

# How Does Family Control Influence a Firm's Acquisition and Divestiture Behavior?

Evidence from Swedish Listed Firms

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## Abstract

This paper investigates how family control affects a firm's propensity to undertake acquisitions and divestitures as well as the performance consequences of these transactions. Making use of manually collected data on 242 Swedish listed companies during the period 2003-2012, we do not find evidence that family firms are less likely to engage in acquisitions than non-family firms. However, we show that family firms have a higher aversion towards equity-financed acquisitions, especially when the amount of voting rights held by the family owner is not sufficient to ensure the preservation of control. The willingness of family firms to overcome this aversion is well received by investors as reflected in higher announcement returns. Although divestitures are on average value-enhancing, we find that family controlled firms are associated with a lower likelihood of divesting. Finally, we provide evidence that family firms are more likely to undertake diversifying acquisitions and less likely to divest unrelated businesses.

Keywords: Family firms, acquisitions, divestitures, corporate diversification

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# Table of Content

|          |                                               |           |
|----------|-----------------------------------------------|-----------|
| <b>1</b> | <b>Introduction.....</b>                      | <b>1</b>  |
| <b>2</b> | <b>Literature Review and Hypotheses .....</b> | <b>4</b>  |
| 2.1      | Theoretical Background.....                   | 5         |
| 2.2      | Ultimate Owner Control.....                   | 6         |
| 2.3      | Family Control.....                           | 8         |
| 2.4      | Performance Implications .....                | 12        |
| <b>3</b> | <b>Data, Variables and Methodologies.....</b> | <b>14</b> |
| 3.1      | Sample and Data Collection .....              | 14        |
| 3.2      | Ownership Variables.....                      | 16        |
| 3.3      | Control Variables .....                       | 18        |
| 3.4      | Descriptive Statistics.....                   | 19        |
| 3.5      | Methodologies.....                            | 26        |
| <b>4</b> | <b>Empirical Results.....</b>                 | <b>28</b> |
| 4.1      | Propensity to Acquire.....                    | 28        |
| 4.2      | Propensity to Divest.....                     | 35        |
| 4.3      | Acquiring Firm Performance .....              | 39        |
| 4.4      | Divesting Firm Performance.....               | 43        |
| <b>5</b> | <b>Robustness.....</b>                        | <b>46</b> |
| <b>6</b> | <b>Conclusion .....</b>                       | <b>48</b> |
| <b>7</b> | <b>Appendix .....</b>                         | <b>56</b> |

# 1 Introduction

Family firms have received much attention in the academic literature since La Porta et al. (1999) pointed out that families rather than financial institutions and other corporations represent the predominant type of controlling owners in publicly traded companies around the world. Sweden constitutes a particularly interesting setting where family ownership is prevalent even among the largest quoted firms. Cronqvist and Nilsson (2003) classify 58.9% of the listed companies in Sweden as family controlled firms. The Wallenberg family is probably the best-known family business sphere in Sweden. They control some of the largest Swedish companies including Ericsson and Atlas Copco, while relying extensively on the use of control-enhancing devices, such as dual class shares and pyramid structures.<sup>1</sup>

A large body of empirical research addresses the performance implications of family ownership and there seems to be a consensus that some degree of family control positively affects firm performance (Anderson & Reeb, 2003a; Barontini & Caprio, 2006; Villalonga & Amit, 2006; Maury, 2006; Sraer & Thesmar, 2007; Andres, 2008). This finding is generally attributed to family owners' abilities and strong economic incentives to monitor decision makers. Anderson and Reeb (2003a) explain that long-tenured family owners possess the required firm-specific knowledge to provide effective oversight and are incentivized to do so as they often have their personal wealth concentrated in their firms. Consequently, the classic principal-agent conflict between owners and managers as brought forth by Jensen and Meckling (1976) should be less pronounced in family firms than in non-family firms.

However, the literature also suggests that family owners may be driven by factors other than economic success and shareholder value maximization. Family owners typically carry with them a dynastic motive suggesting that their firm is not intended to serve as something that is consumed by later generations, but as something that should be perpetuated without substantially altering its form (Casson, 1999). This core concern to preserve the business through multiple generations may have important implications for the acquisition and divestiture behavior of family firms, an area that has attracted less attention in the academic

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<sup>1</sup> According to 2013 Annual Reports

literature. Therefore, the purpose of this study is to add to the small but growing empirical research on family firms' acquisition and divestiture activity.

