

FAMILY FIRMS AND M&A VALUE CREATION: LESSONS FROM THE SWEDISH MARKET

**EXPLORING THE ASSOCIATION BETWEEN FAMILY
OWNERSHIP AND ACQUIRER VALUE CREATION IN SWEDEN**

ISAK MÖLZER

SAMUEL PHILIP

Master Thesis

Stockholm School of Economics

2023



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Abstract:

This study examines the effect of family ownership on acquirer value creation through mergers and acquisitions (M&A) in Sweden. Sweden makes an interesting case with a high presence of family firms, dual-class share structures, and pyramid holdings, along with strong minority shareholder protection. We use announcement returns to acquisitions as a proxy for value creation for acquirers' shareholders. We find a significant and positive association between family ownership and announcement returns, implying that family firms generate, on average, more value than non-family firms through M&A in Sweden. Our results are robust across several different family firm definitions, also when accounting for family control through investment companies. However, we find a negative association between announcement returns for family firms and the presence of family members as the CEO or board members at acquisition announcement. These results suggest that while exercising private benefits in family firms in Sweden is likely very limited, the CEO or board member may be unqualified due to limited labour market competition. We also find, albeit with somewhat weaker results, a negative association between announcement returns and the wedge between cash flow rights and voting rights of the acquirer.

Keywords:

Family firms, family ownership, M&A, corporate governance

Authors:

Isak Mölzer (24508)
Samuel Philip (24695)

Tutors:

Ramin Baghai, Associate Professor, Department of Finance

Examiner:

Anders Anderson, Associate Professor, Department of Finance

Master Thesis

Master Program in Finance

Stockholm School of Economics

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1. Introduction

There are several reasons why Sweden makes an interesting case to study the M&A performance of family firms. First, Carlsson (2007), La Porta et al. (1999), Holmén and Knopf (2004), and Faccio and Lang (2002) document that Sweden hosts a distinct ownership environment with a high fraction of family-owned firms and minority control structures, such as dual-class share structures and pyramid holdings. Different share classes hold different voting rights and are issued by companies to maintain control over a company while limiting the cash flow exposure. Pyramids are structures where an ultimate controlling owner obtains control over a company through a chain of companies. Second, although minority control structures are widely spread, shareholder protection in Sweden is very high, according to the World Bank (2020). The net effect on acquirer cumulative abnormal returns (CARs) around the acquisition announcement, in conjunction with the general benefits and costs of family ownership structures, is the focus in our study.

Family-owned firms have several different characteristics compared to other ownership structures. James (1999) explains that family firms have a long investment horizon and systematically undertake positive NPV projects. They also consider in their business decisions how to pass on the company to future generations, further documented by James (1999). La Porta et al. explain that family firms have higher risk aversion. Villalonga and Amit (2006) show that agency costs between owners and managers are reduced if the family is engaged in the management of the firm through reduced monitoring costs and better alignment of interests. However, agency costs could also arise through a conflict of interest between majority and minority shareholders. Shleifer and Vishny (1997) further explain that family ownership can have a negative impact on firm value if the manager is a family member but not sufficiently competent or qualified.

Existing literature examining acquirer CARs in different geographies find mostly higher and/or positive CARs for family firms compared to non-family firms. For instance, Ben-Amar and André (2006) find positive CARs for Canadian family firms, Ahmed et al. (2023) find higher CARs for Taiwanese family firms,

and Feito-Ruiz and Menéndez-Requejo (2010) find positive CARs for a sample of European family firms. Contrarily, Bauguess and Stegemoller (2008) find that family M&A in the US is value destroying, explained by the agency costs that emerge in M&A. However, Holmén and Knopf (2004) and Karasek and Huang (2017) find no evidence that owners with dual-class share structures and pyramid holdings, which are often employed by family firms, extract private benefits through M&A in Sweden. Hence, we hypothesise that family firms in Sweden generate positive and higher CARs versus non-family firms.

We employ the commonly used event study methodology to determine acquirer CARs over the event window of the transaction announcement, as proposed by MacKinley (1997). We use announcement returns around the acquisition to proxy for acquirer value creation. CARs are aggregated returns in a prespecified event window, e.g., $[-1, 1]$ days around the announcement at day 0, in excess of the “normal” returns which are estimated using the market model. Thus, the event study methodology aims to isolate the effect on returns from the transaction announcement. Hence, CARs should capture the effect of the transaction and symbolises the isolated excess returns for acquirers from the transaction announcement. Therefore, we use CARs as our dependent variable and aim to explain the CARs with a set of explanatory variables that capture the impact of family ownership.

We find that family firms generate significantly positive and higher CARs than non-family firms in a sample of acquisitions of Swedish-listed firms between January 2010 and September 2023. A common issue in the literature of family ownership is the lack of unification around the definition of a family firm, as documented by Worek (2017). Nevertheless, our results are consistent across a variety of family firm definitions and event windows, providing robust evidence that family firms generate higher CARs than non-family firms.

The results also hold when expanding the family firm definition to include family control through investment companies. Investment companies are structured similarly to closed-end investment funds and are common in Sweden, as documented by Holmén and Knopf (2004). Carlsson (2007) explains that many of these investment companies are ultimately controlled by individuals and families and belong to some of the most prominent investors in Sweden.

Therefore, it is important to address how these companies are treated. Thus, we conduct multiple multivariate regressions to examine the difference in CARs. First, we define a firm as family-owned if a family or individual controls the largest voting block and controls at least 20% of the votes. Thereafter, we also account for pyramid structures through investment companies. We classify the acquirer as a family firm if the largest voting block of at least 20% of the votes is ultimately controlled by a family or individual through a chain of companies (controlling at least 50% of the votes throughout the chain) all controlled by the family or individual.

However, we also find that CARs decrease when a family member acts as CEO or sits on the board across all family firm definitions. Thus, we conclude that across all family firm definitions employed in our study, we find consistently higher CARs for family firms, suggesting that family firms create more value through M&A and that M&A is not used as a tool to exercise private benefits to controlling owners. However, the negative effect of family CEOs and family board members suggest that there may exist expanded opportunities to drive certain agendas that benefit the family at the expense of non-family shareholders, or that the family members are unqualified for these positions. Finally, we conclude that the positive effect of strong minority shareholder protection on CARs may be more significant than the negative effect of dual-class share structures and pyramid holdings in Sweden.

We structure this paper as follows. First, we provide a summary of existing literature of family ownership and its implications on firm performance and M&A performance. Second, we present our data and empirical design. Third, we present the results and discuss their implications. Finally, we summarise the paper and discuss further research extensions.

2. Literature review and hypothesis development

2.1. Introduction to literature review

M&A has been a tool for growth and at the core of companies' strategies for centuries, but conclusions whether M&A creates or destroys value are ambiguous, as observed by Renneboog and Vansteenkiste (2019). Renneboog and Vansteenkiste (2019) and Datta et al. (1992) show that acquisitions are on average value creating as reflected in the weighted average of the announcement returns of acquirers and targets, i.e., the total value created for both acquirers and targets are on average positive. However, target shareholders seem to capture most of the value. Nevertheless, Worek (2017) reports that the M&A behaviour of family firms differs from that of firms with other ownership structures. Thus, in this section we delve into key concepts in the field of family ownership that might influence the M&A performance of family firms in Sweden.

2.2. Benefits of family firm structures

The family ownership structure has several implications on firm performance and behaviour. James (1999) identifies that family firms have longer investment horizons and rationally allocate capital to positive NPV projects. Similarly, Casson (1999) shows that families view the firm as an asset to pass on to succeeding generations, rather than a vehicle for current consumption, supporting the argument that family firms undertake a long-term approach. Berle (1932) conclude that concentrated ownership should positively impact firm value as agency costs are reduced, i.e., interests between owners and managers are better aligned. However, McConnell and Servaes (1990) find that firm value has a nonlinear association with insider ownership. Firm value increases up until ownership levels at around 40-50%, and then decreases for ownership levels beyond that. Moreover, Morck, Shleifer and Vishny (1990) document that if shareholders could perfectly monitor managers, investment decisions that reduce shareholder wealth and increase private benefits for the manager would not exist. Additionally, Morck, Shleifer and Vishny (1987) explain that managers who are founders or members of the founding family are loyal to the shareholders and

employees and might also have non-financial attachments to the firm. La Porta et al. (1999) document greater risk aversion in family firms as families aim to minimise business risk, given the great wealth concentration in the company. Moreover, Demsetz and Lehn (1985) report that concentrated shareholders have large incentives to minimise agency conflicts and maximise firm value since the family wealth is closely linked to firm performance, ultimately leading to optimised monitoring of managers. Anderson and Reeb (2003) document a higher valuation for family firms compared to non-family firms but that the positive effect starts to decline when the family owns more than 30%.

Gómez-Mejía et al. (2007) propose that owners of family firms also consider non-financial goals in addition to financial returns, such as maintaining control over the firm, succession, and identity, which they refer to as socioemotional wealth. They argue that socioemotional wealth is the owners' reference point in taking business decisions, and that the risk aversion and risk-taking level is more contingent on maintaining control and avoiding the firm from failing, rather than solely financial returns.

