A performance and CEO Ownership, and our hypotheses. In Section 3, we describe our sample selection and research methodology. In Section 4, we report the results and analysis of our findings.

Finally, Section 5 provides concluding remarks and discussions regarding the implications of our results and further research.

2 Theory & Empirical Evidence

2.1 M&A Performance

Corporate acquisitions can be viewed just as any other investment decision made, and should therefore seek to increase the firm value. Evidence shows that this, however, is not always the case. Jensen and Ruback (1983) conduct a broad review of the early corporate takeover literature and find that the results on shareholder returns for the bidding firm are largely mixed. The immediate returns around the announcement date seem to point to mergers being a zero net present value investment, while studies that measure the returns over a one-month time period after the announcements find positive but statistically insignificant returns to shareholders.

Firms are found to undertake mergers in "waves". These waves are periods in which large amounts of mergers take place, and as proposed by Mitchell and Mulherin (1996), the waves are driven by industry shocks, such as deregulation, innovation in financing, and changes in input costs. One such wave started in the mid-1960s and lasted for almost ten years, as managers in the post-war period sought diversification through M&A, creating huge conglomerates. Asquith (1983) and Eckbo (1983) are two of the most prominent studies on the merger wave of the 1960s and 70s, and both studies find small but positive returns to the acquirers' shareholders. Chang (1998) and Morck *et al.* (1988) study takeovers from both the 70s and 80s and find evidence for somewhat negative returns. Kohers and Kohers (2000) investigate another wave in the 1990s and finds that acquirers of high-tech firms earned an abnormal positive return on the announcement day, while DeLong (2001) and Walker (2000) find the opposite, despite an almost identical time period.

In a study of more than 12 000 mergers in the U.S. in the time period of 1980 to 2001, Moeller *et al.* (2004) find significant positive abnormal announcement returns for the full sample. However, they argue that there might exist a size-effect and that the positive CARs are driven by positive announcement returns by small firms. When dividing the sample into small and large firms, they find that large firms yield cumulative abnormal

returns of 0.076% while small firms yield cumulative abnormal returns of 2.32%, with the difference being significant. The size-effect is persistent when controlling for additional deal- and firm characteristics. The size-effect is a result of managerial hubris playing a more important role in large firms compared to small firms (Malmendier and Tate, 2008), connected to the fact that large firms acquire over-valued firms resulting in higher premiums and negative synergy gains (Loderer and Martin, 1990; Moeller *et al.*, 2004.)

Moeller *et al.* (2005), which also documented acquisitions from 1980 to 2001, find first that the amount spent on investments in the '90s was more than six times that spent in the '80s. Moreover, they find that for both the periods between 1980 to 1990 and from 1991 to 2001, the aggregate dollar return was $-4.2 billion and $-216.3 billion, respectively. The results are interesting as the average cumulative abnormal return, measured in percentages, was slightly positive for both periods. The negative dollar return and positive percentage return are explained by the fact that a negative percentage point change in a large company leads to a larger absolute dollar loss than in a smaller company.

More recent literature, perhaps best exemplified by Alexandridis *et al.* (2017), shows a shift in acquisition returns related to deals made post-2009. The study investigates more than 25 000 M&A deals and concludes that acquisitions *"create discernible shareholder value through public acquisitions post-2009 for the first time"* (p. 633), turning the announcement effect from a negative -1.08% to a positive 1.05% for acquisitions made of public targets. Shareholders of the acquirer also gain significantly more when the target is private, compared to 1990-2009. The authors propose that much of the shift can be attributed to changes and improvements in corporate governance processes, such as management remuneration structures, leading to investment decisions that aim to maximize shareholder value.

Clearly, the literature on M&A performance is ambiguous, and which factors drive the success or failure of corporate takeovers is still not known. However, the latest evidence seems to point to corporate governance being an important driver, prompting us to ask whether agency problems might be an important piece in the M&A puzzle.

2.2 Agency Theory

The majority of the existing literature linked to corporate governance and the value of the firm is based on the theoretical model of Agency Costs as initially proposed by Jensen and Meckling (1976). The model is grounded in the fact that if the manager owns 100% of the firm, the manager will operate the firm to maximize his utility since the manager, which is also the owner, is subject to all the costs incurred. However, if parts of his ownership are sold to outside parties, agency costs will appear given a divergence of interest between the parties as a result of the manager still acting in ways of maximizing his own utility. The manager can take part of non-pecuniary benefits to maximize his utility at the cost of the other shareholders. If the utility from the non-pecuniary benefits outweighs the costs, the manager has an incentive to participate in actions that are value-decreasing, which may spur agency costs. In essence, the model by Jensen and Meckling (1976) points out that as the manager's ownership increases, the agency costs decrease, as a result of alignment of interests. Conversely, a manager with significantly low ownership may use the position as manager to maximize his utility at the cost of the other shareholders.

As discussed, the alignment-of-interest hypothesis implies that increased ownership by the manager will reduce agency costs, and thus increase the total firm value, suggesting a linear relationship between managerial ownership and firm value. However, Morck *et al.* (1988) challenge this view, proposing that the relationship is non-linear as a result of possible 'entrenchment' by the manager. The argument is that for low levels of ownership, 0% to 10% in their case, the alignment-of-interests hypothesis is present. However, for very high ownership levels above 20%, they find evidence for an entrenchment effect as firms with very high ownership by the management performs the worst of the firms in their sample.

The Entrenchment Hypothesis with regards to investments was developed and theorized later by Shleifer and Vishny (1989). They argue that the effect is most applicable for managers who has significant, although not controlling, ownership in the firm. A manager with significant ownership generally has the trust of the board to make certain investments, even if he does not have the voting power to solely decide on the invest-

ments. They pose that the manager use this position to perform certain investments that makes it more difficult, or even unfeasible for the firm to replace him, as a response to his uncertainty of being replaced by a new manager. Applying the model to acquisitions, Shleifer and Vishny (1989) argues that a manager who is considered an expert in the existing business of the firm, will make investments in line with the existing business, whereas if there is a risk that a potential replacement would run the existing business better, he has incentives to make diversifying acquisitions where he has a comparative advantage. Consequently, the manager will make acquisitions that are value-decreasing for shareholders but make themselves more valuable for the firm, or at least harder to replace, and in addition, will increase the manager's compensation as he is now responsible for a larger company.

The above discussion leads to our first hypothesis that; (i) there exists a positive, significant relationship between acquisition performance and the level of CEO ownership. Further, while this relationship is positive, the theory suggests that it is non-linear. Thus, we also hypothesize that; (ii) this non-linear relationship also exists for mergers in Swedish firms.

2.3 Corporate Governance & Ownership Structure

Many decades ago, Berle and Means (1932) proposed the view of the widely held corporation which has been used as the starting point for the majority of the research on ownership structure and corporate governance around the world and mainly in the United States. They argue that the ownership of firms is mainly dispersed among a large number of shareholders, while the control is in the hands of the managers. This view of the corporation has since then been researched and, in later years, questioned with regards to the generalization of this view to the global corporation.

On this topic, La Porta *et al.* (1997) use a sample of 49 countries to analyze if and how the legal origin may affect the level of protection of minority shareholders. They found that countries with legal origin from common law, in general, have higher shareholder protection, whereas countries originating from the branch of civil law, where Sweden is

included, have lower shareholder protection. The level of shareholder protection might therefore influence the general ownership structure in the given country.

Using this model of differences in legal structure, origin, and shareholder protection, La Porta *et al.* (1999) study the ownership structure of the 20 largest companies in 27 of the richest countries in the world. They propose evidence that the Berle and Means (1932) view of the widely held corporation still holds for the richest common law countries. They argue that this could be an effect of the fact that high shareholder protection leaves little room for expropriation of minority shareholders by large shareholders. On the other hand, in civil law countries with lower shareholder protection, such as the Scandinavian countries, they present a different picture of the ownership structure. As a result of low shareholder protection, Scandinavian firms are controlled by a single large shareholder (>20% voting rights), with the most common owner being a family. The argument is that in countries where the (minority) shareholder protection is low, the firm is owned by a controlling shareholder to monitor the management team. However, in many cases, the controlling shareholder is part of the management.

Furthermore, La Porta *et al.* (1999) argue that there might exist a difference in ownership structure between large and small firms. They control this by looking at medium-sized firms in each respective country and find that, in general, smaller firms are much less widely held and that family ownership is the most prevalent structure in smaller companies. Thus, they conclude that there actually is a persistent size-effect in terms of ownership and that the Berle and Means (1932) view of ownership mainly exists in large American corporations. These findings are reiterated by Faccio and Lang (2002), which find family ownership to be the most common ownership structure in Sweden (47% of the sample), but more importantly that 80% of the largest Swedish firms are widely-held.