Specifically, we investigate the propensity of Swedish family firms to undertake acquisitions and divestitures. We further consider the performance implications of these transactions. Our analysis is based on a manually collected data set of 1,861 firm-year observations consisting of detailed information on the ownership structure as well as acquisition and divestiture behavior of 242 listed non-financial firms between 2003 and 2012. This paper differs from other studies in that we use a closed sample to investigate both family firms' acquisition and divestiture behavior. Simultaneously analyzing the role of family owners on the buy side and sell side of transactions allows us to draw a more complete picture of their influence on corporate decisions. Over the observation period we consider 399 acquisitions and 250 divestitures for our sample firms.

The empirical analyses generate several robust insights. First, while documenting a negative relationship between the voting rights held by the largest shareholder and the propensity to acquire, we do not find evidence supporting the hypothesis that the identity of the owner affects the likelihood of engaging in acquisitions. In short, Swedish family firms are not less likely than their non-family counterparts to engage in acquisitions. Nevertheless, we find that family firms are particularly wary of losing control as shown by their lower propensity to undertake equity-financed acquisitions. We further show that this aversion towards equity deals depends on the amount of voting rights held. For levels of family control beyond 50%, no relation between family ownership and the likelihood of engaging in equity deals is found.

Second, we report that family controlled firms are associated with a lower propensity to divest indicating that family owners may be emotionally attached to their firms. This evidence also suggests that Swedish family firms potentially shield themselves through control-enhancing devices from market pressures to divest temporarily underperforming businesses.

Third, we find evidence that family firms are more likely than non-family firms to engage in diversifying acquisitions. This preference for diversifying transactions is particularly pronounced in family controlled firms with owners holding more than 50% of the voting

rights. The result is consistent with family owners typically holding poorly diversified portfolios and making investment decisions that reduce firm-specific risk. In line with this finding we document that family firms are particularly reluctant to undertake divestitures of unrelated businesses.

Fourth, when analyzing the performance consequences of acquisitions and divestitures undertaken by Swedish listed firms, we find that both types of transactions are well received by investors, as measured by the cumulative abnormal returns around the announcement dates. We do not find evidence, however, that family controlled firms generally outperform non-family controlled firms when engaging in acquisitions. When considering the subsample of equity-financed acquisitions, we report that family control has a positive and significant effect on the performance of these transactions. We also show that family control positively affects divesting firm performance when the founder serves as the CEO or Chairman. We further find that unrelated divestitures by family firms are associated with a higher performance. This is consistent with our results of the propensity analysis. The higher threshold for family firms to engage in equity-financed acquisitions and unrelated divestitures seems to imply that the value created by these transactions, if undertaken, is particularly significant.

The major contributions of our empirical study are as follows. The influence of family control on the propensity to engage in acquisitions and the performance implications of these transactions have been previously investigated only by Bauguess and Stegemoller (2008) in the U.S. market and by Caprio et al. (2011) in the Continental European market. Although our empirical analyses are to a certain extent comparable to theirs, the results that we obtain in the Swedish setting are quite different. Unlike the aforementioned authors, we do not find evidence that family control negatively affects the likelihood of engaging in acquisitions. This leads to the conjecture that the benefits of engaging in acquisitions outweigh the costs associated with a potential discontinuation of the family dynasty. Our results, however, lend support to the finding of Caprio et al. (2011) in that family control does not have an effect on acquiring firm performance. This contradicts previous studies of acquiring firm performance in the Canadian and French markets by Ben-Amar and André (2006) and

Bouzgarrou and Navette (2013), respectively, documenting that family firms outperform non-family firms when undertaking acquisitions.

The study also adds to the limited research on family firms' divestiture behavior by contributing empirical evidence from the European market. Using our sample of Swedish listed firms we partially confirm the results from the U.S. market by Feldman et al. (2013), who also find that family control decreases the probability that a firm will undertake a divestiture. Contrary to their findings, however, we report that family control positively affects divesting firm performance only when the founder is actively involved in the firm.