2.3. Costs of family firm structures

Contrarily, Morck and Yeung (2003) explain that families may take suboptimal investment decisions that hinder growth due to their concentrated equity positions. Additionally, Shleifer and Vishny (1997) explain that large shareholders may hold on to key management positions even if they are unqualified. Another potential cost of the family firm structure is the impact of the family's interest on the firm's capital allocation strategy, where the family could issue e.g., special dividends for their own benefit, as documented by DeAngelo and DeAngelo (2000). Pérez-González (2001) reports worse performance for family firms with a family CEO since the family can more easily extract private benefits at the expense of minority shareholders. Additionally, Holderness and Sheehan (1988) find a lower Tobin's q (the ratio of the market value of the firm's assets and the book value of the firm's assets) for family firms versus non-family firms in a sample of US companies. Schulze et al. (2001) conclude that the allocation of human and financial resources in family firms may

be suboptimal because of the family's desire to maintain control over the firm and avoid external monitoring.

2.4. Family ownership and performance, control, and agency problems

A problem that emerges with any concentrated owner, including families, is the cost of agency conflicts between different stakeholders in the firm. Villalonga and Amit (2006) distinguish between two types of agency problems. The first one, *Agency Problem I*, is described as an ownership-manager conflict where the owner has an incentive to monitor the manager if the manager does not bear the full financial consequences of his/her business decisions. Naturally, this is mitigated if the manager is a family member, as the owner (family) has less incentives to monitor the manager (also family). The second type, *Agency Problem II*, emerges as the controlling owner (family) extracts private benefits at the expense of minority shareholders (non-family). The results of Claessens et al. (2002) support *Agency Problem II* as they find that firm value increases in East Asian companies with the cash flow ownership of the largest shareholder, while it decreases when voting rights of the largest shareholder exceed the cash flow rights. Cronqvist and Nilsson (2003) support these results with a sample of Swedish firms. This can be explained by controlling shareholders taking the business decisions without bearing the full financial cost, i.e., the divergence, or wedge, between the cash flow exposure and voting rights minimises the financial risk for controlling shareholders. However, Barontini and Caprio (2006) demonstrate that, although family firms in Continental Europe separate ownership and control to a greater extent than non-family firms, family firms do not perform worse.

Existing literature provides contradictory results on whether family firms outperform non-family firms. Anderson and Reeb (2003) show that family firms in the S&P 500 perform better than non-family firms, and that outperformance increases when the CEO is a family member, aligned with the decreased monitoring costs of *Agency Problem I*. Villalonga and Amit (2006) note that family ownership only creates value if the CEO is the founder, or if a family member acts as chairman with an externally hired CEO. Westerberg and

Widenius (2014) document that family firms in Sweden outperform non-family firms measured by ROA, partly explained by lower agency costs, and that the outperformance is larger if the founding family is still an owner in the company. They also show that family firms are rewarded with a higher valuation. Maury (2006) distinguishes between active (if the family holds one of the top two executive positions) and passive (no holdings of top executive positions) control, where active control is associated with higher profitability for family firms, while passive control does not have an impact on profitability. Furthermore, Maury (2006) finds that the benefits from family ownership is the highest for firms when the family is in control but does not hold a majority of the cash flow rights.

2.5. Family ownership and M&A performance

Studies documenting M&A performance of family firms find mostly a positive effect of family ownership in mergers. Ben-Amar and André (2006) show that Canadian acquirers generate greater positive abnormal returns if the acquirer is family-owned, and that governance mechanisms in Canada have a positive impact on acquirer performance. These results support the hypothesis that high minority shareholder protection and strong corporate governance limits the opportunities to obtain private benefits at the expense of minority shareholders through M&A. Additionally, Ahmed et al. (2023) investigate the abnormal returns and method of payment for family-owned companies in Taiwan and conclude that family firms frequently use cash as method of payment to avoid dilution, and that the CARs of family firms are greater than for non-family firms. Basu et al. (2009) document that US acquirer abnormal returns depend on the level of family ownership: companies with a lower level of family ownership generate lower abnormal returns than companies with a higher level of family ownership. Bauguess and Stegemoller (2008) also study US firms and report, however, that acquiring family firms in the S&P 500 are value destroying, explained by the agency costs that arise in M&A, but that this effect can be mitigated if the acquirer has more insiders or a large board. Furthermore, the largest losses are associated with transactions where the CEO is the founder.

Caprio et al. (2011) study how ownership and family control influence M&A propensity and performance for companies in Continental Europe and show that family firms are less prone to acquire. They also find no evidence that family firms destroy value in acquisitions. Moreover, they explain that companies monitored by a large shareholder are less likely to make lower-quality acquisitions, implying an above-average M&A performance. This is especially relevant when the largest shareholder is a family, as they are considered the most risk averse type of shareholder. Furthermore, Feito-Ruiz and Menéndez-Requejo (2010) document positive abnormal returns for a broader sample of European family firms, along with a positive influence on acquirer shareholder returns of a weaker legal environment in the target country. Defrancq et al. (2016) document that acquirer shareholder returns in Continental Europe are lower for industry-diversifying acquisitions on average, but that family ownership can fully reverse the negative effect.

Siciliano et al. (2022) document that family firms in the EU have higher CARs than non-family firms explained by greater trust amongst family firms. Trust in M&A acts as a foundation to building long-term relationships with key stakeholders and can potentially mitigate agency problems and facilitate post-merger integration, explaining the associated higher CAR for family firms.

2.6. Concentrated ownership and agency costs in M&A

Bae et al. (2002) document that M&A is used as a mechanism by larger shareholders to extract private benefits in Korea, e.g., through tunnelling (directing assets or business for personal gain at the expense of minority shareholders, as explained by Johnson et al. (2000)). Bigelli and Mengoli (2004) report similar results for a sample of Italian firms where M&A announcements generate negative excess returns with firms that are associated with the highest separation of ownership and control. However, Sweden is considered to have strong minority shareholder protection with a high presence of family firms, and the estimated benefits of extracting private benefits are low, as reported by Gilson (2005), and Bertrand and Schoar (2006). Specifically, Holmén and Knopf (2004) conclude that controlling owners of Swedish firms with dual-class shares and

pyramid ownership structures do not obtain any private benefits at the expense of minority shareholders through mergers, despite the high separation of voting and cash flow rights. Their results do not indicate any direct transfers of wealth through e.g., tunnelling, due to the extra-legal institutions in Sweden, such as social norms and extensive media coverage. If controlling shareholders would exercise private benefits, they would be punished and lose any power or control, limiting any such behaviour. Karasek and Huang (2017) also find no evidence that shareholders in Swedish companies with dual-class shareholder structures would extract private benefits in M&A.

2.7. Investment companies in Sweden

Holmén and Knopf (2004) document that the Swedish corporate governance model allows for companies and families to maintain control over a large number of companies through dual-class share structures and pyramid holdings. These spheres are often controlled by families through foundations and investment companies, which are structured similarly to closed-end investment funds. La Porta et al. (1999) find that Sweden ranks second after Belgium in presence of pyramid structures in a study with 27 of the richest countries in the world. Moreover, Cronqvist and Nilsson (2003) show that Swedish family firms employ controlling minority shareholder structures through e.g., dual-class shares and/or pyramid holdings more frequently than non-family firms. As these investment companies are common in Sweden and are often controlled by individuals and families, whether they are included in the family firm definition or not, may impact CARs.

2.8. Family firm definitions

Despite the large body of literature on family firms, there is no commonly practiced definition of a family firm. Worek (2017) summarises several studies in the field of family firms and their respective definitions. These definitions revolve around factors such as whether a family or individual holds the largest controlling voting block, with or without a specific ownership threshold. Other criteria include the founder and his/her descendants being the largest controlling owner,

or the family actively participating in the company through management or board positions.

Different examples of definitions used in the existing literature are as follows. Bauguess and Stegemoller (2008) employ a founding family criterion in which a firm is classified as a family firm if the founder or his/her descendants hold at least 5% of the outstanding shares or are involved in the firm through either management or board positions. La Porta et al. (1999) and Maury (2006) use only an ownership criterion in which the firm is defined as a family firm if the family is the largest controlling owner and controls at least 10% of the votes. Ben-Amar and André (2006) do not employ a threshold but define a firm as family-owned if the largest voting block is held by an individual or a family. Gonenc et al. (2013) employ the 20% threshold, stressing that ownership stakes less than 20% are too insignificant to influence business decisions. Faccio and Lang (2002) also employ the 20% threshold. The varying definitions across studies may be a source of contradictory results, abating comparability across studies.

We use the 20% voting threshold as our main point of reference. That is, we classify a firm as family-owned if a family or individual controls at least 20% of the votes and is the largest voting block at the acquisition announcement. The results are further nuanced by considering if an individual or family controls the largest voting block through pyramid structures and investment companies, as well as testing the results at the 10% and 30% voting thresholds. What is more, we do not employ any executive or management criteria to our family firm definition. However, we test for the effect of insiders by including variables capturing the effect of family CEOs and family board members.

2.9. Corporate governance environment in Sweden

Carlsson (2007) documents that the Swedish corporate governance model stands out in a few aspects. First, Swedish law (“Lag (1987:1245) om styrelserepresentation för de privatanställda”) requires co-determination with employees in the board, i.e., if the number of employees exceed 25, the employees have a right to appoint two board members. Second, OECD (2022) reports that 12% of the market capitalisation on the Swedish stock market is owned by

domestic households, compared to 2% in the UK, 4% in the US, and 8% in Germany. Households lack the ability to monitor and impact managers and business decisions to the same extent as sophisticated investors. Third, dual-class share structures are common among listed Swedish firms, as documented by Faccio and Lang (2002). Dual-class shares enable the controlling owners to maintain control while limiting their cash flow exposure, which could potentially lead to an agency conflict, as explained in section 2.4. However, the risk of abuse is alleviated due to Sweden's strong shareholder protection, as stated by the World Bank (2020). Fourth, ownership in Sweden is relatively concentrated to a number of spheres which are ultimately controlled by individuals or families. In 2006, ten of these spheres played significant ownership roles in companies, representing 50% of the total market capitalisation on the Stockholm Stock Exchange, according to Carlsson (2007).