A larger dispersion of ownership creates an environment where agency costs as a results of misalignment of interests might be more apparent, in contrast to a firm with concentrated ownership. Thus, with regards to the discussion about a potential size-effect (Moeller *et al.*, 2004) and the discussion above, we conjecture that there is a size-effect not only in terms of M&A announcement performance but also in terms of how CEO

ownership affects performance in small versus large firms. Namely such that our third hypothesis is that; (iii) larger firms will underperform compared to small firms, and there will be a more clear positive impact of the level of ownership in acquisition performance by larger firms, given a higher dispersion of ownership.

3 Sample Construction & Methodology

3.1 Sample

Our sample includes completed Swedish M&A deals announced between January 1, 2018 and December 31, 2019, that are available through the Transaction Screener in the S&P Capital IQ database. The time-period for this study is chosen such that we can analyze data that is as recent as possible but still avoid the excessive market volatility during the COVID-19 pandemic outburst. Additionally, parts of the data used is obtained from annual reports of the year of the event, and with the annual reports of 2021 not released at the time of writing, we choose 2018 and 2019 as our sample period. The choice of only analyzing two years come from that parts of the data is retrieved manually, being extremely time consuming, and to analyze a longer period would therefore require more time. Moreover, as we want to evaluate the performance of M&As, we only use data where the acquirer is a firm listed on a Swedish stock-exchange. Finally, our sample meets the following criteria:

1. The acquiring firm is a Swedish listed firm.
2. The acquirer control less than 50% of the shares in the target-firm before the deal and obtains control of the target after the deal.
3. The Market Cap of the acquirer one day prior to the announcement is greater than €50 million.
4. The transaction value of the deal is available and greater than €1 million.

A part of the acquisitions in our sample is done by real-estate companies. Due to the nature of the real-estate business, a part of the transactions included are acquisitions of property portfolios rather than a company. We include these transactions as we do not see that this would compromise our results, as long as the transaction fulfill the above-mentioned criterias. Our final sample consists of 198 acquisitions made by Swedish publicly-listed firms in the years of 2018 and 2019.

Data on stock returns for the acquirer is obtained through Bloomberg, whereas financial and accounting data is gathered using Bloomberg and S&P Capital IQ. In order to evaluate the effects of ownership-levels by the CEO on the acquisition performance, we gather data on (i) stock holdings by the CEO, (ii) total outstanding shares, and (iii) the base-level salary for the CEO in the year of the announcement. The stock holdings and the number of outstanding shares are manually retrieved from each respective company's last annual report prior to the announcement. To get the most updated ownership data, we also complement the CEO stock-holdings with data on stock transactions made during the year of the announcement until the announcement date. The complementary stock-holding data is retrieved using Insynsregistret provided by Finansinspektionen which is the Swedish Financial Supervisory Authority. Lastly, the data on the CEO's salary is retrieved partially by S&P Capital IQ, and for those firms where Capital IQ do not have the data, we retrieve it from the firms' annual reports.

3.2 Independent variables

As we want to investigate the possible effects of CEO ownership concentration on acquisition performance, we employ two different variables as proxies for ownership. The first one, denoted as CEO ownership, is defined as the percentage of the firm's outstanding shares held by the CEO, both through potential holding companies and their closest family. This measure for ownership is the most used one in the existing literature, and, according to Lewellen *et al.* (1985), a good proxy in order to measure the potential cost of wealth-decreasing investment decisions for the CEO.

Furthermore, we argue that there might be some limitations in the above measure of the CEO's ownership. Our sample is diverse in terms of size, measured as total assets, and consequently, a CEO holding 1% of a EUR 50 million company is significantly less than a CEO holding 1% of a EUR 5 billion company. In order to tackle this possible limitation, and to bring robustness to our results, we employ a second ownership variable denoted as Value of CEO Ownership. Value is the percentage of the Euro-value of the CEO stock-holdings in relation to the CEO's annual income, the year of the announcement. As a

consequence of limitations in the availability of the total compensation for the CEO's, we only use the CEO's base-level salary as proxy for their income. We believe this variable to be a good way to measure how committed the CEO is to the firm in terms of their wealth, i.e., skin in the game. This way of measuring the CEO's ownership is in line with Lewellen *et al.* (1985) which argues that the manager's incentive to merger is not solely driven by the potential costs wealth-decreasing acquisitions may incur.

Looking at Table 1, we find that the median CEO in our sample owns close to 0% of the outstanding shares, while the mean is 5%, much in line with the discussion held in subsection 2.3. By looking at the mean values of the dummy variables, we see that the majority of the transactions are paid with cash, the targets are usually foreign, and that in 58% of the cases the acquirer has a block holder. For the variable *focused* , we see that about half of the transactions are of targets within the same primary industry as the acquirer.

Moreover, in Figure 1 in the appendix we see in the two histograms on the left that the original distribution of the ownership variables is heavily skewed. The heavily skewed distribution stems from the fact that our sample consists of a few founder-CEOs, who usually own a large part of the company's outstanding shares, leading to shareholding values that far outweigh their yearly salary, compared to a relatively large number of CEO's in companies with very small holdings compared to their (relatively) high yearly salary. To deal with the fact, the natural logarithm of the two ownership variables will be used in the regressions, denoted as *lceo* and *lvalue*. The usage of the logarithm for the ownership variables are in line with the method of Singh and Davidson III (2003), which argues that it is common practice to use the logarithmic form for variables which have large variance and are non-negative. The histograms on the right in Figure 1 in the Appendix is the distribution of the logarithmic variables. As we can see, by using the logarithm we obtain a much more normally distributed variable.

Table 1: Descriptive Statistics

CEO ownership denotes the share of total outstanding shares that the CEO of the acquiring company owns. Value of CEO ownership is the value (in EUR) of the CEO's stock ownership over his or her annual base salary, e.g. the median CEO has share holdings valued at 224% of his or her annual base salary. Relative size denotes the deal value in relation to the acquiring firm's market capitalization, measured 1 day prior to the announcement. Cash over assets is the acquirers total cash balance in relation to its book value of assets prior to the announcement. Size is the acquirers book value of total assets prior to the announcement, and CEO salary is the CEO's annual base salary, both variables are denoted in millions of euro. The dummy variable cash takes the value of 1 if the deal is paid fully in cash. Likewise, the cross border, block holder and focused acquisition variables takes the value of 1 if the deal target is a foreign company, if the acquirer has a block holder (one investor holding more than 20% of the outstanding shares) and if the target is in the same primary industry according to CapitalIQ, respectively.

	Obs	Mean	Median	Std.Dev.	Min	Max
Ownership data						
CEO ownership	198	0.05	0.00	0.12	0.00	0.72
Value of CEO ownership	198	566	2.24	2 768	0.00	23 354
Control variables						
Relative Size	198	0.15	0.04	0.35	0.00	2.52
Cash over Assets	198	0.08	0.06	0.08	0.00	0.46
Size	198	2 500	622	4 102	8	24 623
CEO Salary	198	0.55	0.38	0.62	0.05	3.95
Dummy variables						
Payment	198	0.84	1.00	0.36	0.00	1.00
Cross border	198	0.70	1.00	0.46	0.00	1.00
Block holder	198	0.58	1.00	0.49	0.00	1.00
Focused	198	0.49	0.00	0.50	0.00	1.00

Variables Size and CEO Salary are denoted in millions of Euro, whereas all other variables are either percentages (i.e. 2.24 = 224%) or dummy variables.

3.3 Control variables

In addition to our independent variables, we perform multivariate regressions which include control variables that, according to existing research, has been found to affect the short-term performance of M&As. This is done to prevent our results to suffer from omitted variable bias, and to bring robustness to our results.

Payment type. Travlos (1987) find that deals paid with 100% stock yield negative returns, whereas cash offers earned normal returns in an eleven-day window. Furthermore, Akbulut (2013) studies the acquisition activity and performance of over-valued acquirers. The author concludes that acquirers whose stock is over-valued tend to make more acqui-

sitions using stock as payment, which in turn are value-destroying in the short-run. More recent evidence, however, show that stock-only deals outperform both mixed-payment and cash-only deals (Alexandridis *et al.*, 2017; Yang *et al.*, 2019). Thus, we include a dummy variable, *PAYMENT*, taking the value 1 if the deal is paid fully with cash, and 0 otherwise.

Size. In an extensive study of US acquirers, Moeller *et al.* (2004) show that small acquirers generate significantly greater announcement returns than large acquirers. They conclude that this size effect is significant and persistent when controlling for firm and deal characteristics such as payment type. As we have a broad span of firms in terms of size in our sample, we include one control variable, *SIZE*, defined as the acquirers total assets prior to the announcement. Although, large firms make more and larger acquisitions in terms of absolute size, small acquirers make relatively larger acquisitions in relation to the acquirers market value (Moeller *et al.*, 2004). In order to control for the potential effects of the relative size of the acquisition, we define a variable for relative size, *REL_SIZE*, as the ratio between the total transaction value and the market value of the acquirer prior to the acquisition.