This paper further contributes to the literature on family firms' corporate diversification decisions. In this field of research several studies have argued in favor of a preference for corporate diversification among family firms. However, empirical evidence on family firms' risk-reducing acquisition behavior is scarce. Whereas Bauguess and Stegemoller (2008) and Caprio et al. (2011) do not find that family firms are more likely than non-family firms to pursue diversifying acquisitions, Anderson and Reeb (2003b) even report that family firms engage in significantly less corporate diversification. In contrast, our results are consistent with those of Miller et al. (2010) and Feldman et al. (2013) in that we provide evidence that family controlled firms have a preference for corporate diversification as reflected in both their acquisition and divestiture behavior.

The remainder of this paper is organized as follows. In the next section, we derive hypotheses from previous literature. In Section 3, we describe the data, define ownership and control variables and introduce the methodologies applied. In Section 4, we analyze the propensity to undertake acquisitions and divestitures as well as the performance implications of these transactions. Robustness tests are conducted in Section 5. Our conclusion is presented in Section 6.

## **2 Literature Review and Hypotheses**

*In this section, we draw on agency theory to provide an understanding of managers' motivations for undertaking acquisitions and divestitures. We then shift the focus from managerial motivations for acquiring and divesting to those of large controlling shareholders*

*(ultimate owners). Thereafter, we discuss how the identity of the controlling owner may affect a firm's acquisition and divestiture behavior. Throughout this discussion, we formulate our hypotheses based on the theories and empirical literature on the family firm.*

## **2.1 Theoretical Background**

Addressing the issues associated with the separation of ownership and control in widely held firms, principal-agent theory predicts that managers (the agents) are governed by self-interested behavior and maximize their utility, often to the detriment of shareholders (their principals) (Jensen & Meckling, 1976). Agency theorist Jensen (1986) put forth the idea that managers have an incentive to grow their firms beyond optimal size through empire building instead of paying out cash in excess of what is needed to fund projects with positive net present values. Under this perspective managers are more concerned with accumulating resources under their control than they are with managing the firm in ways that benefit shareholders. The implications of this theory for managers' attitudes towards engaging in corporate transactions are twofold:

Firstly, managers, who value private benefits of control sufficiently, may pursue acquisitions to expand the scope of their businesses, even so when those transactions reduce shareholder value (Jensen, 1986; Morck, et al., 1990). They may also derive private benefits from engaging in unprofitable defensive acquisitions in order to prevent a disciplinary takeover (Gorton, et al., 2009). Managerial overconfidence (hubris and excessive optimism) may serve as an additional motive for pursuing acquisitions against the interests of shareholders (Roll, 1986; Heaton, 2002; Malmendier & Tate, 2005).

Secondly, managers will be wary of pursuing divestitures, as this decreases the scope of the firms they manage and could be perceived as admittance of past mistakes (Feldman, et al., 2013). In line with this theory, previous research suggests that a divestiture of a previously acquired unit becomes more likely following a management change (Weisbach, 1995) and periods of poor performance (Shimizu & Hitt, 2005; Shimizu, 2007).

## 2.2 Ultimate Owner Control

According to Shleifer and Vishny (1986), ownership concentration creates an incentive effect, which improves the efficiency of monitoring management. Specifically, large shareholders in firms with concentrated ownership have a greater incentive to control managers relative to shareholders in widely held firms since they are able to internalize the benefits of their monitoring efforts. Thus, the presence of a large shareholder improves the ability to scrutinize decision making of managers and may contribute to resolving the principal-agent problem. This has important implications for the likelihood of undertaking acquisitions and divestitures. On the one hand, large controlling shareholders may prevent management from pursuing opportunistic acquisitions. On the other hand, ownership concentration may help to reduce decision makers' reluctance to engage in divestitures. As a result, whereas the propensity to acquire should be inversely related to the level of ownership concentration (Miller, et al., 2007; Bauguess & Stegemoller, 2008; Caprio, et al., 2011), the likelihood of undertaking a divestiture is predicted to be positively related to the control rights held by the ultimate owner.

As pointed out by Shleifer and Vishny (1997), the aforementioned positive incentive effect of concentrated ownership often does not come without a cost since the interests of large shareholders do not necessarily coincide with those of minority shareholders. Large controlling shareholders may in fact use their control rights to extract private benefits at the expense of other investors, a second agency problem that is commonly referred to as the expropriation of minority shareholders. In Sweden and most other European countries, firms are often controlled by a dominant shareholder suggesting that the agency conflict between large controlling shareholders and minority shareholders is of relevance (La Porta, et al., 1999). Claessens et al. (2002) demonstrate that the negative effects of concentrated ownership on firm value prevail when large shareholders increase control beyond their ownership stakes through the use of control-enhancing devices, such as dual class shares and pyramid structures. A large divergence between control (voting) and ownership (cash flow) rights makes it easier for opportunistic large shareholders to expropriate minority shareholders, creating a problem known as the entrenchment effect. Specifically, the costs, associated with non-value maximizing behavior, borne by controlling shareholders decrease