Holmén and Knopf (2004) explain that the spheres often employ dual-class share structures and pyramid structures. Moreover, La Porta et al. (1999) document that in Sweden, on average, only 12.6% of the capital is required to control 20% of the votes. The corresponding figure is 14.9% in Denmark, 15.8% in Finland, and 18.2% in Norway. However, Nenova (2003) states that the value of control-block votes, defined as the price difference between high-voting and low-voting shares, is very low in Sweden, as well as in Denmark and Finland. The value is 1% or less of the market capitalisation versus 4% in the US and 7% in Canada, meaning that there are close to zero gains from private benefits of control. Similarly, Holmén and Knopf (2004) show that there is no evidence of private benefits of control in Swedish mergers.

2.10. Summary of previous literature

We summarise previous research relevant to our study as follows. First, family ownership posts both benefits (long investment horizons, undertaking of positive-NPV projects, greater risk aversion, consideration of non-financial goals, etc.) and costs (*Agency Problem I* and *II*, large concentration of wealth leading to suboptimal business decisions, limited labour market competition, etc.) to the firm. Second, the agency conflicts that may arise in family ownership structures

seems to have limited impact in Sweden with strong regulatory and extra-legal environments that protect minority shareholders. Third, studies on family firm M&A performance, measured by acquirer CARs, provide contradictory results but most studies seem to find positive CARs for family firms. Fourth, the varying definitions of what constitutes a family firm is challenging for comparability and conclusions. Fifth, Sweden has a distinct corporate governance environment with a high presence of family firms, dual-class share structures and pyramid holdings, along with a strong minority shareholder protection, limiting the gains of extracting private benefits through M&A.

Our study adds to the literature of M&A performance with regards to concentrated ownership in general, and family ownership in particular. Moreover, our study adds to the literature of the cost and benefits of family ownership, but in a Swedish M&A context, which is particularly interesting due to the economic environment in which these firms operate. To the best of our knowledge, this is the first study focusing on M&A acquirer performance of family firms in Sweden.

Considering the above, coupled with the limited evidence of controlling owners extracting private benefits through M&A and the strong minority shareholder protection in Sweden, we hypothesise that family firms in Sweden generate higher CARs than non-family firms. Additionally, we hypothesise that the positive characteristics of family firms outweigh the negative so that the net effect of family firms in Sweden is positive for CARs, similar to e.g., Ben-Amar and André (2006).

3. Data and empirical design

3.1. Data collection

3.1.1. Sample description

All ownership data is hand-collected through Holdings by Modular Finance and is complemented with annual reports and other sources of company information, such as press releases and websites.

The initial screening of acquisitions from S&P Capital IQ meets the following criteria, following e.g., Ahmed et al. (2023), Claessens et al. (2002), and Ben-Amar and André (2006). First, the acquirer is a listed company. Second, the transaction is closed. Third, the acquirer is listed on a stock exchange in Sweden. Fourth, the transaction is announced between 2010-01-01 and 2023-09-15. Fifth, all companies, both acquirers and targets, classified within the real estate, financial, and utilities sectors are excluded due to the differential nature of these companies. Besides the fact that companies in these sectors are subject to different accounting standards, they also carry out different types of acquisitions (e.g., acquisitions of real assets) compared to companies in other sectors. Sixth, the acquirer acquires at least a majority stake in the target. Seventh, certain transaction types involving e.g., special purpose acquisition companies (SPACs), acquisition of joint ventures, or earnout payments are excluded. Finally, to eliminate the smallest transactions, we include transactions only when the total transaction value is greater than USD 1m.

Transaction data, acquirer data, and stock price data are collected through S&P Capital IQ and company websites. The subset of target data is collected through Orbis. Stock price returns are collected between 2009-01-01 and 2023-09-18. We use the value-weighted OMX Stockholm All-share index (OMXSPI), which includes all shares listed on OMX Nordic Exchange Stockholm, as a proxy for the market return. We follow e.g., Feito-Ruiz and Menéndez-Requejo (2010) and employ dividend-adjusted returns to eliminate the effect of dividends on share prices.

Subsequently, we aim to associate the announcement return only to the specific transaction in the event window. Thus, we exclude any transactions

with more than one acquisition announcement in the event window. Similarly, we exclude any transactions where the acquirer publishes a financial report in the event window. The initial screening generated 685 transactions. The number of acquisitions in the final statistical tests vary depending on the event window used. In our main test with the 20% voting threshold over the event window $[-1, 1]$, 156 out of 552 transactions are conducted by a family acquirer. The sample size is in line with e.g., Ben-Amar and André (2006), Ahmed et al. (2023), and Feito-Ruiz and Menéndez-Requejo (2010). The fraction of transactions made by family firms in our sample of around 28%, using the 20% voting threshold, is approximately in line with the fraction of family firms in Sweden reported by Statistiska Centralbyrån (2017). In their sample, 152 out of 433, or 35%, publicly listed companies are defined as family firms using the 25% voting threshold requirement. We provide detailed descriptive statistics of the sample of acquisitions made by family firms and non-family firms in section 4.1.

3.1.2. Investment companies

As presented in section 2.7, an important topic to address in the case of ownership in Swedish companies is the presence of investment companies. 292 out of the initial 685 transactions had acquirers with an investment company controlling the largest voting block. Thus, the classification of these companies as family or non-family acquirers and the implication on the results is important to address. Carlsson (2007) documents that the Swedish investment companies belong to the most prominent investors in Sweden. Many of which are controlled by families or individuals, making it highly relevant to test the effect on announcement returns when including investment companies in the family firm definition. Similar to Westerberg and Widenius (2014), we extend the family firm definition to classify the acquirer as family-owned if the family owns at least 50% of the votes throughout the ownership chain, or if it is explicitly stated on their website that the investment company is family-owned, and through the chain control the largest voting block in the acquirer.

3.1.3. Data limitations

There are some potential points to consider with regards to our data. First, annual reports are used to examine the ownership structure for older transactions due to the limited data availability in Holdings for older transactions. Still, Holdings is the preferred option because it often provides ownership data closer to the transaction announcement. For instance, it includes ownership information from the month preceding the transaction announcement, unlike annual reports, which reflect data at fiscal year-end. Thus, ownership data may be less accurate for older transactions in our dataset.

Additionally, the estimated normal and abnormal returns for the firms with very low liquidity might be skewed given the low trading volume in the share in the estimation window and event window.

Moreover, the data is deemed to be accurate given that all transactions have been manually checked and the ownership, management and board data, along with announcement dates, have been hand-collected.

Finally, we acknowledge the implications of our sample meeting a certain set of transaction criteria outlined in section 3.1.1. For instance, we exclude all companies within the utilities, real estate, and financial sectors from our sample due to the different nature of these types of companies. Thus, conclusions are not generalisable to the broader M&A market in Sweden but only to our specific sample within the criteria that it meets.

3.2. Variables

3.2.1. Dependent variable

We proxy value creation for the acquirer's shareholders in M&A for family firms as the CARs over the trading days around the transaction announcement, which is a commonly used method to measure M&A performance, as summarized by Worek (2017). Moreover, we use the event study methodology to compute abnormal returns, similar to e.g., Ben-Amar and André (2006), Basu et al. (2009), Feito-Ruiz and Menéndez-Requejo (2010), and Caprio et al. (2011).

The standard event study methodology, as outlined by MacKinlay (1997), determines abnormal price movements around the event, by

benchmarking the actual return against the estimated normal return. The first step is to determine the event of interest, in our case the acquisition, and the event window to measure the abnormal return. We use the closest trading day to an acquisition announcement as day 0 and follow e.g., Ben-Amar and André (2006) and Defranc et al. (2016) by calculating the CARs over three days; $[-1, 1]$ days in conjunction to the announcement to capture potential information leakage and delayed price reactions. Although the event window $[-1, 1]$ is used as the main event window, we also present results for event windows $[0, 1]$ and $[-2, 2]$ for robustness. The estimation window where the normal return is estimated is set to 200 days $[-240, -40]$, following e.g., Ben-Amar and André (2006).

Firm i at date τ has an abnormal return calculated as follows:

$$AR_{i\tau} = R_{i\tau} - E(R_{i\tau}|X_\tau) \quad (1)$$

Where $AR_{i\tau}$ is the abnormal return, $R_{i\tau}$ the actual return, $E(R_{i\tau}|X_\tau)$ the expected return and X_τ is the conditioning information. MacKinlay (1997) suggests two different models for estimating the normal returns; the constant mean return model where X_τ is fixed, and the market model where the condition is the market return. We employ the market model due to its ability to remove variance related to market volatility.