Cross-border. A frquently used determinant of acquisition performance in previous research is the cross-border effect. Both Moeller and Schlingemann (2005) and Andriosopoulos and Yang (2015) provide evidence that acquisitions of cross-border targets by US and UK firms generate a significant negative return of nearly 1% compared to domestic acquisitions. In contrast, according to research by Danbolt and Maciver (2012), cross-border acquisitions earn a significantly higher abnormal return than domestic acquisitions in the UK. We therefore employ the dummy variable, *CROSSBORDER*, that takes the value of 1 if the acquisition is cross-border and 0 if domestic, to control for the potential effects.

Cash-reserves. According to the free cash-flow hypothesis by Jensen (1987), managers whose interest is not aligned completely with the shareholders', will use excess cash-reserves to make investments that are value decreasing, on average. In line with this theory, Harford (1999) find evidence that cash-rich firms make more acquisitions, and

that these acquisitions are value-decreasing, both in terms of announcement effects and subsequent operating performance. To control for cash-reserves, we define the variable, *CASHASSETS*, as the acquirers cash and cash equivalents over total assets.

Acquisition strategy. Amihud and Lev (1981) argues that diversifying mergers lead to risk-reduction for the firm. Thus, in firms with agency problems, managers may conduct diversifying mergers in order to reduce their "employment risk". Furthermore, Fan and Goyal (2006) show that vertical mergers have positive wealth effects, and that compared to horizontal mergers, they generate a significantly higher wealth effects. Moreover, Hoberg and Phillips (2010) find that when firms acquirer a target which is in similar product market, the combined CAR increases by 0.7%. Given the potential wealth effect of diversifying mergers, we include a variable, *FOCUSED*, that takes the value 1 if the acquirer and target are in the same primary industry, as defined by the S&P Capital IQ database, and 0 otherwise.

Block-holder. When taking investment decisions, there are other variables within the firms' ownership structure that determine whether they should make an acquisition or not. Craninckx and Huyghebaert (2015) argues that having a large block-holder influences the quality of acquisition decisions significantly. They define block-holder as if the largest shareholder has more than 20% voting rights. The evidence show that firms with a block-holder exhibit higher cumulative abnormal returns than firms that do not. On the other hand, Doukas and Petmezas (2007) finds that having a block-holder does not significantly improve the shareholder wealth creation. We control for the ownership structure in the firm by introducing a dummy variable, *BLOCK*, that takes the value 1 if the largest shareholder holds more than 20% voting rights, and 0 otherwise.

CEO Salary. To control for the possibility of the CEO's compensation may have an effect on the acquisition announcement abnormal returns, we use the CEO's base salary, *CEOSALARY*, the year of the acquisition as a control variable. Lewellen *et al.* (1992) analyze the role of the CEO's salary and find a significant positive relationship between abnormal stock-returns and CEO salary. They argue that the managers may be rewarded with an increase in pay if they can present abnormal stock-returns. Furthermore, in their

review of 150 studies regarding M&As, DeYoung *et al.* (2009) find robust evidence that high CEO compensation encourages M&A activity.

In Table 1, descriptive statistics are presented for the above mentioned variables. The median deal value in our sample constitutes just 4% of the acquirer's market value, but with a relatively large standard deviation. Similarly, the size of the acquirer varies heavily, with median book value of assets amounting to €622m, and the mean amounting to €2500m. The statistics also highlight that the most common deal is an all-cash deal, and that most targets are foreign firms.

3.4 Event Study

To measure the performance of M&As, we perform an event study that relies on the methodology initially proposed by Brown and Warner (1980), Brown and Warner (1985), and later extended by MacKinlay (1997). We define an event window in which we observe the daily stock returns for our sample firms. The event window is defined to extend over the announcement date. In cases where the market was closed on the announcement date, we use the first trading day following the announcement as day 0. As the semi-strong efficient market hypothesis implies that the effects of the merger are integrated into the stock price one day after the announcement, we employ a three-day event window (-1, +1). However, as there is a risk of information leakage before the actual announcement, and post-announcement effects (Craninckx and Huyghebaert, 2011), we additionally employ an eleven-day (-5, +5) and 21-day (-10, +10) window. The use of two additional event windows also brings robustness to our results, making the results perhaps more generalizable.

To compute the abnormal returns of each acquisition, we use the *Market Model*. The goal of the market model is to estimate the parameters of *alpha* and *beta* which represents the normal stock returns of firm i in relation to a market portfolio. These normal returns are computed using a estimation window which consists of trading days prior to the event, in our case the announcement. We employ an estimation window of (-200, -60) prior to the announcement, in line with Chen *et al.* (2007). The estimation window is employed

in such a way that it does not overlap with the event window, as we want to make sure that the estimated parameters are not influenced by the returns surrounding the event (MacKinlay, 1997). To represent the market portfolio we use the value-weighted all-share index OMXSPI. The market model is computed as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it} \tag{1}$$

Where R_{it} *and* R_{mt} are the returns in period t for security i and the market portfolio, respectively, and ϵ_{it} is the zero mean disturbance term.

To estimate the abnormal returns we use OLS regression, where the model for the sample abnormal return is as follows:

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \tag{2}$$

To draw any conclusions about the abnormal returns for the full sample, we need to calculate the cumulative abnormal returns which simply is all abnormal returns for each event aggregated. The cumulative abnormal returns are calculated as follows:

$$CAR = \sum_{t=t_1}^{t_2} AR_{it} \tag{3}$$

The cumulative abnormal returns are initially used to analyze the full sample. To also investigate a potential size-effect, as discussed in section 2, we divide the sample into two, *Small* and *Large*. The division is based on the median total assets of the sample, which in Table 1 is EURm 622. We use the median to have the same number of observations in each sample. If we were to use the mean, the sample of large firms would have very few observations given that there are a few very large firms that drive up the mean, making the comparison harder to interpret.

3.5 Regression Models

As we use two different proxies for CEO ownership, we specify two main models. The first model includes the stock-holdings as percentage of outstanding shares, and the second includes the value of the stock-holdings over the CEO's yearly salary, as follows:

$$\begin{aligned} CAR_i = \alpha + \beta_1 lceo_i + \beta_2 rel\_size_i + \beta_3 cashassets_i + \beta_4 lnsize_i + \beta_5 focused_i \\ + \beta_6 ceosalaryEUR_i + \beta_7 crossborder_i + \beta_8 payment_i + \beta_9 block_i + \epsilon_i \end{aligned} \tag{4}$$

$$\begin{aligned} CAR_i = \alpha + \beta_1 lvalue_i + \beta_2 rel\_size_i + \beta_3 cashassets_i + \beta_4 lnsize_i + \beta_5 focused_i \\ + \beta_6 ceosalaryEUR_i + \beta_7 crossborder_i + \beta_8 payment_i + \beta_9 block_i + \epsilon_i \end{aligned} \tag{5}$$

As we propose the possibility of a non-linear relationship with regards to CARs and CEO ownership we also employ a modified version of Equation 4 and Equation 5, where we also include the square of lceo and lvalue. A description of all variables used, and the respective name used in the regression is presented below in Table 2.

As we have argued for a difference in terms of ownership structure between small and large firms as proposed by (La Porta *et al.*, 1999), we also employ these models on two sub-samples, *Small* and *Large*, as mentioned above. We do not specify those models as they are the same as Equation 4 and Equation 5, and their squared equivalents, with the difference that we have divided the sample based on size.

Before we can evaluate the regression results, we need to perform tests to control that the models and data are sufficient. Thus, we perform a Breusch-Pagan/Cook-Weisberg test in order to evaluate if the data is heteroskedastic or not (see Table 8 in the Appendix). As the results show we have heteroskedasticity in the data, we employ robust standard errors in all the above-mentioned models. Given that we use multivariate models, and our models consists of several control variables, we also need to control for potential multicollinearity between the variables. We do this using the Variable Inflation Factor (VIF) test, following Wright *et al.* (2002), which confirms that the model does not suffer from any multicollinearity (see Table 9 in the Appendix). As we do not have any signs of multicollinearity we do not exclude any of the variables from our regression models, and

nor do we perform any additional tests to control for this issue further.

Table 2: Variables summary

Variable	**Regression Variable Name**	**Description**
CEO Ownership	lceo	The percentage of the outstanding bidder shares held by the CEO, transformed using the natural logarithm
Value of CEO Ownership	lvalue	The natural logarithm of the relation between the CEO's value of share holdings and the CEO's annual base salary
Size	lnsize	The natural logarithm of the acquirers total assets prior to the deal announcement
Relative Size	rel_size	The ratio of the transaction value and the market value of the acquirer prior to the announcement
CEO Salary	ceosalaryEUR	The value of the CEO's yearly base salary in millions of euro, the year of the announcement
Cash-reserves	cashassets	The acquirers cash in relation to its total assets
Acquisition Strategy	focused	Dummy variable taking the value of 1 if the target is in the same primary industry as the acquirer
Block-holder	block	Dummy variable taking the value of 1 if the largest non-management shareholder controls more than 20% of the voting rights
Payment Type	payment	Dummy variable taking the value of 1 if the deal is paid fully in cash
Cross-border	crossborder	Dummy variable taking the value of 1 if the target is foreign

4 Results & Analysis

4.1 Cumulative Abnormal Returns

As illustrated in Table 3, the cumulative abnormal returns are positive and statistically significant for all three event windows for the full sample, with the highest CAR in the eleven-day window reaching a CAR of 1.5%. Not only are the results significant, the effect size is large, indicating that acquisitions were a net-positive value investment for Swedish firms in 2018 and 2019. As a robustness check, we also employ three additional estimation windows of (-30, -170), (-30, -200), and (-30, -250) (not presented here). The cumulative abnormal returns remain positive and significant at the 1% level in all three event windows for the additional estimation windows. Considering this, we can determine that the cumulative abnormal returns for acquisition announcement are robust for the assigned period.