with the cash flow rights held, thus, making minority expropriation more beneficial. The use of control-enhancing devices is very common in Sweden and hence there is an increased risk that controlling shareholders pursue goals other than shareholder value maximization (Holmén & Martin, 2004). Bjuggren et al. (2007) find that the separation of voting and cash flow rights has a negative impact on investment performance and firm value of Swedish listed companies. This suggests that the divergence between the amount of voting and cash flow rights, the so-called separation wedge, induces controlling shareholders to engage in non-value maximizing activities. Consistent with the predictions of Caprio et al. (2011), a high separation wedge, may therefore incentivize the ultimate owner to collude with managers in sharing private benefits derived from opportunistic acquisitions, at the expense of minority shareholders. At the same time, a high separation wedge should be associated with fewer incentives for controlling shareholders to promote divestitures.

As illustrated above, concentration of ownership can have two opposing effects: An incentive effect that improves the control of management; and an entrenchment effect that facilitates expropriation of minority shareholders. Thus, there is a risk that a large controlling shareholder engages in non-value maximizing activities.

Previous research suggests that the presence of multiple blockholders might be value enhancing. Multiple large shareholders potentially monitor each other thereby reducing diversion of corporate profits and limiting minority expropriation (Pagano & Röell, 1998; La Porta, et al., 1999). Bennedsen and Wolfenzon (2000) present a model suggesting that the optimal ownership structure includes either a single large shareholder or multiple shareholders of roughly equal size. Gomes and Novaes (2000) show that bargaining issues among multiple controlling shareholders may prevent investment decisions that negatively affect minority shareholders, whereas a risk remains that valuable investment decisions are blocked due to their disagreement. Compared to previous models that deal with multiple shareholders exercising joint control, Bloch and Hege (2003) focus on the contestability of the large controlling shareholder. The authors argue that the contestability of control, measured as the difference between the voting rights held by the largest owners, rather than the concentration of ownership, influences firm performance. Empirical evidence regarding the effect of multiple large shareholders on firm performance is scarce. Lehman and Weigand

(2000) find that the presence of a second large shareholder enhances profitability of German firms. Investigating a sample of Finnish listed firms, Maury and Pajuste (2005) find that a more equal distribution of voting rights held by large shareholders has a positive impact on firm value. The result indicates that the contestability of a large controlling shareholder may reduce minority expropriation. Hence, contestability of control represents an important concept to consider when investigating acquisitions and divestitures. From the fact that contestability of control limits non-value maximizing behavior, it follows that a firm with a contestable ultimate owner should be associated with a lower probability of engaging in acquisitions and a higher probability of undertaking divestitures relative to a firm with an incontestable ultimate owner.

### **2.3 Family Control**

Recent research proposes that not only the size but also the identity of the ultimate owner plays an important role in the decision to engage in acquisitions and divestitures. A small but growing body of empirical research centers around family-ownership as a potential determinant of merger (Shim & Okamuro, 2011), acquisition (Bauguess & Stegemoller, 2008; Miller, et al., 2010; Caprio, et al., 2011) and divestiture behavior (Feldman, et al., 2013; Nguyen, et al., 2013).

Literature on the family-firm emphasizes that a main interest of family owners is to maintain control over the firm and pass it on to their descendants in order to perpetuate the family dynasty (Casson, 1999; Anderson & Reeb, 2003a; Fiss & Zajac, 2004; Gómez-Mejía, et al., 2007). According to Miller et al. (2010), this core concern translates into corporate strategies devoted to the continuity of the business manifesting themselves in family-owners' distinctive social priorities and attitudes towards risk. The authors claim that family owners focus on building sustainable relationships with employees and outside stakeholders and may therefore avoid potentially disrupting acquisitions that put the business at risk (see also Miller, et al., 2008; Miller, et al., 2009).

Furthermore, a family owner, who wishes to retain control and preserve the continuity of the business, is unlikely to engage in acquisitions that may cause a change in the corporate control structure through dilution of voting power (Faccio & Masulis, 2005) and increase the

default risk of the acquiring firm (Furfine & Rosen, 2011). As emphasized by Caprio et al. (2011), the dilution argument does not only pertain to equity deals since cash payments may increase the likelihood of future issuances of stock.