For a security i , the market model takes the following form:

$$R_{i\tau} = \alpha_i + \beta_i * R_{mkt} + \varepsilon_{it} \quad (2)$$

$R_{i\tau}$ is the return of security i . R_{mkt} is the return of a broad market portfolio, which we proxy with the OMXSPI index, tracking all shares listed on Stockholm Stock Exchange. The model is valid under the following assumptions:

$$E(\varepsilon_{i\tau}) = 0 \quad (3)$$

$$var(\varepsilon_{i\tau}) = \sigma_{\varepsilon_i}^2 \quad (4)$$

For all securities i , the parameters α_i and β_i are estimated and used to determine the expected return at time τ during the event window, conditioned on the market return. The abnormal return for security i at time τ is thus:

$$AR_{i\tau} = R_{i\tau} - \alpha_i - \beta_i * R_{mkt} \quad (5)$$

The abnormal returns over the event window are then cumulated to create a comprehensive measure of the abnormal return, calculated as follows:

$$CAR_i(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} AR_{i\tau} \quad (6)$$

where τ_1 and τ_2 is the start and end of the event window, respectively. To mitigate the impact of extreme outliers, we winsorise the CARs, setting values at the 1st and 99th percentiles, in line with e.g., Caprio et al. (2011).

3.2.2. Explanatory variables

We summarise the variables included in our study in Table 1.

Table 1
Summary of variable definitions

Variable	Expected sign	Definition
Dependent variable		
CAR		Cumulative abnormal return over the event period
Explanatory variables		
FAMILY	+	= 1 if the acquirer is defined as a family firm, and 0 otherwise
BOARDFAMILY	+/-	= 1 if the acquirer is defined as a family firm and a member of the family sits on the board, and 0 otherwise
CEOFAMILY	+/-	= 1 if the acquirer is defined as a family firm and a member of the family is the CEO, and 0 otherwise
VOTERATIOFAM	-	Ratio of the voting rights and cash flow rights of the largest controlling owner, minus 1, if the largest owner is a family firm
Other variables		
VOTERATIO	-	Ratio of the voting rights and cash flow rights of the largest controlling owner, minus 1
INSIDECONT	+	Squared percentage of votes held by insiders, defined as executives or board members
LISTED	-	= 1 if the target is listed, and 0 otherwise
CASH	+/-	= 1 if the mode of payment is cash, and 0 otherwise
CROSSBORDER	+/-	= 1 if the acquirer and target have their corporate headquarters in different countries, and 0 otherwise
RELATIVESIZE	+	Ratio of the transaction value and the acquirer market capitalisation
LEVERAGE	+	Debt-to-equity ratio of acquirer

The variable *FAMILY* takes on the value 1 if the acquirer meets the definition of a family firm, and 0 otherwise. Our starting point is the largest controlling owner,

and we aggregate blocks of family members to yield the total ownership the family controls.

To capture the effect of family engagement in the firm, we include the variables *CEOFAMILY* and *BOARDFAMILY* which take on the value 1 if the acquirer meets our definition of a family firm and if a family member is the CEO or sits on the board, respectively, and 0 otherwise.

To capture the magnitude of the dispersion between voting rights and cash flow rights in companies with dual-class share structures, we introduce the variable *VOTERATIOFAM*, defined as the ratio of the voting rights and cash flow rights of the largest owner at the acquisition announcement minus 1 when the acquirer is a family firm. Consequently, *VOTERATIOFAM* takes on the value 0 if there is no separation between ownership and control through dual-class shares.

3.2.3. Other variables

There are dimensions of an acquisition in addition to the ownership structure that may affect the announcement return. Thus, we include several control variables to control for the transaction, acquirer, and target characteristics. Below we introduce the relevant variables that may impact the announcement returns as documented from existing literature.

VOTERATIO is defined similarly to *VOTERATIOFAM* but for all acquirers. This is to control for the effect of the wedge between voting and cash flow rights through dual-class share structures. Since the largest owner can control the firm without taking the full financial consequences of the decisions, we expect a negative association between CARs and *VOTERATIO*, as indicated by e.g., Claessens et al. (2002) who document that firm value falls when the voting rights of the largest shareholder exceed cash flow rights.

INSIDECONT is a variable that measures the squared percentage of voting rights held by insiders, defined as executives or board members. We square the insider ownership due to the non-linear relationship between insider ownership and corporate value, as documented by McConnell and Servaes (1990). They document a positive relationship between corporate value, measured by Tobin's q , and insider ownership, up until 40-50%, and a negative relationship for ownership beyond these levels.

Furthermore, the target type, i.e., whether the target is publicly listed or privately held, may affect the announcement returns. For privately held firms, Chang (1998) documents positive abnormal returns for the acquirer if the mode of payment is stock and no abnormal returns for the acquirer if the mode of payment is cash. Fuller et al. (2002) also find that acquirers gain when the target is privately held and lose when the target is publicly held. The difference is explained by acquirers paying less for private targets due to a liquidity discount. Faccio et al. (2006) also support these results. We include the variable *LISTED* to control for this effect, taking on the value 1 if the target is publicly held, and 0 otherwise.

Travlos (1987) shows that the mode of payment affects announcement returns. Acquisitions paid with shares yield significant negative announcement returns for acquirers, while acquisitions paid with cash yield “normal” announcement returns. The negative announcement returns for acquisitions using stock as the mode of payment is explained by a signalling effect where the choice of payment conveys information about the acquirer’s valuation: the acquirer would not choose stock as mode of payment unless the stock would be perceived as overvalued. King et al. (2021) also find significant negative announcement returns for acquisitions paid with stock. However, Jensen (1986) documents that cash can be viewed negatively by the market if high free cash flow generating companies employ excess cash for acquisitions, explained by agency costs that arise in the event of managers potentially increasing their personal compensation through financing acquisitions with excess cash. The variable *CASH* captures the mode of payment and takes on the value 1 if the acquisition is paid with cash, and 0 otherwise.

Global diversification, or cross-border acquisitions, is also found to impact announcement returns. Francis et al. (2008) document positive abnormal announcement returns for a set of US acquirers conducting cross-border transactions. Contrarily, Moeller and Schlingemann (2005) provide evidence of lower announcement returns for cross-border acquisitions versus domestic acquisitions. Moreover, acquirer announcement returns are negatively associated with diversifying transactions, both with regards to industry and geography. Through the variable *CROSSBORDER*, taking on the value 1 if the acquirer and

target are incorporated in different countries and otherwise, we control for this effect.

Following e.g., Caprio et al. (2011), Ben-Amar and André (2006), Bauguess and Stegemoller (2008), and Shim and Okamoru (2011), we consider the relative size of the target to the acquirer. Jarrell and Poulsen (1989) find that acquirer CARs increase when the target is twice as large due to wealth gains to acquirers being disguised when the target is relatively smaller. Asquith et al. (1983) confirm these results. Furthermore, Kiymaz and Baker (2008) document a positive relationship between the relative size and acquirer announcement returns. Therefore, we introduce variable *RELATIVESIZE* to capture this effect, defined as the ratio of the transaction value to the acquirer's market capitalization.

Finally, we control for the leverage of the acquirer through the variable *LEVERAGE*, following e.g., Palm et al. (2023), by including the acquirer's debt-to-equity ratio. King et al. (2021) summarise in a meta-analysis that debt has a positive influence on announcement returns as debt functions as a form of monitoring mechanism, reducing monitoring costs in case of conflicts of interests.

3.3. Empirical design

Based on the above, we test our hypotheses using the following model in an ordinary least squares (OLS) regression:

$$\begin{aligned}
 CAR_i = & \beta_1 FAMILY_i + \beta_2 BOARDFAMILY_i + \beta_3 CEOFAMILY_i \\
 & + \beta_4 VOTERATIOFAM_i + \beta_5 VOTERATIO_i + \beta_6 INSIDECONT_i \\
 & + \beta_7 CROSSBORDER_i + \beta_8 RELATIVESIZE_i + \beta_9 LEVERAGE_i \\
 & + \beta_{10} CASH_i + \beta_{11} LISTED_i
 \end{aligned} \tag{7}$$

We use CARs to acquirer shareholders to proxy for expected value creation of the acquisition. Hence, *CAR* is the dependent variable, and the aim is to explain the CARs with the set of explanatory variables.

The main explanatory variable is *FAMILY*, which is a dummy variable taking on the value 1 if the firm meets the definition of a family firm, and 0 otherwise. This variable is central to the study as we hypothesise that family firms in Sweden will generate positive and higher CARs compared to non-family firms. In other words, we hypothesise that *FAMILY* will be significant and positive. In addition to *FAMILY*, we aim to nuance family firm CARs by measuring the effect of family members acting as CEO or board members through *CEOFAMILY* and *BOARDFAMILY*, respectively. Finally, we aim to capture the effect of dual-class shares on family firm CARs through *VOTERATIOFAM*. Together, these variables aim to explain CARs of family firms and act as our explanatory variables. Remaining variables act as control variables to control for effects that may impact returns according to existing literature. Sections 4.1-4.3 present the variables thoroughly.

In line with Bauguess and Stegemoller (2008), we employ two types of fixed effects to control for unobserved heterogeneity and omitted variable bias. First, industry fixed effects help control for similar elements and idiosyncrasies within certain industries that could impact the CAR. This could be the case if family firms more commonly operate in industries with significantly different risk factors and economic conditions compared to non-family firms. We use Standard Industrial Classification (SIC) codes to determine the broader industry in which the acquirer operates. Second, time fixed effects account for general market trends and circumstances that may impact the CAR. For instance, it controls for macroeconomic shocks, large-scale changes in investor sentiment, or other time-specific influences.

Following e.g., Ahmed et al. (2023), Bauguess and Stegemoller (2008) and Caprio et al. (2011), we cluster standard errors at the firm level to address the issue of correlation amongst the residuals within the same firm with multiple transactions in the dataset. The method also accounts for heteroscedasticity and produces standard errors that are robust to differences in residual variance across the distinct firms.