Table 3: Cumulative Abnormal Return & Aggregate Return

	(1) (-1, +1)	(2) (-5, +5)	(3) (-10, +10)
CAR	0.013***	0.015***	0.012*
	(0.311)	(0.592)	(0.732)
Aggregate Euro Return (€m)	-151	-479	6 606
Observations	198	198	198

*, **, *** denotes the statistical levels of significance of 10%, 5%, and 1% respectively.
Robust standard errors in parentheses.

However, by looking at the aggregate euro return, we find that in the three and eleven-day period surrounding the announcement, acquiring firms destroyed €151m and €479m in market value, respectively. Conversely, in the 21-day event window, a value of €6 606 is created. Much of the difference is driven by a few events in large companies that did not necessarily gain much in relative terms, but due to their size led to large increases in shareholder wealth. Interestingly, the equally weighted CAR in the 21-day event window is the lowest of the three windows we examine, but clearly, this is the window in which much of the absolute value is created.

Our results provide evidence that Swedish firms yield abnormal announcement returns to their shareholders following an acquisition, contradicting much of the early research on M&A announcement effects, such as that of Jensen and Ruback (1983), Dodd (1980) and Moeller *et al.* (2005) that find significant negative effects for the acquiring firm. Some studies, such as Asquith (1983), find positive abnormal returns to the acquirer but without statistical significance. However, our findings are in line with some of the more recent studies finding positive returns to acquisitions in the post-financial crisis era (see, for example, Alexandridis *et al.* (2017)).

To extend the discussion of possible differences between small and large firms, we also investigate how the abnormal returns differ between acquirers depending on the firm size. We divide our sample by the median total assets for the acquiring firm, denoting the upper half of the sample *Large* and the lower half as *Small*. We use the median value rather than the mean because of the large size difference in our firms, resulting in the mean being driven by a small number of firms. Using the median instead, we get the same number of firms in the two groups. Table 4 presents the results, and testing for the difference, we find that small acquirers generate significantly higher CARs. The result that small firms significantly outperform large firms, partly confirms our third hypothesis. Theory suggests that the size effect is present, among other things, due to better alignment between managers and shareholders in smaller firms, higher prevalence of hubris in larger firms, and high valuations in larger firms (Moeller *et al.*, 2004).

Table 4: Cumulative Abnormal Returns - Small vs. Large firms

	(-1, +1)			(-5, +5)			(-10, +10)		
	Large	Small	Diff.	Large	Small	Diff.	Large	Small	Diff.
Mean	0.003	0.024	0.021***	0.001	0.029	0.028***	-0.005	0.029	0.034***
	(0.286)	(0.533)	(0.605)	(0.529)	(1.044)	(1.171)	(0.669)	(1.284)	(1.448)
t			3.469			2.359			2.321
N	99	99	198	99	99	198	99	99	198

*, **, *** denotes the statistical levels of significance of 10%, 5%, and 1% respectively.
Robust standard errors in parentheses.

Table 5 shows the abnormal returns day to day in the three event windows, as well as the cumulative abnormal returns. What becomes evident is that most of the CARs

are realized in the first two trading days after the announcement. In early research on information leakage, a multitude of studies found that a majority of the abnormal returns were generated before the announcement date of the merger. This field of research gained traction half a century ago when Mandelker (1974) found evidence that much of the CAR is realized long before the information of an upcoming merger is made public. Later, studies such as Keown and Pinkerton (1981), and Jensen and Ruback (1983) followed up on the initial findings and were able to identify the same phenomenon, indicating that insider information is most likely leaking ahead of the announcement to the general public. Our findings, however, do not lend support to such claims.

Table 5: Abnormal Returns - Day to day

The Table shows the daily abnormal returns within the selected event windows. Each daily abnormal return is summed up after each event day, resulting in the Cumulative Abnormal Returns (CAR). At the end of each event window, the final CAR is written in bold, to highlight the results also shown in Table 3.

	(-10, +10)		(-5, +5)		(-1, +1)	
Event Day	Abnormal Return	Cumulative Abnormal Returns	Abnormal Return	Cumulative Abnormal Returns	Abnormal Return	Cumulative Abnormal Returns
-10	-0.002	-0.002				
-9	0.002	0.000				
-8	-0.001	-0.001				
-7	0.000	-0.001				
-6	0.000	-0.001				
-5	-0.001	-0.001	-0.001	-0.001		
-4	0.000	-0.002	0.000	-0.001		
-3	0.001	0.000	0.001	0.000		
-2	0.002	0.002	0.002	0.002		
-1	0.000	0.002	0.000	0.003	0.000	0.000
0	0.008	0.010	0.008	0.011	0.008	0.008
1	0.005	0.015	0.005	0.016	0.005	**0.013**
2	0.000	0.015	0.000	0.016		
3	-0.001	0.014	-0.001	0.015		
4	0.002	0.016	0.002	0.017		
5	-0.002	0.014	-0.002	**0.015**		
6	-0.001	0.013				
7	0.001	0.014				
8	-0.002	0.012				
9	-0.001	0.011				
10	0.001	**0.012**				

4.2 Effect of CEO Ownership

Our primary results are presented in Table 6. Testing the hypothesis that CAR is affected positively by the level of CEO ownership, we study the CEO's shareholdings in relation to their yearly salary and the CEO's ownership of the total outstanding shares in the acquiring firm. As previously discussed, the ownership data is skewed due to a small number of heavily invested CEOs. Hence, we use the natural logarithm to get a better understanding of the relationship. Three event windows, three days (-1,+1), eleven days (-5,+5), and 21 days (-10,+10), are examined based on the market model.

Our models indicate a positive, albeit statistically insignificant, relationship between the CEO's share ownership and the cumulative abnormal return. Model (8) show statistical significance at the 10% level, and moreover points to a non-linear relationship, as proposed by existing research (Morck *et al.*, 1988; Walters *et al.*, 2008; Wright *et al.*, 2002). The coefficients indicate an exponential relationship between the CARs and the number of outstanding shares the CEO owns, rather than a quadratic relationship as in previous literature. Although model (8) reveals some (weak) non-linear relationship between ownership and CAR, none of the other models do. Thus, we cannot say that we find results in support of existing research, neither in regards to convergence of interest nor entrenchment theory in any significant way in this specification, rejecting our first and second hypothesis. A reason for these results could be that a significant part of the existing research is based on common law countries such as the United States and the UK. Consequently, both the US and UK are countries where the ownership of the firm generally is widely held, compared to Sweden where the firm, generally, is held by one large controlling owner (La Porta *et al.*, 1999). Thus, in firms with a large dispersion of ownership, there might exist room for the CEO to make investment decisions in favor of themselves rather than of the shareholder, whereas in Swedish firms, a large controlling owner can monitor and control the investment decisions more closely, leaving less room for the CEO to make value-decreasing investments. Thus, making alignment of interest through CEO ownership a not as important factor in Swedish firms.

Next, we test for our hypothesis about CEO and shareholder alignment by examining

how the amount of wealth that the CEO has invested in the bidding firm affects the CAR. We do this using the holding value in relation to the yearly base salary as a proxy. The same pattern emerges in these models, with positive but mostly insignificant relationships. Model (9) sticks out as the coefficient is significant at the 5% level, and interpreting the log transformed coefficient we find that for each yearly salary the CEO invests in his or her company, the CAR increases by 0.13%.[1]

Apart from the difference in ownership structure in our sample of Swedish firms compared to samples of US firms being a reason for the insignificant results in this specification, another reason could be the small sample size. However, a number of similar studies that find significant relationships have similar sample sizes, ranging between 163 to 342 mergers compared to our 198 (Lewellen *et al.*, 1985; Walters *et al.*, 2008; Wright *et al.*, 2002). Furthermore, Wright *et al.* (2002) only includes acquisitions that will increase the acquirer's revenues by a minimum of ten percent. We do not make this distinction because of limitations in the data available. Such a distinction assures that the acquisitions included in the sample will have a material impact on the acquirer that is measurable by the market, potentially explaining the difference in our results.