Moreover, families may preserve control by passing active management from founders to descendants (Bertrand & Schoar, 2006). Since these individuals are picked from a small pool of family heirs, they may be less competent than non-family executives picked in a competitive contest (Villalonga & Amit, 2006; Pérez-González, 2006; Bennedsen, et al., 2007). As a result, family firms may avoid complex acquisitions as they lack the required managerial competences to pursue these transactions (Miller, et al., 2010).

Empirical evidence confirms that family firms adopt a more cautious acquisition behavior. Investigating a sample of S&P 500 firms, Bauguess and Stegemoller (2008) find that family firms make fewer acquisitions. In a study of Fortune 1000 firms, Miller et al. (2010) document that family ownership is inversely related to the number and dollar volume of acquisitions. Analyzing a sample of listed Continental European companies, Caprio et al. (2011) confirm the previous findings and add that family owners' aversion to acquire decreases with the control rights held.

Overall, although agency theory already predicts that a large controlling shareholder negatively affects a firm's acquisition propensity, previous research suggests that this effect may be more pronounced in family firms. Consistent with the findings of Bauguess and Stegemoller (2008), Miller et al. (2010) and Caprio et al. (2011), we therefore hypothesize that the propensity to acquire is negatively related to family control.

*H1a: Family controlled firms are less likely than non-family controlled firms to engage in acquisitions.*

Recent literature suggests that family firms' conservative management policies do not seem to be limited to their acquisition behavior. In fact, some of the above arguments also hold for family firms' divestitures. Specifically, families' objective to retain control and preserve the firm for succeeding generations (Casson, 1999; Anderson & Reeb, 2003a; Fiss & Zajac, 2004; Gómez-Mejía, et al., 2007) should make them less likely to undertake divestitures.

Sharma and Manikutty (2005) argue that family owners' strong emotional attachment to their firms may lead to an inertia towards divesting parts of their businesses, even when the business units in question incur losses. Feldman et al. (2013) add that family-owners, through their extensive use of control-enhancing devices, are often less affected by short-term pressures from other investors to divest temporarily underperforming businesses. This is consistent with the view that the agency conflict between large controlling owners and minority shareholders is particularly pronounced in family firms, whereas the principal-agent conflict between owners and managers may be eliminated since family shareholders are often actively involved in the top management of these firms (Villalonga & Amit, 2006). Families' active involvement in management, however, amplifies the risk of an agency conflict between family owners and other shareholders as entrenched family CEOs may pursue their own goals while avoiding potentially value-enhancing activities, such as divestitures (Feldman, et al., 2013).

Empirical evidence regarding family firms' divestiture behavior is ambiguous at best. Investigating a sample of listed U.S. companies, Feldman et al. (2013) find that, consistent with their predictions, family firms are less likely than non-family firms to undertake divestitures, especially when families are actively involved in the top management of their firms. On the contrary, using a sample of Australian listed firms, Nguyen et al. (2013) show that firms are more likely to divest when a family is involved as the largest or second largest shareholder. This finding suggests that family owners help to reduce decision makers' bias towards engaging in divestitures. This lower inclination of family firms to hold on to their businesses, however, is inconsistent with the argument that family owners may be emotionally attached to their firms (Sharma & Manikutty, 2005). Considering the mixed evidence, the effect of family ownership on divestiture behavior remains an empirical question.

Although firms are generally reluctant to engage in divestitures, we believe that family owners' may reinforce this effect due to their emotional attachment. In line with Feldman et al. (2013), family control should therefore negatively affect the propensity to divest.

*H1b: Family controlled firms are less likely than non-family controlled firms to engage in divestitures.*

Due to family owners' desire to retain control, they typically have the majority of their wealth invested in their firms and therefore hold poorly diversified portfolios (Anderson & Reeb, 2003a). According to Faccio et al. (2011), risk-averse investors, whose wealth is largely concentrated in the firm they own, will prefer to decrease firm-specific risk in order to achieve a higher utility. Fama and Jensen (1985) show that large undiversified shareholders may derive greater benefits from pursuing goals that reduce the variance of their portfolios than from maximizing shareholder value. Consistent with this theory, family firms may have an incentive to reduce their portfolio risk through engaging in diversifying acquisitions, even if those acquisitions do not meet the risk-return preferences of other shareholders (Miller, et al., 2010; Caprio, et al., 2011). According to the same line of reasoning, family firms may be incentivized to avoid divestitures of unrelated business units (Feldman, et al., 2013). As emphasized by Miller et al. (2010), other large shareholders are typically less exposed to these incentives since they tend to have shorter investment horizons and the ability to diversify their holdings outside the firm.