4. Descriptive statistics

4.1. Overview

The sample comprises a total of 552 transactions in the main test with the 20% voting threshold and the event window defined as $[-1, 1]$ days from the transaction announcement, of which 156 transactions (28%) have a family acquirer and 396 transactions (72%) have a non-family acquirer. Descriptive statistics of the sample at the 20% voting threshold are summarised in Table 2.

Table 2
Summary statistics of variables

	Family		Non-family	
Binary variables	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>
CEOFAMILY [†]	43	113	0	396
BOARDFAMILY [†]	130	26	0	396
CASH	116	40	268	128
LISTED	4	152	24	372
CROSSBORDER	100	56	275	121
Continuous variables	Mean	Median	Mean	Median
VOTERATIO	0.64	0.31	0.44	0
VOTERATIOFAM [†]	0.64	0.31	-	-
INSIDECONT	0.47	0.00	0.22	0
RELATIVESIZE	0.18	0.06	0.22	0.04
LEVERAGE	0.48	0.27	0.38	0.24
Transaction characteristics (USDm)				
Acquirer market cap	936	320	5,328	842
Transaction value	61	9	356	16

Summary statistics for the main variables and transaction characteristics, grouped by the family firm definition. The binary Yes/No depicts observation counts. VOTERATIO and VOTERATIOFAM for family firms take on the same values due the variable definitions. Family firm definition at the 20% voting threshold. The event window used is $[-1, 1]$.

[†] = Explanatory variables

4.2. Explanatory variables

The variables *CEOFAMILY*, *BOARDFAMILY*, and *VOTERATIOFAM* are defined such that they can only take on a value if the acquirer is a family firm. Thus, non-family transactions do not take on a value for these variables. In the sample, 43 out of 156 family firm transactions, approximately 28%, have a member of the family as CEO at announcement of the acquisition. Additionally, 130 out of 156 family firm transactions, approximately 83%, have at least one family member on the board at announcement of the acquisition. Thus, in our sample, it is uncommon for families or individuals to be the largest controlling owner and not have a family member on the board.

Additionally, *VOTERATIOFAM* is positive, measured both by the mean and median, implying that family firms, on average, employ controlling shareholder structures through dual-class shares.

4.3. Control variables

Table 2 shows that in our sample, most targets are privately held, captured by the variable *LISTED*. Only 28 out of the 552 targets were public, of which only 4 were acquired by a family firm. Regarding the mode of payment, captured by the variable *CASH*, both family firms and non-family firms prefer cash as mode of payment. Furthermore, a majority of transactions by both family and non-family acquirers are cross-border transactions, captured by the variable *CROSSBORDER*.

Interestingly, family firms have, on average, a larger wedge between voting rights and cash flow rights, measured by *VOTERATIO* and *VOTERATIOFAM*. Additionally, family firms have, in our sample, larger insider ownership measured by the mean in the variable *INSIDECONT*. Family firms acquire relatively smaller targets and have somewhat higher leverage versus non-family firms.

4.4. Transaction and acquirer characteristics

Family firms are, in our sample, smaller and conduct smaller acquisitions than non-family firms, measured by acquirer market capitalisation and transaction value. The mean and median market capitalisation for family firms is USD 936m and USD 320m, respectively, while the corresponding figures for non-family firms are USD 5,328m and USD 842m, respectively. The mean and median transaction values for family firms are USD 61m and USD 9m, respectively, while the corresponding figures for non-family firms are USD 356m and USD 16m, respectively.

4.5. Geographical distribution

Table 3 displays the geographical distributions of targets based on their corporate headquarters across the transactions included in our sample. Targets are mainly situated in Sweden, rest of Europe and the US.

Table 3
Geographical distribution of targets

Country	Family	Non-family
Sweden	56	121
United States	13	56
United Kingdom	12	29
Germany	10	27
Finland	11	15
Netherlands	6	18
Denmark	5	16
Norway	9	12
France	3	7
Spain	1	8
Other	30	87

Country of acquired firm defined as country of the corporate headquarters. Family firm definition at the 20% voting threshold. The event window used is [-1, 1].

4.6. Cumulative abnormal returns (CARs)

CARs are presented in Table 4. CARs for family and non-family acquirers are 4.06% and 2.60%, respectively, and thus, the CAR for the entire sample of acquirers is positive, implying that the acquisitions meeting our criteria are on

average value-creating. Family firms exhibit significantly higher CARs compared to non-family firms.

Table 4
Overview of CARs

Type	Mean of CAR	T-statistic – One-tailed¹	T-statistic – Two sample²
Family	4.06%	6.71***	2.06**
Non-family	2.60%	7.07***	

Overview of cumulative abnormal returns, winsorised at the 1st and 99th percentile and grouped by the 20% voting threshold family firm definition. The event window used is [-1, 1].

1) One-tailed T-tests determining if the mean is greater than zero, i.e. if the mergers overall are value-creating

2) Welch two Sample T-test comparing the mean of the family firms to the mean of the non-family firms

Significance levels are denoted as follows: * < 10%; ** < 5%; *** < 1%

In Table 5, we present the number of transactions, mean, and annual CARs for family acquirers and non-family acquirers. The CAR is higher for family firms compared to non-family firms in 9 out of 14 years in the sample.

Table 5
Annual CARs

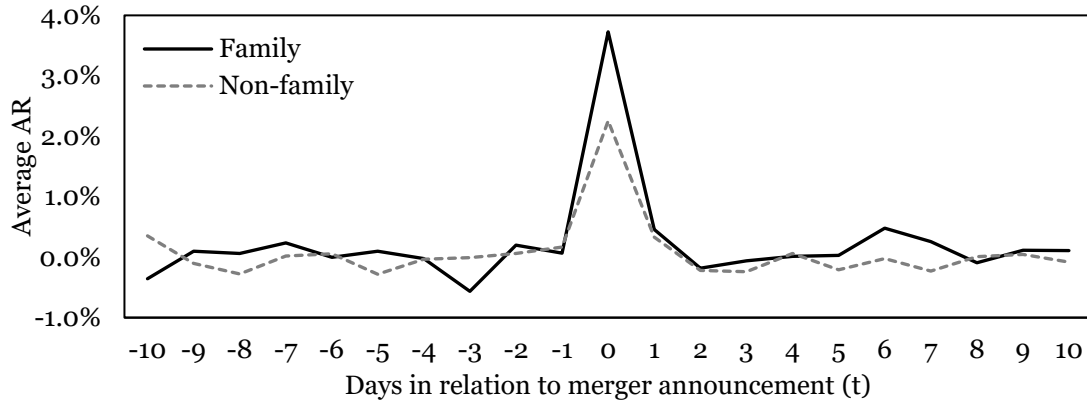
Year	Family			Non-family		
	<i>Deals</i>	<i>Mean</i>	<i>SD</i>	<i>Deals</i>	<i>Mean</i>	<i>SD</i>
2010	8	3.29%	4.57%	20	3.16%	7.06%
2011	11	0.01%	5.58%	20	0.98%	5.19%
2012	9	4.82%	9.26%	20	1.47%	5.42%
2013	5	3.59%	6.17%	15	0.82%	3.67%
2014	8	3.63%	7.45%	22	2.69%	3.96%
2015	9	4.08%	4.41%	23	2.08%	6.61%
2016	12	8.70%	9.12%	34	2.65%	6.97%
2017	12	4.45%	8.93%	23	4.81%	6.17%
2018	15	0.45%	5.29%	19	2.25%	8.47%
2019	13	2.80%	8.32%	33	1.71%	5.41%
2020	15	2.40%	7.35%	39	4.39%	12.03%
2021	26	8.56%	8.59%	61	2.84%	7.66%
2022	9	0.67%	1.31%	49	1.80%	7.47%
2023	4	3.75%	4.12%	18	3.72%	7.10%

Transaction count, mean, and standard deviation of CARs per year, grouped by family definition. Family firm definition at the 20% voting threshold. The event window used is [-1, 1].

In Figure 1, we depict the daily abnormal return for family and non-family firms. The average abnormal return exhibits limited movement before and after the

announcement, with a spike in abnormal returns centred around the merger announcement date at $T = 0$.

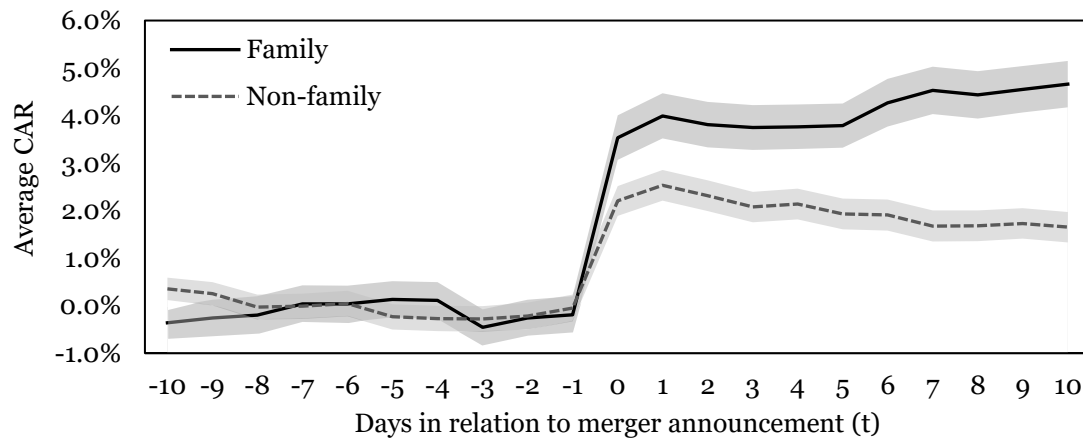
Figure 1
Daily abnormal returns -10 and +10 days in relation to announcement



Daily group-average abnormal return ten days preceding and ten days following the announcement. Family firm definition at the 20% voting threshold.