That neither of the two variables for CEO ownership seem to have an impact is a bit surprising, as previously discussed. Something to consider is that the last decade has shown some of the largest market upswings ever recorded. This optimistic view has resulted in large returns for shareholders, which also has attracted more novel market participants. When the interest for equities increases at such a scale, it might have an effect on how the market considers and perceives particular news, for example announcements of M&As. The novel investor base might have an information disadvantage compared to large institutional investors, leading to them not emphasising "soft values", such as the ownership stake of the CEO, as much.

We find a statistically significant, and negative, relationship between the CEO's salary and the CAR in the 11 day event window. The model indicates that as the yearly salary

[1]The equation used to interpret the log transformed coefficient is as follows: $Coefficient * Log(1+x)$ where x is the percentage increase in the independent variable. Inserting 100% in the equation, model (9) gives us an effect of 0.13%.

increases by €1m, the abnormal return around the announcement date decreases by 1.42% to 1.57%. The negative correlation might be attributable to the fact that CEOs with high salaries are more prone to empire building (DeYoung *et al.*, 2009), and with less incentive to care for shareholders, as the salary is fixed, acquisitions are negatively viewed by the market in the short-term.

Moreover, the variable block is significant at the 10% level in the three-day event window, with the negative coefficient suggesting that having the largest owner control more than 20%, negatively affects your performance. This result is contrary to Craninckx and Huyghebaert (2015), which find that having a block-holder increases performance, since they can more easily monitor and control potentially bad investments. They propose that different types of block-holders have different impact, with family-owned firms outperforming. However, this positive effect of family ownership immediately disappears when firms do diversifying deals. As we do not control for the type of controlling shareholder, we cannot confidently say what is causing our results. But since the majority of our deals are diversifying, and Swedish firms generally are family-held (La Porta *et al.*, 1999), this could be a potential explanation.

A bit surprisingly, none of the other control variables seem to have a significant impact on the abnormal returns. Seemingly, the way our model is specified, there is something else driving the returns around the M&A announcements. Clearly, our sample is one with large differences, not in the least when it comes to the bidder size, and we therefore try to address this variation in the following sub-chapter.

Table 6: Main Regression

Table 6 visualizes the 12 main regressions where *lvalue* is the natural logarithm of the relation between the CEO's value of share holdings and the CEO's annual base salary. *lceo* is the percentage of the outstanding bidder shares held by the CEO, transformed using the natural logarithm. *lvaluesquared* and *lceosquared* are the two previous terms, squared. *relsize* is the ratio of the transaction value and the market value of the acquirer prior to the announcement. *cashassets* is the acquirers cash in relation to its total assets. *lsize* is the natural logarithm of the acquirers total assets prior to the deal announcement. *focused* is a dummy variable taking the value of 1 if the target is in the same primary industry as the acquirer. *ceosalaryEUR* is the value of the CEO's yearly base salary in millions of euro, the year of the announcement. *crossborder* is a dummy variable taking the value of 1 if the target is foreign. *payment* is a dummy variable taking the value of 1 if the deal is paid fully in cash. *block* is a dummy variable taking the value of 1 if the largest non-management shareholder controls more than 20% of the voting rights.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
VARIABLES		**(-1, +1)**				**(-5, +5)**				**(-10, +10)**		
lvalue	0.0259	0.0706			0.188	0.251			0.420**	0.437		
	(0.101)	(0.140)			(0.176)	(0.263)			(0.215)	(0.326)		
lvaluesquared		-0.0104				-0.0147				-0.00409		
		(0.0223)				(0.0408)				(0.0494)		
lceo			-0.0473	-0.0723			0.228	1.661*			0.352	1.717
			(0.129)	(0.401)			(0.248)	(0.882)			(0.279)	(1.161)
lceosquared				-0.00226				0.130*				0.124
				(0.0343)				(0.0766)				(0.0977)
rel_size	-0.00464	0.0249	-0.0591	-0.0634	1.951	1.993	1.771	2.015	3.868*	3.879*	3.405	3.638*
	(0.977)	(0.954)	(1.000)	(1.013)	(1.719)	(1.733)	(1.718)	(1.769)	(2.094)	(2.107)	(2.164)	(2.168)
cashassets	-0.157	0.0329	0.0455	0.0769	-5.426	-5.156	-4.539	-6.343	-15.45*	-15.38*	-13.31	-15.03*
	(5.897)	(5.970)	(5.730)	(5.819)	(7.732)	(7.833)	(7.736)	(8.216)	(8.308)	(8.462)	(8.288)	(8.701)
lnsize	-0.519***	-0.488**	-0.543**	-0.540**	-0.551	-0.508	-0.435	-0.638	-0.744	-0.732	-0.565	-0.759
	(0.198)	(0.220)	(0.223)	(0.230)	(0.353)	(0.363)	(0.385)	(0.428)	(0.457)	(0.460)	(0.477)	(0.530)
focused	0.137	0.193	0.229	0.233	0.342	0.421	0.248	-0.00845	1.506	1.528	1.505	1.260
	(0.718)	(0.741)	(0.736)	(0.756)	(1.093)	(1.190)	(1.052)	(1.076)	(1.367)	(1.436)	(1.348)	(1.307)
ceosalaryEUR	0.349	0.299	0.314	0.312	-1.49***	-1.56***	-0.157***	-1.42**	-1.08	-1.10	-1.29	-1.15
	(0.504)	(0.547)	(0.505)	(0.507)	(0.565)	(0.573)	(0.564)	(0.563)	(0.79)	(0.801)	(0.786)	(0.779)
crossborder	1.064	1.084	0.974	0.973	0.870	0.899	0.807	0.861	2.319	2.327	2.016	2.067
	(0.773)	(0.773)	(0.754)	(0.756)	(1.325)	(1.306)	(1.285)	(1.270)	(1.625)	(1.610)	(1.604)	(1.591)
payment	1.071	1.067	1.069	1.070	1.207	1.202	1.185	1.145	1.522	1.521	1.477	1.439
	(1.049)	(1.050)	(1.049)	(1.053)	(1.928)	(1.933)	(1.923)	(1.932)	(2.480)	(2.485)	(2.476)	(2.479)
block	-1.197*	-1.215*	-1.272*	-1.274*	-1.313	-1.340	-1.243	-1.124	0.722	0.715	0.709	0.823
	(0.722)	(0.724)	(0.737)	(0.738)	(1.273)	(1.283)	(1.308)	(1.254)	(1.507)	(1.525)	(1.498)	(1.448)
Constant	3.499*	3.340	3.498*	3.424	4.858	4.633	5.704*	9.975**	2.806	2.744	4.463	8.531
	(2.047)	(2.132)	(2.013)	(2.428)	(3.262)	(3.313)	(3.252)	(4.751)	(4.338)	(4.347)	(4.427)	(6.352)
Observations	198	198	198	198	198	198	198	198	198	198	198	198
R-squared	0.065	0.065	0.065	0.065	0.059	0.060	0.060	0.076	0.074	0.074	0.068	0.077

*, **, *** denotes the statistical levels of significance of 10%, 5%, and 1% respectively.
Robust standard errors in parentheses.

4.3 Size effect on ownership

As we have found indications that size is an important factor for the abnormal returns around M&A announcements, we run another set of regressions to investigate whether there exists a relationship between CEO alignment and CAR in large companies. The evidence, set forth by La Porta *et al.* (1999) and Faccio and Lang (2002), indicates that larger firms are much more widely held, leading to CEOs with less oversight. Based on this, we reason that there should exist a market preference for high CEO ownership in large firms. Table 7 detail our results for the eleven-day window, and to simplify the reading of the results, we have included the three-day and 21-day event window results in Table 10 in the appendix. We choose to present the eleven-day window in the text

rather than in the appendix since it is the window where ownership seems to have the most pronounced effect. We divide the regression model into two groups, where firms with a book value of total assets exceeding EURm 622.28, which is the median value, are labeled *Large* and conversely firms under, or at, the median value is denoted as *Small*. The picture that emerges is one that largely confirms our hypothesis.

Announcement effects in large firms are significantly and positively impacted by the share of company stock the CEO owns, as well as the value of those shares in relation to the yearly salary. Another way of putting it is that shareholders in large firms seem to regard M&A decisions more highly if the CEO is well-invested personally. That this effect seems to only be present in firms above a certain size confirms our third hypothesis that CEO ownership is more important in large firms due to the high dispersion of ownership inherent in this subset, leading to less managerial oversight (La Porta *et al.*, 1999). Further, it proposes that the type of agency costs driven by misalignment of interests, as theorized by Jensen and Meckling (1976), are more prominent in larger firms. Thus, an increase in ownership by the CEO in a large firm has a positive effect on M&A performance. This effect is in line with the convergence-of-interests hypothesis.

Table 7: Regression based on acquirer size; 11-day event window.