Previous empirical studies investigating the likelihood of family firms to pursue diversifying acquisitions reach inconsistent results. Bauguess and Stegemoller (2008) and Caprio et al. (2011) document that family firms are not more likely than non-family firms to pursue diversifying acquisitions. Miller et al. (2010), however, confirm their predictions and find that the propensity to engage in diversifying acquisitions increases with the level of family ownership. Focusing on the propensity of family firms to undertake divestitures, Feldman et al. (2013) show that family firms are less likely than non-family firms to divest their unrelated business.

Based upon the foregoing argument that family owners, typically being poorly diversified, are more affected by firm-specific risk (Faccio, et al., 2011) and consistent with the findings of Miller et al. (2010) and Feldman et al. (2013), we derive the following hypotheses:

*H2a: Family controlled firms are more likely than non-family controlled firms to engage in diversifying acquisitions.*

*H2b: Family controlled firms are less likely than non-family controlled firms to divest unrelated businesses.*

## 2.4 Performance Implications

Literature addressing the question whether family firms perform better than non-family firms is extensive. Anderson and Reeb (2003a) explain that if monitoring of management requires firm-specific knowledge, long-tenured family owners may provide superior oversight due to their ability to move further along the firm's learning curve. The authors find that listed U.S. family firms have a higher operating performance and firm value than non-family firms. They further document that founding family involvement in management positions is associated with improved accounting and market performance. Villalonga and Amit (2006) report that listed U.S. family firms create value only when the founder serves as the CEO or as a Chairman with a hired CEO, whereas descendant-CEOs destroy value. Studying a sample of listed Continental European firms, Barantoni and Caprio (2006) confirm the positive effects of family control and founder-CEOs on valuation and operating performance. However, the authors find that, inconsistent with the non-European results, performance of family firms with descendant-CEOs is not distinguishable from those of non-family firms. Maury (2006) finds that only those listed Western European firms with active family ownership, in which the family holds either a board or an executive management position, are associated with higher profitability. Sraer and Thesmar (2007) investigate a sample of listed French firms and find that family firms outperform widely held firms whether the firm is run by the founder, a descendent or a hired CEO.

Despite some inconsistent findings regarding the effects of families' active involvement in their firms, there seems to be a broad consensus that (founding) family control positively affects firm performance. Empirical evidence on the performance implications of acquisitions and divestitures for family firms, however, is less conclusive for acquisitions and more limited for divestitures.

In a study of listed Canadian firms, Ben-Amar and André (2006) find that acquisition announcement returns are higher for family firms than for non-family firms. Based on their findings, the authors conclude that investors do not view family firms as pursuing acquisitions in order to extract private benefits at the expense of minority shareholders. Contrary to these results, Bauguess and Stegemoller (2008) report that U.S. family firms destroy value when pursuing acquisitions. The authors' results are inconsistent with prior

studies documenting superior performance of family firms, but consistent with a potential agency conflict between family owners and minority shareholders. Caprio et al. (2011) do not obtain evidence that Continental European family firms destroy value when making acquisitions. The authors explain their results by arguing that the different legal and institutional setting in Europe may make family control more efficient than in the United States. In their recent empirical study of listed French firms, Bouzgarrou and Navette (2013) find that family controlled acquirers outperform non-family controlled acquirers both, in terms of short-term and long-term performance.

Generally, if investors perceive family firms to engage in non-value enhancing acquisitions in order to extract private benefits, market reactions to the announcement of these transactions should be negative (Ben-Amar & André, 2006). Conversely, if family owners are viewed as having strong incentives to monitor managers' investment decisions, particularly because their wealth is closely linked to the firm welfare (Anderson & Reeb, 2003a), market reactions to the announcement of acquisition decisions should be positive. We believe that the benefits of family owners' firm-specific knowledge and their economic incentives to maximize firm value more than outweigh the potential costs of minority expropriation. Consequently, in line with the results of Ben-Amar & André (2006) and Bouzgarrou and Navette (2013), we predict a positive relationship between family control and acquiring firm performance.