In Figure 2, we depict the group-average CARs over a 20-day period; ten days preceding and ten days following the announcement. Family firms exhibit more sustained and even increasing CARs post-announcement, while non-family firms, although still positive, experience a slight decline.

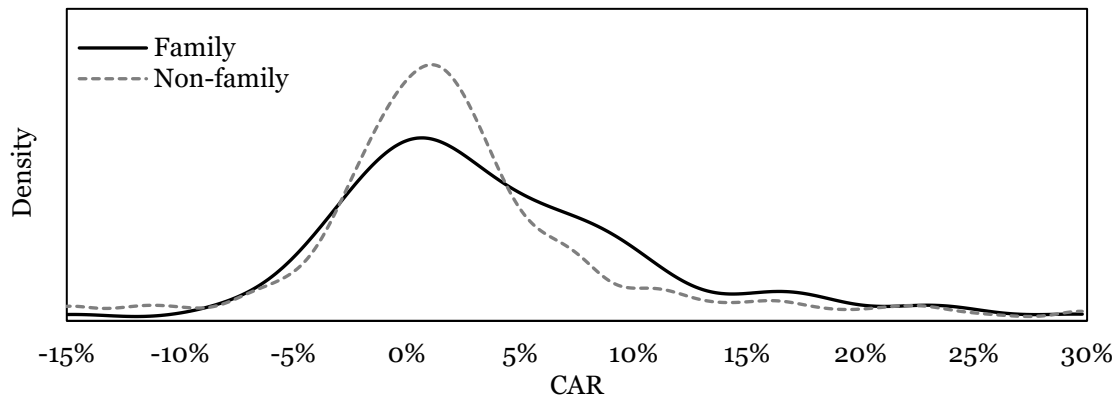
Figure 2
Cumulative average abnormal returns -10 and +10 days in relation to announcement with 95% confidence intervals



Group-average CARs ten days preceding and ten days following the announcement. Family firm definition at the 20% voting threshold. Shaded areas represent 95% confidence intervals. The average CARs represent the sum of the average daily ARs for each acquirer in relation to the announcement. For instance, the average CAR at $t = 0$ represents the sum of all average ARs between $t = -10$ and $t = 0$.

Moreover, we present in Figure 3 a kernel density plot showing that non-family firms have a higher density of CARs around 0%. Family firms exhibit a more positively skewed platykurtic distribution, exhibiting less density around 0% CAR with higher frequency of CARs between ~5-20%.

Figure 3
Density plot of CARs



Density plot using the Gaussian kernel estimation method. Family firm definition at the 20% voting threshold.

5. Results and discussion

5.1. Multivariate regressions

Regression results from our main test are presented in Table 6. In our main test, we employ the 20% voting threshold to determine whether the acquirer is a family firm. The main variable of interest, *FAMILY*, is positive and significant at the 5% level across all tests except when only regressing *FAMILY* with time and industry fixed effects. In that specific case, it is significant at the 10% level. *FAMILY* is positive and significant across all event windows and across all voting thresholds, as presented in Appendices 1 and 2, providing robust evidence that family firms experience higher M&A announcement CARs versus non-family firms in Sweden. In the full model in Table 6, we find that family firm ownership is, on average, associated with a 6.6 percentage points higher CAR compared to non-family firms, *ceteris paribus*. Our results are consistent with the results of e.g., Ben-Amar and André (2006), Ahmed et al. (2023), Siciliano et al. (2022), Caprio et al. (2011), and Feito-Ruiz and Menéndez-Requejo (2010) with regards to the positive effect of family ownership on CARs, but contradictory to the results of e.g., Bauguess and Stegemoller (2008) and Bae et al. (2002), who document that M&A is used as a tool for larger shareholders to extract private benefits, resulting in negative announcement returns.

Table 6
Regression analysis of CARs with gradual variable inclusion

<i>Variables</i>	(1) <i>Dummy</i>	(2) <i>Fixed eff.</i>	(3) <i>Control</i>	(4) <i>Full model</i>
FAMILY	0.015** (0.007)	0.016* (0.009)	0.021** (0.008)	0.066** (0.026)
BOARDFAMILY				-0.046* (0.024)
CEOFAMILY				-0.024* (0.013)
VOTERATIOFAM				-0.008 (0.006)
VOTERATIO			-0.006** (0.003)	-0.003 (0.004)
INSIDECONT			-0.020 (0.019)	-0.002 (0.020)
CROSSBORDER			-0.004 (0.008)	-0.004 (0.008)
RELATIVESIZE			0.016** (0.007)	0.016** (0.007)
LEVERAGE			-0.006 (0.005)	-0.007 (0.005)
CASH			-0.032*** (0.008)	-0.033*** (0.008)
LISTED			-0.064*** (0.015)	-0.067*** (0.015)
Constant	0.026*** (0.004)			
Observations	552	552	552	552
Adjusted R ²	0.006	0.061	0.169	0.183
Degrees of freedom	550	499	492	489

Family firm definition at the 20% voting threshold. The event window used is [-1,1]. Models 2-4 all include industry and time fixed effects as well as standard errors clustered at the firm level.

(1) Regressing CAR on FAMILY alone

(2) Adding industry and time fixed effects as well as firm-level clustering of standard errors

(3) Adding control variables

(4) Adding explanatory variables of interest to examine potential family firm value drivers. Model defined in Equation 7

Significance levels are denoted as follows: * < 10%; ** < 5%; *** < 1%

The negative sign of *VOTERATIO* should be interpreted as follows. The larger the wedge between voting rights and cash flow rights of the largest owner, the more negative impact it has on CARs. However, this is only significant when including

only the control variables, but hint toward results similar to Claessens et al. (2002) and Cronqvist and Nilsson (2003). The negative sign suggests that there exist some agency costs between majority and minority shareholders (*Agency Problem II*), as described by Villalonga and Amit (2006). These results are consistent with Bigelli and Mengoli (2004) who find negative excess returns for acquirers with high separation of ownership and control.

For family acquirers specifically, *VOTERATIOFAM* is negative and significant only under one event window, as presented in Appendix 1. This result, although relatively weak, indicates that the larger the wedge between voting rights and cash flow rights for family acquirers, the more negative impact on CARs. This result is aligned with e.g., Cronqvist and Nilsson (2003) who associate controlling minority shareholder corporate structures with a firm value discount for family firms, but contradictory to the results of e.g., Barontini and Caprio (2006). The negative sign of *VOTERATIOFAM* indicates a possibility of family owners extracting private benefits through acquisitions using dual-class structures. These results stand in contrast to e.g., Holmén and Knopf (2004) and Karasek and Huang (2017), who find that controlling shareholders in Sweden do not extract private benefits through mergers despite the high separation between voting and cash flow rights. Furthermore, it also contradicts the results of Nenova (2003), who document that there are close to zero gains from private benefits of control in Sweden. However, these results are statistically weak implying that no robust conclusions can be drawn from them.

Interestingly, *CEOFAMILY* and *BOARDFAMILY* are significantly negative. That is, there is a negative association between CARs and family CEOs or family board members. The results should be interpreted as follows. A family firm with a family member as CEO is associated with, on average, a 2.4 percentage points lower CAR, *ceteris paribus*. Similarly, a family firm with a family member who sits on the board is associated with, on average, a 4.6 percentage points lower CAR, *ceteris paribus*. Thus, the effect of a family member on the board is more negative than having a family member as CEO. These results support the theory of limited labour market competition for executive or board positions, in line with e.g., Shleifer and Vishny (1997). The CEO and any board member may hold these positions simply because their family is the largest owner and does not

necessarily mean that they are the most qualified to hold these positions, which could potentially be value destroying. The negative sign could also be explained by the perspective of Pérez-González (2001), who finds that firms with a family CEO perform worse explained by the increased possibility of extracting private benefits to the family. Moreover, the significant negative signs of *CEOFAMILY* and *BOARDFAMILY* suggest that there is no evidence in our results that the absence of *Agency Problem I*, i.e., the absence of any conflict of interest between managers and owners, has a positive effect on CARs. Further, our results contradict the results of Anderson and Reeb (2003) who show that the outperformance of family firms versus non-family firms increases when the CEO is a family member, resulting from decreased monitoring costs. Our results also differ from Bauguess and Stegemoller (2008) who find that CARs for family firms increase if the family firm has more insiders. Additionally, our results contradict Ben-Amar and André (2006) who find a positive and significant effect on CARs if the CEO is a family member.

That is, with a family member on the CEO position or on the board, the decreased monitoring costs do not contribute to positive CARs but could potentially compensate for the negative effect of limited labour market competition. However, the net effect is negative. Noteworthy, *CEOFAMILY* is significant only in our main test and loses significance in different event windows, while *BOARDFAMILY* is significantly negative across all event windows. Furthermore, *BOARDFAMILY* and *CEOFAMILY* are significant and negative at the 20% and 30% voting threshold levels but lose significance at the 10% voting threshold level (Appendix 2). However, as *FAMILY* decreases at the 30% threshold level compared to the 20% threshold level, dropping from a positive association on CARs from 6.6 to 4.8 percentage points, on average, both *CEOFAMILY* and *BOARDFAMILY* become more negative. With a family CEO, there is a negative association, on average, of 4.4 percentage points at the 30% voting threshold, which is more negative than the 2.4 percentage points decrease of CARs at the 20% voting threshold. Similarly, when a family member sits on the board, the negative association on CARs of 4.6 percentage points at the 20% voting threshold becomes slightly more negative at the 30% voting threshold,

with a negative association of 4.7 percentage points on CARs. That is, the negative effect of family insiders is amplified at higher levels of family ownership.