	(-5,+5)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Large	Large	Small	Small	Large	Large	Small	Small
lvalue	0.303	0.178	0.150	0.316				
	(0.184)	(0.243)	(0.366)	(0.401)				
lvaluesquared		0.0240		-0.0538				
		(0.0442)		(0.0624)				
lceo					0.485***	1.500**	0.0888	2.116
					(0.180)	(0.574)	(0.505)	(2.094)
lceosquared						0.0916*		0.182
						(0.0479)		(0.175)
rel_size	-2.062**	-2.219**	5.262*	5.227*	-2.581***	-2.567**	5.119*	5.578*
	(0.876)	(0.854)	(2.981)	(3.003)	(0.944)	(1.060)	(2.948)	(3.119)
cashassets	1.867	1.658	-6.205	-5.226	3.386	1.912	-5.322	-6.823
	(12.37)	(12.46)	(9.953)	(9.869)	(12.56)	(12.90)	(9.804)	(10.77)
focused	-0.161	-0.327	1.816	2.013	-0.442	-0.609	1.899	1.509
	(1.175)	(1.249)	(1.874)	(1.905)	(1.156)	(1.169)	(1.804)	(1.853)
ceosalaryEURm	-1.24	-1.09	2.08***	-2.15***	-1.24	-1.51	2.18***	-1.9***
	(0.927)	(0.978)	(0.569)	(0.562)	(0.926)	(0.908)	(0.512)	(0.582)
crossborder	0.333	0.365	1.411	1.564	0.188	0.443	1.333	1.317
	(1.264)	(1.278)	(2.401)	(2.426)	(1.240)	(1.240)	(2.354)	(2.324)
payment	-0.219	-0.390	1.191	1.353	-0.371	-0.888	1.244	1.154
	(2.205)	(2.242)	(2.593)	(2.598)	(2.087)	(2.188)	(2.649)	(2.636)
block	0.615	0.575	-2.921	-2.967	1.069	0.962	-2.878	-2.466
	(1.145)	(1.158)	(2.318)	(2.330)	(1.097)	(1.122)	(2.300)	(2.069)
Constant	0.692	0.685	2.204	2.132	4.263	6.594**	2.797	7.229
	(2.683)	(2.674)	(3.055)	(3.053)	(2.721)	(3.236)	(4.291)	(7.089)
Observations	99	99	99	99	99	99	99	99
R-squared	0.088	0.091	0.080	0.083	0.119	0.142	0.080	0.095

*, **, *** denotes the statistical levels of significance of 10%, 5%, and 1% respectively.
Robust standard errors in parentheses.

Another interesting finding is that the *relative size* of the acquisition have a significant negative effect on the abnormal returns for large firms, especially so in the three and eleven-day event windows (see Table 10 in the appendix). Large acquisitions made by large firms is viewed upon negatively by the market. The effect might be attributable to the hubris theory, stating that CEO's that are overly confident, and thus tend to pay too much for the target, are more likely to seek out larger targets (Loderer and Martin, 1990; Malmendier and Tate, 2008). The effect is reversed in the subset of small firms, whose CAR benefits from deals that make up a larger part of the acquirer market value. The reason might be that smaller firms can benefit greatly from growing and realizing

economies of scale, making acquisitions of large competitors a highly attractive prospect.

There is also a stark contrast between the two sub samples when examining the effect of *cash reserves* in the 21 day window. Small firms' abnormal returns are negatively impacted by the level of cash reserves they have prior to the announcement, while the opposite is true for larger firms. This pattern appear to contradict the payment type coefficient, which points to positive effects from all-cash payments in small firms, but negative effects in large firms. In other words, the results seems to indicate that the market punishes small cash-rich firms, in line with the findings of Harford (1999), but premiers them for making all-cash acquisitions, in line with Travlos (1987), and vice versa for larger firms.

We also find that *crossborder* deals have a significant and positive effect on the 21 day CAR for small firms. Once again we attribute this result to the fact that smaller firms might benefit greatly from an increased international customer base, and the trade off between that and a high complexity deal might therefore be considered worth it in the eyes of the market. The same cannot be said for large firms, where we find negative insignificant effects in line with the findings of Moeller and Schlingemann (2005) and Andriosopoulos and Yang (2015).

All in all, our results support the fact that aligned interests between the shareholders and the managers have positive effects on M&A announcement returns, supporting the convergence-of-interest theory (Jensen and Meckling, 1976). However, our results do not support any non-linear relationship between ownership and CARs at a large scale, as proposed by existing research (Morck *et al.*, 1988; Shleifer and Vishny, 1989; Walters *et al.*, 2008; Wright *et al.*, 2002). Nevertheless, we have provided an important nuance to the picture, showing that the effect of aligning interest is significant only in the case of large firms. In smaller firms, other things are driving the abnormal returns, such as the relative size of the deal, the cash position of the bidder, and whether the target firm is domestic or foreign.

5 Conclusion

In this paper, we set out to test the impact of CEO ownership on the cumulative abnormal returns of Swedish merger and acquisition announcements. Based on existing theory and literature, we hypothesized that; (i) there exists a positive, significant relationship between acquisition performance and the level of CEO ownership and (ii) that the relationship is non-linear. To measure CEO ownership we used two proxies: the percentage of outstanding shares held by the CEO, and the value of the holdings in relation to the CEO's annual base salary.

Our results show that Swedish mergers yield positive cumulative abnormal returns in all three examined event windows. The CARs were between 1.2% to 1.5%, with the highest CARs in the eleven-day window. Regarding the impact of CEO ownership, we find a positive but insignificant coefficient in the majority of the regressions, thus, rejecting our first hypothesis. Furthermore, existing literature, such as Morck *et al.* (1988) and Wright *et al.* (2002), proposes a non-linear relationship as a result of CEO entrenchment and risk-minimizing behavior, suggesting an initial positive relationship between CEO ownership and performance becoming negative after exceeding an optimal level. We find a non-linear relationship, at a 10% significance, between the share of outstanding shares held by the CEO and CARs in the eleven-day window. In contrast to Morck *et al.* (1988) and Wright *et al.* (2002), we found an exponential relationship, rather than quadratic, revealing that the market, to some extent, put an even higher value on CEO ownership as it increases to very high levels. Since this was the only non-linear relationship we found, we reject our second hypothesis.

We theorized that there could exist a potential size-effect, as proposed by Moeller *et al.* (2004). Thus, we hypothesized that; (iii) larger firms will underperform compared to small firms, and there will be a more clear positive impact on the level of ownership in acquisition performance by larger firms, given a higher dispersion of ownership. Our findings support our third hypothesis, confirming an inherent size-effect in both CARs and the impact of increased ownership. Thus, our results support the convergence-of-interest hypothesis in large firms. In smaller firms, however, other factors are driving

the abnormal returns, such as the relative size of the deal, the cash position of the bidder, and whether the target firm is domestic or foreign. This could be explained by the proposition that smaller firms are to a larger extent family-owned, removing the incentives of empire building and entrenchment by the CEO, and instead amplifying the need for value-increasing acquisitions.

Our results provide implications for both market participants, such as investors, but also to the board of directors, and other monitoring departments of firms. For market participants, we have shown that there are abnormal returns to harvest relating to merger and acquisition announcements. Thus, there might be an edge in focusing on smaller companies with a history of frequent acquisitions. For the boards of larger firms, our results reveal an incentive to consider the own CEO's ownership in the firm and possibly demand a certain level of commitment when hiring a new CEO.

In this study, we have studied a period of two years and solely focused on the market's perception of M&A announcements. Of course, there are some limitations to that. The two years analyzed in this thesis is during a period where the market has seen some of the largest upswings in history. This may skew our results in the sense that the market generally is bullish, possibly representing a overly optimistic view. To account for this and potentially provide a more unbiased or at least a more 'normal' view, future research would need to analyze a longer time period spanning over a full market cycle. However, as previously stated, we decided to solely focus on these two years as a result of limited time frame and irrational market movements as a result of COVID-19. Furthermore, analyzing the announcement return assumes some market efficiency and does not capture the effect in terms of cash-flow or profitability of the acquisition. Thus, we encourage more research on the long-term effects of Swedish M&As, also capturing a longer period of time. Additionally, as existing research suggests that the majority of Swedish firms are family-owned, we propose a further exploration of the differences between family and non-family owned firms in Sweden and how they may differ in M&A performance.

6 References

Akbulut, M. E. (2013), 'Do overvaluation-driven stock acquisitions really benefit acquirer shareholders?', *Journal of Financial and Quantitative Analysis* **48**(4), 1025–1055.

Alexandridis, G., Antypas, N. and Travlos, N. (2017), 'Value creation from m&as: New evidence', *Journal of Corporate Finance* **45**, 632–650.

Amihud, Y. and Lev, B. (1981), 'Risk reduction as a managerial motive for conglomerate mergers', *The bell journal of economics* pp. 605–617.

Andriosopoulos, D. and Yang, S. (2015), 'The impact of institutional investors on mergers and acquisitions in the united kingdom', *Journal of Banking & Finance* **50**, 547–561.