The control variables *CASH* and *LISTED* are consistently negative and significant. The negative sign of *CASH* contradicts the results of e.g., Travlos (1987) and King et al. (2021) but are in line with Jensen (1986). The negative sign of *LISTED* is in line with previous literature, e.g., Fuller et al. (2002). Additionally, *RELATIVESIZE* is consistently significant and positive which is in line with e.g., Jarrell and Poulsen (1989) and Asquith et al. (1983). *INSIDECONT*, *LEVERAGE*, and *CROSSBORDER* are not statistically significant.

The adjusted R^2 of 0.183 is in line with the explanatory value of e.g., Ben-Amar and André (2006), Basu et al. (2009), Siciliano et al. (2022), and Ahmed et al. (2023).

In summary, there is a positive and significant family ownership effect to CARs in over the event windows of acquisition announcements. Additionally, there is a significant negative effect if a family member is the CEO or board member. However, our variables do not capture any acquirer characteristics that explain the sources of higher CARs for family firms. As such, we investigate further potential differences in target characteristics between family and non-family acquisitions that could drive the differences in CARs. Although limited data availability implies a smaller dataset of target financials, it may still provide further understanding of the driving factors for the superior CARs for family firms.

5.2. Target overview

We present in Table 7 operating and financial metrics for a subset of targets where the financial data is available at acquisition announcement.

Table 7
Target metrics pre-merger

Item ¹	Family		Non-family		T-test ²
	Mean	Count	Mean	Count	t-statistic
Margins					
EBITDA margin	8.9%	52	7.9%	109	-0.41
EBIT margin	8.2%	55	5.1%	129	-1.15
Net profit margin	6.6%	54	4.8%	124	-0.53
Leverage					
Capital structure	46.5%	61	60.7%	157	1.12
Current ratio	3.6x	67	2.6x	175	-1.13
Profitability					
ROA	13.1%	62	10.9%	148	-0.88
ROCE	27.4%	57	24.7%	125	-0.40
ROE	27.2%	58	23.2%	142	-0.48

Family firm definition at the 20% voting threshold. The event window used is [-1,1].

1) Three-year average selected key metrics for target firms with available data three fiscal years before year of merger announcements. The metrics are defined as:

EBITDA margin = EBITDA (earnings before interest, taxes, depreciation and amortisation)/Revenue;

EBIT margin = EBIT (earnings before interest and taxes)/Revenue;

Net profit margin = Net profit/Revenue;

Capital structure = Debt/Equity;

Current ratio = Current assets/Current liabilities;

ROA = Profit before tax/Total assets;

ROCE = (Profit before tax + Interest paid)/(Equity + Debt);

ROE = Net profit/Equity

2) Welch two sample t-test comparing the mean of the family firms to the mean of the non-family firms

Significance levels are denoted as follows: * < 10%; ** < 5%; *** < 1%

Targets acquired by family firms seem to perform better on all metrics compared to targets acquired by non-family firms. Targets acquired by family firms have superior margins, lower leverage, and higher returns. The data suggests that family firms select targets with healthier operating metrics compared to targets acquired by non-family firms. However, none of these results are statistically significant and due to data limitations, the sample is relatively small. Thus, we cannot confidently conclude that the target characteristics are a source of superior CARs for family versus non-family acquirers.

5.3. The effect of investment company ownership

Cronqvist and Nilsson (2003) show that Swedish family firms employ controlling minority shareholder structures through e.g., dual-class shares and/or pyramid holdings more frequently than non-family firms. Also, La Porta et al. (1999) show that, on average, in Sweden, only 12.6% of the capital is required to control 20% of the votes, which is lower than all other Nordic countries. Therefore, when studying the ownership effect of Swedish companies, it is important to address the issue regarding investment companies. Holmén and Knopf (2004) explain that pyramid holdings and dual-class shares are frequently used by families and their investment companies to retain control without bearing the corresponding cash flow exposure. Worth noting is that these families should be deemed as sophisticated investors as they control many of the largest companies in Sweden, as stated by Holmén and Knopf (2004).

One example of how the Douglas family controls Nederman Holding AB is the following: Nederman acquired RoboVent, Inc. in July 2022. At the time of the acquisition, Nederman was owned by Investment AB Latour, holding 29.98% of the shares and votes. Subsequently, Latour was owned by the Douglas family, holding 78.36% of the votes. Thus, through Latour, this pyramid holding enables the Douglas family to control the largest voting block of Nederman.

Therefore, we expand our family definition from our main test to also incorporate how the ultimate voting block in the acquirer is controlled, following e.g., Ben-Amar and André (2006). We extend our initial family firm definition to also include pyramid holdings through investment companies. Thus, if the largest voting block of the acquirer is owned by an investment company, and the investment company is ultimately under family control, which is the case if the family controls more than 50% of the votes throughout the entire chain of companies in the pyramid, it will be defined as a family firm, provided that the remaining criteria are fulfilled.¹ As displayed in Appendix 3, 38 out of 156, or 24%, family firm transactions are conducted with a family or individual controlling the largest voting block through investment companies.

¹ Investment companies that explicitly state on their websites that they are family-owned are treated as if the family controls all companies throughout the ownership chain.

We present our extended results in Table 8. The dummy variable *PYRAMID* takes on the value 1 if the ultimate controlling block is held through a pyramid structure, and 0 otherwise. The dummy variable *INVESTMENTCOMP* takes on the value 1 if the largest voting block of the acquirer is controlled by an investment company, and 0 otherwise. *INVESTMENTCOMP* does not include any individual's holding companies but are captured by *PYRAMID*. Thus, *INVESTMENTCOMP* should be viewed as a variable capturing the effect of more sophisticated investors.

Table 8
Regressions comparing the impact of investment company inclusion

<i>Definition</i>	(1) <i>Excl. investment companies</i>	(2) <i>Incl. investment companies</i>
FAMILY	0.066** (0.026)	0.047** (0.019)
BOARDFAMILY	-0.046* (0.024)	-0.029** (0.014)
CEOFAMILY	-0.024* (0.013)	-0.023* (0.013)
VOTERATIOFAM	-0.008 (0.006)	-0.013** (0.006)
PYRAMID		-0.012 (0.010)
INVESTMENTCOMP		-0.015** (0.007)
VOTERATIO	-0.003 (0.004)	0.001 (0.005)
INSIDECONT	-0.002 (0.020)	0.001 (0.022)
CROSSBORDER	-0.004 (0.008)	-0.002 (0.009)
RELATIVESIZE	0.016** (0.007)	0.016** (0.007)
LEVERAGE	-0.007 (0.005)	-0.006 (0.005)
CASH	-0.033*** (0.008)	-0.030*** (0.008)
LISTED	-0.067*** (0.015)	-0.066*** (0.016)
Observations	552	552
Adjusted R ²	0.183	0.182
Degrees of freedom	489	487

Family firm definition at the 20% voting threshold. The event window used is [-1,1].

(1) The same regression as the full model in Table 6

Significance levels are denoted as follows: * < 10%; ** < 5%; *** < 1%

The main variable *FAMILY* is still positive and significant at the 5% level when including investment companies. Hence, family ownership when also accounting for voting through investment companies is, on average, associated with a 4.7 percentage points positive effect on CARs, *ceteris paribus*. This is lower than the 6.6 percentage point increase when not accounting for ownership through investment companies. That is, the family ownership effect is less positive when accounting for family ownership through investment companies versus when only examining the largest voting block.

Additionally, *FAMILY* is positive and significant across all voting thresholds, as presented in Appendix 4. That is, we observe a significant and positive ownership effect if the largest controlling block at the 10%, 20%, and 30% level, respectively, is either directly owned or ultimately controlled by a family through investment companies. The magnitude is a positive effect, on average, on CARs by 2.9, 4.7, and 5.4 percentage points, respectively. These results suggest that the largest voting block of the acquirer does not need to be directly controlled by the family to have a positive effect on CARs. Also, the positive effect on CARs seems to increase with the level of ownership in the largest voting block of the acquirer.

However, *INVESTMENTCOMP* is negative and significant, implying that there is an average 1.5 percentage point negative effect on CARs for acquirers where the largest voting block is controlled by investment companies, *ceteris paribus*. This result supports the theory of increased agency costs when the ultimate owner avoids the full financial consequences of business decisions through pyramid holdings. *INVESTMENTCOMP* is negative and significant across all voting thresholds (Appendix 4).

Again, *CEOFAMILY* and *BOARDFAMILY* are significant and negative, in line with our main test. When a family member is the CEO, CARs decrease on average by 2.3 percentage points, *ceteris paribus*. Similarly, a family board member is associated with an average negative effect on CARs by 2.9 percentage points, *ceteris paribus*. This could be interpreted as follows. The negative effect of family insiders is still relevant, which could be in the form of e.g., limited labour market competition suggested by Shleifer and Vishny (1997), or the extraction of private benefits to the family suggested by Pérez-González (2001). Additionally,

the influence of the family can be passed on throughout the pyramid just as well as if the family would hold the ownership directly in the acquirer. Although Holmén and Knopf (2004) find that controlling owners do not obtain any private benefits through dual-class share structures or pyramid holdings through M&A in Sweden, our results are contradictory, and suggest that there may exist some agency costs associated with *Agency Problem II*. Having a family member on the board or as the CEO might facilitate realising these value-destroying activities. Our results are also inconsistent with the results of Karasek and Huang (2017). However, the extraction of private benefits in family firms with a family CEO or board member is deemed unlikely since the gains of extracting private benefits in Sweden are low, as documented by e.g., Nenova (2003).

Moreover, as presented in Appendix 4, the negative effect of insiders becomes larger as the voting threshold goes from 20% to 30%, suggesting that the family can increase their influence further when the ownership stake in the acquirer increases. However, these results contradict *Agency Problem I* since there should be lower monitoring costs of the manager or board member if the same family is the owner.

VOTERATIOFAM is negative and significant, implying that even when introducing investment companies to the family firm definition, tools that enable the family or owner to retain control without having the same cash flow exposure have a negative and significant impact on CARs, consistent with *Agency Problem II*. The interpretation of the results is that a percentage point increase in the share of votes in the acquirer is, on average, associated with a decrease of 0.013 percentage points on CARs for family firms, ceteris paribus. Nonetheless, the gains of extracting private benefits through mergers in Sweden are non-existent, according to e.g., Holmén and Knopf (2004) and Karasek and Huang (2017), implying that there are possible other factors contributing to the negative effect. Still, *VOTERATIOFAM* is only significant in one of our tests, making these results relatively weak. The control variables *RELATIVESIZE*, *CASH*, and *LISTED* are all significant with the same signs in our tests without investment companies.

6. Concluding remarks

We analyse value creation in M&A for family firms in Sweden using acquisition announcements from January 2010 to September 2023. We identify a positive and significant association between family ownership and CARs. CARs are positive for the entire sample, with robust evidence of higher CARs for family firms compared to non-family firms. This holds true across various family firm definitions, including those incorporating family control through pyramid holdings. We observe a significant negative impact on family firm CARs when the CEO or board member is a family member, supporting the theory of limited labour market competition. Despite the prevalence of dual-class share structures and pyramid holdings, existing evidence against the extraction of private benefits in Swedish M&A makes agency costs an unlikely explanation for the negative effect of insiders on CARs. Additionally, we find a negative relationship between CARs and the dispersion between cash flow and voting rights of the acquirer, although statistically weak.

Nonetheless, some questions remained unanswered. The specific drivers behind the greater CARs for family firms are still to be discovered. We take the perspective of the distinctive corporate governance environment in Sweden, but which factors that drive the higher announcement returns for family firms could be several. For instance, introducing a founder requirement to the family firm definition could clarify the differences in CARs. Moreover, one could delve deeper into the target characteristics and examine the differences between targets acquired by family versus non-family firms, including target valuation, financial performance pre- and post-merger, and/or level of integration. Further, we suggest studying the specific attributes of family firms to gain further insight into what exactly drives the higher CARs, e.g., risk aversion, culture, or capital allocation. Finally, this study isolates the short-term M&A performance to proxy for value creation for the acquirer's shareholders, so exploring the long-term performance of acquiring family firms through share prices and accounting measures also presents an intriguing avenue for further research. Such investigation could contribute to a deeper understanding of the value drivers in M&A in a family ownership context.

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8. Appendix

Appendix 1
Regression analysis of CARs across various event windows

<i>Event window</i>	(1) <i>[-1, 1]</i>	(2) <i>[0, 1]</i>	(3) <i>[-2, 2]</i>
FAMILY	0.066** (0.026)	0.065*** (0.023)	0.088*** (0.029)
BOARDFAMILY	-0.046* (0.024)	-0.050** (0.020)	-0.071*** (0.027)
CEOFAMILY	-0.024* (0.013)	-0.010 (0.013)	-0.016 (0.016)
VOTERATIOFAM	-0.008 (0.006)	-0.004 (0.006)	-0.013* (0.007)
VOTERATIO	-0.003 (0.004)	-0.005* (0.003)	-0.002 (0.004)
INSIDECONT	-0.002 (0.020)	-0.015 (0.018)	-0.006 (0.024)
CROSSBORDER	-0.004 (0.008)	-0.002 (0.008)	-0.001 (0.010)
RELATIVESIZE	0.016** (0.007)	0.012* (0.007)	0.016* (0.009)
LEVERAGE	-0.007 (0.005)	-0.001 (0.005)	-0.003 (0.005)
CASH	-0.033*** (0.008)	-0.028*** (0.007)	-0.039*** (0.010)
LISTED	-0.067*** (0.015)	-0.071*** (0.014)	-0.071*** (0.017)
Observations	552	552	541
Adjusted R ²	0.183	0.167	0.133
Degrees of freedom	489	489	478

Family firm definition at the 20% voting threshold.

Significance levels are denoted as follows: * < 10%; ** < 5%; *** < 1%

Appendix 2
Regression at the 10%, 20%, and 30% voting thresholds

<i>Voting threshold</i>	(1) 10%	(2) 20%	(3) 30%
FAMILY	0.032** (0.016)	0.066** (0.026)	0.048* (0.028)
BOARDFAMILY	-0.014 (0.015)	-0.046* (0.024)	-0.047* (0.024)
CEOFAMILY	-0.018 (0.013)	-0.024* (0.013)	-0.044** (0.018)
VOTERATIOFAM	0.001 (0.005)	-0.008 (0.006)	0.001 (0.008)
VOTERATIO	-0.007** (0.003)	-0.003 (0.004)	-0.005 (0.003)
INSIDECONT	0.003 (0.020)	-0.002 (0.020)	0.023 (0.020)
CROSSBORDER	-0.004 (0.009)	-0.004 (0.008)	-0.007 (0.009)
RELATIVESIZE	0.016** (0.007)	0.016** (0.007)	0.016** (0.008)
LEVERAGE	-0.006 (0.005)	-0.007 (0.005)	-0.006 (0.005)
CASH	-0.030*** (0.008)	-0.033*** (0.008)	-0.032*** (0.008)
LISTED	-0.067*** (0.016)	-0.067*** (0.015)	-0.071*** (0.016)
Observations	552	552	552
Adjusted R ²	0.170	0.183	0.165
Degrees of freedom	489	489	489

The event window used is [-1, 1].

Significance levels are denoted as follows: * < 10%; ** < 5%; *** < 1%

Appendix 3 Summary statistics of variables

	Family		Non-family	
Binary variables	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>
CEOFAMILY [†]	43	113	0	396
BOARDFAMILY [†]	130	26	0	396
INVESTMENTCOMP [†]	38	118	211	185
PYRAMID [†]	0	156	113	283
CASH	116	40	268	128
LISTED	4	152	24	372
CROSSBORDER	100	56	275	121
Continuous variables	Mean	Median	Mean	Median
VOTERATIO	0.64	0.31	0.44	0
VOTERATIOFAM [†]	0.64	0.31	-	-
INSIDECONT	0.47	0.00	0.22	0.00
RELATIVESIZE	0.18	0.06	0.22	0.04
LEVERAGE	0.48	0.27	0.38	0.24
Transaction characteristics (USDm)				
Acquirer market cap	936	320	5,328	842
Transaction value	61	9	356	16

Summary statistics for the variables and transaction characteristics, grouped by the family firm definition. The binary Yes/No depicts observation counts. *VOTERATIO* and *VOTERATIOFAM* for family firms take on the same values due to the variable definitions. Family firm definition at the 20% voting threshold. The event window used is [-1, 1].

[†] = Explanatory variables

Appendix 4
Regression including investment companies at the 10%, 20%, and 30% voting thresholds

<i>Threshold</i>	(1) <i>10%</i>	(2) <i>20%</i>	(3) <i>30%</i>
FAMILY	0.029** (0.014)	0.047** (0.019)	0.054* (0.028)
BOARDFAMILY	-0.013 (0.011)	-0.029** (0.014)	-0.063** (0.027)
CEOFAMILY	-0.019 (0.013)	-0.023* (0.013)	-0.041** (0.017)
VOTERATIOFAM	-0.005 (0.007)	-0.013** (0.006)	-0.0003 (0.008)
PYRAMID	-0.014 (0.009)	-0.012 (0.010)	-0.004 (0.008)
INVESTMENTCOMP	-0.013* (0.007)	-0.015** (0.007)	-0.015** (0.007)
VOTERATIO	-0.002 (0.005)	0.001 (0.005)	-0.004 (0.003)
INSIDECONT	0.001 (0.021)	0.001 (0.022)	0.030 (0.022)
CROSSBORDER	-0.002 (0.009)	-0.002 (0.009)	-0.004 (0.008)
RELATIVESIZE	0.016** (0.007)	0.016** (0.007)	0.016** (0.008)
LEVERAGE	-0.005 (0.005)	-0.006 (0.005)	-0.006 (0.005)
CASH	-0.029*** (0.008)	-0.030*** (0.008)	-0.029*** (0.008)
LISTED	-0.066*** (0.016)	-0.066*** (0.016)	-0.067*** (0.016)
Observations	552	552	552
Adjusted R ²	0.172	0.182	0.177
Degrees of freedom	487	487	487

The event window used is [-1, 1].

Significance levels are denoted as follows: * < 10%; ** < 5%; *** < 1%