Asquith, P. (1983), 'Merger bids, uncertainty, and stockholder returns', *Journal of financial economics* **11**(1-4), 51–83.

Bain & Company (2022), 'Global m&a report 2022', Boston, MA, USA.
URL: *https://www.bain.com/globalassets/noindex/2022/bainreportglobalmandareport-2022.pdf*

Berkovitch, E. and Narayanan, M. (1993), 'Motives for takeovers: An empirical investigation', *Journal of Financial and Quantitative analysis* **28**(3), 347–362.

Berle, A. and Means, G. (1932), 'The modern corporation and private property', *New York: Macmillan* .

Bhagat, S. and Bolton, B. (2019), 'Corporate governance and firm performance: The sequel', *Journal of Corporate Finance* **58**, 142–168.

Brown, S. J. and Warner, J. B. (1980), 'Measuring security price performance', *Journal of financial economics* **8**(3), 205–258.

Brown, S. J. and Warner, J. B. (1985), 'Using daily stock returns: The case of event studies', *Journal of financial economics* **14**(1), 3–31.

Chang, S. (1998), 'Takeovers of privately held targets, methods of payment, and bidder returns', *The Journal of Finance* **53**(2), 773–784.

Chen, X., Harford, J. and Li, K. (2007), 'Monitoring: Which institutions matter?', *Journal of financial Economics* **86**(2), 279–305.

Craninckx, K. and Huyghebaert, N. (2011), 'Can stock markets predict m&a failure? a study of european transactions in the fifth takeover wave', *European Financial Management* **17**(1), 9–45.

Craninckx, K. and Huyghebaert, N. (2015), 'Large shareholders and value creation through corporate acquisitions in europe. the identity of the controlling shareholder matters', *European Management Journal* **33**(2), 116–131.

Danbolt, J. and Maciver, G. (2012), 'Cross-border versus domestic acquisitions and the impact on shareholder wealth', *Journal of Business Finance & Accounting* **39**(7-8), 1028–1067.

Datta, S., Iskandar-Datta, M. and Raman, K. (2001), 'Executive compensation and corporate acquisition decisions', *The Journal of Finance* **56**(6), 2299–2336.

DeLong, G. L. (2001), 'Stockholder gains from focusing versus diversifying bank mergers', *Journal of Financial Economics* **59**(2), 221–252.

DeYoung, R., Evanoff, D. D. and Molyneux, P. (2009), 'Mergers and acquisitions of financial institutions: A review of the post-2000 literature', *Journal of Financial services research* **36**(2), 87–110.

Dodd, P. (1980), 'Merger proposals, management discretion and stockholder wealth', *Journal of financial economics* **8**(2), 105–137.

Doukas, J. A. and Petmezas, D. (2007), 'Acquisitions, overconfident managers and self-attribution bias', *European Financial Management* **13**(3), 531–577.

Eckbo, B. E. (1983), 'Horizontal mergers, collusion, and stockholder wealth', *Journal of financial Economics* **11**(1-4), 241–273.

Faccio, M. and Lang, L. H. (2002), 'The ultimate ownership of western european corporations', *Journal of Financial Economics* **65**(3), 365–395.

Fan, J. P. and Goyal, V. K. (2006), 'On the patterns and wealth effects of vertical mergers', *The Journal of Business* **79**(2), 877–902.

Fuller, K., Netter, J. and Stegemoller, M. (2002), 'What do returns to acquiring firms tell us? evidence from firms that make many acquisitions', *The journal of finance* **57**(4), 1763–1793.

Harford, J. (1999), 'Corporate cash reserves and acquisitions', *The Journal of Finance* **54**(6), 1969–1997.

Harford, J. and Li, K. (2007), 'Decoupling ceo wealth and firm performance: The case of acquiring ceos', *The Journal of Finance* **62**(2), 917–949.

Hoberg, G. and Phillips, G. (2010), 'Product market synergies and competition in mergers and acquisitions: A text-based analysis', *The Review of Financial Studies* **23**(10), 3773–3811.

Jensen, M. C. (1987), The free cash flow theory of takeovers: A financial perspective on mergers and acquisitions and the economy, *in* 'Proceedings of a conference sponsored by Federal Reserve Bank of Boston', pp. 102–143.

Jensen, M. C. and Meckling, W. H. (1976), 'Theory of the firm: Managerial behavior, agency costs and ownership structure', *Journal of financial economics* **3**(4), 305–360.

Jensen, M. C. and Ruback, R. S. (1983), 'The market for corporate control: The scientific evidence', *Journal of Financial economics* **11**(1-4), 5–50.

Keown, A. J. and Pinkerton, J. M. (1981), 'Merger announcements and insider trading activity: An empirical investigation', *The journal of finance* **36**(4), 855–869.

Kohers, N. and Kohers, T. (2000), 'The value creation potential of high-tech mergers', *Financial Analysts Journal* **56**(3), 40–51.

La Porta, R., Lopez-de Silanes, F. and Shleifer, A. (1999), 'Corporate ownership around the world', *The journal of finance* **54**(2), 471–517.

La Porta, R., Lopez-de Silanes, F., Shleifer, A. and Vishny, R. W. (1997), 'Legal determinants of external finance', *The journal of finance* **52**(3), 1131–1150.

Lewellen, W., Loderer, C., Martin, K. and Blum, G. (1992), 'Executive compensation and the performance of the firm', *Managerial and Decision Economics* **13**(1), 65–74.

Lewellen, W., Loderer, C. and Rosenfeld, A. (1985), 'Merger decisions and executive stock ownership in acquiring firms', *Journal of Accounting and Economics* **7**(1-3), 209–231.

Loderer, C. and Martin, K. (1990), 'Corporate acquisitions by listed firms: The experience of a comprehensive sample', *Financial management* pp. 17–33.

MacKinlay, A. C. (1997), 'Event studies in economics and finance', *Journal of economic literature* **35**(1), 13–39.

Malmendier, U. and Tate, G. (2008), 'Who makes acquisitions? ceo overconfidence and the market's reaction', *Journal of Financial Economics* **89**(1), 20–43.

Mandelker, G. (1974), 'Risk and return: The case of merging firms', *Journal of financial economics* **1**(4), 303–335.

Martynova, M. and Renneboog, L. (2008), 'A century of corporate takeovers: What have we learned and where do we stand?', *Journal of Banking & Finance* **32**(10), 2148–2177.

Mitchell, M. L. and Mulherin, J. H. (1996), 'The impact of industry shocks on takeover and restructuring activity', *Journal of financial economics* **41**(2), 193–229.

Moeller, S. B. and Schlingemann, F. P. (2005), 'Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions', *Journal of Banking & Finance* **29**(3), 533–564.

Moeller, S. B., Schlingemann, F. P. and Stulz, R. M. (2004), 'Firm size and the gains from acquisitions', *Journal of financial economics* **73**(2), 201–228.

Moeller, S. B., Schlingemann, F. P. and Stulz, R. M. (2005), 'Wealth destruction on a massive scale? a study of acquiring-firm returns in the recent merger wave', *The journal of finance* **60**(2), 757–782.

Morck, R., Shleifer, A. and Vishny, R. W. (1988), 'Management ownership and market valuation: An empirical analysis', *Journal of financial economics* **20**, 293–315.

PwC (2021), 'Trender i transaktionsmarknaden [video]', `https://www.youtube.com/watch?v=mmn3cuK41Dg&ab_channel=PwCSverige`.

Shleifer, A. and Vishny, R. W. (1989), 'Management entrenchment: The case of manager-specific investments', *Journal of financial economics* **25**(1), 123–139.

Singh, M. and Davidson III, W. N. (2003), 'Agency costs, ownership structure and corporate governance mechanisms', *Journal of banking & finance* **27**(5), 793–816.

Travlos, N. G. (1987), 'Corporate takeover bids, methods of payment, and bidding firms' stock returns', *The journal of finance* **42**(4), 943–963.

Walker, M. M. (2000), 'Corporate takeovers, strategic objectives, and acquiring-firm shareholder wealth', *Financial management* pp. 53–66.

Walters, B. A., Kroll, M. and Wright, P. (2008), 'Ceo ownership and effective boards: Impacts on firm outcomes', *Strategic Organization* **6**(3), 259–283.

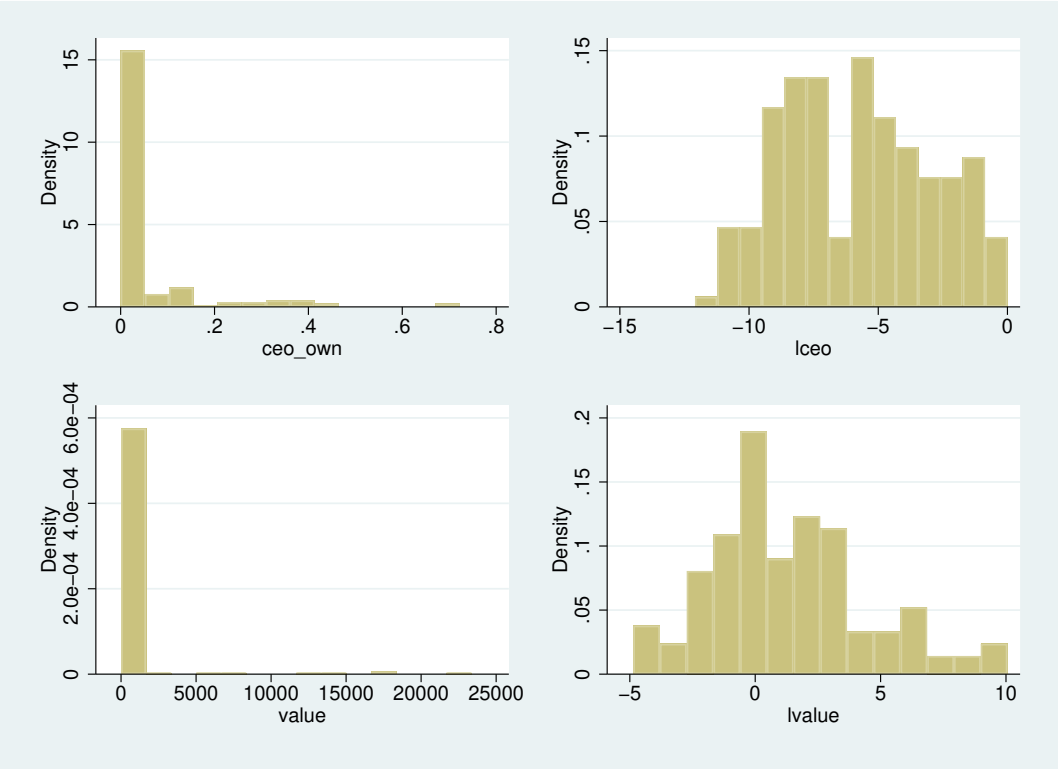
Wright, P., Kroll, M., Lado, A. and Van Ness, B. (2002), 'The structure of ownership and corporate acquisition strategies', *Strategic Management Journal* **23**(1), 41–53.

Yang, J., Guariglia, A. and Guo, J. M. (2019), 'To what extent does corporate liquidity affect m&a decisions, method of payment and performance? evidence from china', *Journal of Corporate Finance* **54**, 128–152.

A Appendix

A.1 Distribution of ownership variables

Figure 1: Probability Distribution - Ownership Variables



A.2 Test for Heteroskedasticity

Table 8: Breusch-Pagan/Cook-Weisberg test

	(-1, +1)		(-5, +5)		(-10, +10)	
Breusch-Pagan test	lceo	lvalue	lceo	lvalue	lceo	lvalue
Chi2-value	32.49	28.71	35.89	35.36	14.73	12.89
P-value	0.000	0.000	0.000	0.000	0.000	0.000

A.3 VIF test: Multicollinearity

Table 9: Variable Inflation Factor test

CEO ownership in ratio of shares			Value of CEO holdings to salary		
Variable	VIF	1/VIF	Variable	VIF	1/VIF
lceo	1.34	0.7438	lvalue	1.28	0.7785
size	1.20	0.8329	size	1.19	0.8390
block	1.20	0.8339	block	1.16	0.8600
focused	1.18	0.8493	focused	1.15	0.8689
crossborder	1.13	0.8883	crossborder	1.14	0.8798
ceosalaryEUR	1.11	0.9024	ceosalaryEUR	1.13	0.8888
cashassets	1.10	0.9052	cashassets	1.12	0.8896
payment	1.09	0.9194	payment	1.09	0.9133
rel_size	1.07	0.9385	rel_size	1.08	0.9251
Mean VIF	**1.16**		**Mean VIF**	**1.15**	

A.4 Regression results - Large vs. Small continued

Table 10: Regression based on acquirer size; 3-day and 21-day event windows

Panel A								
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
					(-1,+1)			
VARIABLES	Large	Large	Small	Small	Large	Large	Small	Small
lvalue	0.135*	0.124	-0.117	0.110				
	(0.0807)	(0.111)	(0.227)	(0.250)				
lvaluesquared		0.00214		-0.0734*				
		(0.0208)		(0.0434)				
lceo					0.149	0.347	-0.295	-0.526
					(0.0930)	(0.351)	(0.257)	(0.855)
lceosquared						0.0179		-0.0208
						(0.0291)		(0.0726)
rel_size	-1.658***	-1.672***	0.927	0.879	-1.847***	-1.845***	0.801	0.749
	(0.573)	(0.583)	(1.881)	(1.862)	(0.604)	(0.626)	(1.914)	(1.941)
cashassets	-2.472	-2.490	1.095	2.430	-2.277	-2.565	1.453	1.624
	(4.640)	(4.658)	(7.876)	(7.692)	(4.692)	(4.755)	(7.361)	(7.454)
focused	0.228	0.213	0.443	0.712	0.150	0.117	0.762	0.807
	(0.690)	(0.714)	(1.283)	(1.254)	(0.694)	(0.706)	(1.306)	(1.346)
ceosalaryEURm	-0.00328	0.00949	0.942***	0.848**	-0.0377	-0.0213	0.964***	0.933***
	(0.508)	(0.546)	(0.354)	(0.375)	(0.512)	(0.513)	(0.33)	(0.354)
crossborder	0.620	0.623	1.457	1.666	0.497	0.547	1.309	1.310
	(0.666)	(0.666)	(1.312)	(1.328)	(0.653)	(0.645)	(1.295)	(1.306)
payment	-0.468	-0.483	1.523	1.744	-0.517	-0.618	1.276	1.286
	(1.183)	(1.218)	(1.503)	(1.517)	(1.174)	(1.229)	(1.484)	(1.489)
block	-0.142	-0.146	-1.898	-1.961	-0.0971	-0.118	-1.970	-2.017*
	(0.722)	(0.724)	(1.213)	(1.200)	(0.716)	(0.718)	(1.206)	(1.209)
Constant	0.479	0.479	0.678	0.580	1.767	2.223	-0.786	-1.291
	(1.491)	(1.501)	(2.196)	(2.196)	(1.545)	(1.823)	(2.682)	(3.318)
Observations	99	99	99	99	99	99	99	99
R-squared	0.074	0.074	0.081	0.100	0.075	0.078	0.093	0.094

Panel B								
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
					(-10,+10)			
VARIABLES	Large	Large	Small	Small	Large	Large	Small	Small
lvalue	0.454*	0.481	0.385	0.418				
	(0.235)	(0.315)	(0.439)	(0.522)				
lvaluesquared		-0.00522		-0.0106				
		(0.0523)		(0.0814)				
lceo					0.523**	1.381*	0.273	2.561
					(0.254)	(0.756)	(0.579)	(2.590)
lceosquared						0.0774		0.206
						(0.0641)		(0.210)
rel_size	-1.264	-1.230	7.744**	7.737**	-1.913	-1.902	7.423**	7.942**
	(1.406)	(1.470)	(3.478)	(3.506)	(1.593)	(1.587)	(3.420)	(3.567)
cashassets	6.411	6.456	-22.12**	-21.93**	7.235	5.989	-20.06**	-21.76**
	(14.68)	(14.82)	(10.25)	(10.36)	(14.79)	(14.98)	(10.08)	(10.85)
focused	1.473	1.508	2.751	2.790	1.195	1.054	2.888	2.448
	(1.443)	(1.525)	(2.342)	(2.382)	(1.415)	(1.426)	(2.255)	(2.185)
ceosalaryEURm	-0.788	-0.819	-1.71**	-1.72**	-0.891	-0.82	1.94***	-1.64**
	(1.32)	(1.39)	(0.75)	(0.765)	(0.134)	(0.132)	(0.731)	(0.696)
crossborder	-0.854	-0.861	6.083**	6.113**	-1.245	-1.030	5.924**	5.906**
	(1.597)	(1.626)	(2.694)	(2.750)	(1.595)	(1.606)	(2.694)	(2.653)
payment	-0.437	-0.400	2.441	2.472	-0.609	-1.046	2.618	2.516
	(2.867)	(2.981)	(3.476)	(3.476)	(2.780)	(2.857)	(3.516)	(3.503)
block	2.136	2.145	0.143	0.134	2.343*	2.254	0.261	0.725
	(1.376)	(1.396)	(2.761)	(2.788)	(1.379)	(1.400)	(2.697)	(2.502)
Constant	-1.490	-1.488	-3.620	-3.634	2.935	4.905	-1.899	3.103
	(3.437)	(3.463)	(4.011)	(4.026)	(3.510)	(4.128)	(5.507)	(8.985)
Observations	99	99	99	99	99	99	99	99
R-squared	0.086	0.086	0.122	0.122	0.090	0.100	0.118	0.132

*, **, *** denotes the statistical levels of significance of 10%, 5%, and 1% respectively.
Robust standard errors in parentheses.