### *H3a: Family control positively affects acquiring firm performance.*

Voluntary divestitures are generally perceived as creating economic value for the divesting firm and thus market reactions to the announcements of these transactions are often positive (Hearth & Zaima, 1972; Alexander, et al., 1984; Jain, 1985; Hite, et al., 1987; Gleason, et al., 2000; Owen, et al., 2010). Sources of economic value for divesting firms may include an improved operating performance following focus-increasing divestitures (Comment & Jarrell, 1995; John & Ofek, 1995; Markides, 1995; Daley, et al., 1997; Hemang Desai & Jain, 1999), a correction of past mistakes, such as failed acquisitions (Kaplan & Weisbach, 1992; Shimizu & Hitt, 2005; Shimizu, 2007) and repayment of debt using the proceeds from asset sales (Lang, et al., 1995).

As pointed out before, family owners' strong emotional attachment to their firms may make them especially wary of divestitures (Sharma & Manikutty, 2005). Feldman et al. (2013) argue that family firms should only engage in divestitures when the expected economic benefits outweigh not only the normal costs incurred in these transactions, but also the family-specific socio-emotional costs. Consequently, divestitures conducted by family firms should be of better average quality. In line with their predictions, the authors document that divestitures undertaken by family firms are associated with higher firm value than divestitures undertaken by non-family firms. Based on these results we expect a positive relationship between family control and divesting firm performance.

*H3b: Family control positively affects divesting firm performance.*

### 3 Data, Variables and Methodologies

*This section begins with a description of the data collection process. We then define the ownership and control variables. Subsequently, we provide summary statistics and conclude this section by introducing the methodologies used in our empirical analyses.*

#### 3.1 Sample and Data Collection

The objective of this paper is to investigate how family control influences Swedish companies' acquisition and divestiture behavior during the period 2003-2012. We construct a sample of 242 firms representing all non-financial publicly traded Swedish companies in the beginning of 2003 with available ownership and financial data.<sup>2</sup> In line with the procedure suggested by Bauguess and Stegemoller (2008), the unbalanced panel of sample firms ends with those 144 companies that remain publicly traded at the end of 2012 resulting in 1,861 firm-year observations.

We pursue a data collection process with three distinct phases. In the first phase, we manually build up a data set with information on the direct voting and cash flow rights of all individual shareholders owning at least 5% of a company's votes for each of the 1,861 firm-year observations. We then trace the control chains of the largest direct shareholder

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<sup>2</sup> Of the 301 publicly listed companies in Sweden in the beginning of 2003 we exclude 36 financial companies. We further exclude 23 non-financial companies for which we do not obtain sufficient ownership and financial data.

according to the methodology developed by La Porta et al. (1999) and applied by Claessen et al. (2000), Faccio and Lang (2002) and Caprio et al. (2011) to determine the ultimate voting and cash flow rights.

Accordingly, we consider Firm A to be controlled through a pyramid structure if it has an ultimate owner who controls Firm A indirectly through a controlling stake in Firm B. If, for example, a family owns 40% of the voting and cash flow rights in Firm B, who in turn owns 30% of the voting and cash flow rights in Firm A, the family indirectly holds 30% of the voting and 12% ( $40\% \times 30\%$ ) of the cash flow rights in Firm A and is its largest ultimate shareholder. The methodology appropriately accounts for the fact that Sweden is the country with the second highest density of pyramid structures among the 27 wealthiest economies (La Porta, et al., 1999).

The nature of the data gathering is intensified as we expand the search for the identity of the ultimate owner by going one step further as proposed by Faccio and Lang (2002). Specifically, we proceed beyond the level of unlisted companies by also investigating the controlling shareholders in these entities. Thus, it is ensured that only those companies are classified as family firms, whose ultimate owner is indeed a family. The data set is subsequently expanded by analyzing the identities of a firm’s CEO, Chairman and founder, and recording the presence of family members on the management and board positions. Since there is no source with such detailed ownership data readily available for Sweden, we begin collecting ownership information from the annual publications by Fristedt and Sundqvist (2003-2007) for the first five years of the observation period and rely on the *SIS Ägarservice*<sup>3</sup> database for the years 2008 onwards. The search is supplemented with information disclosed in the annual reports and investor relations sections of the corporate websites.

In the second phase of the data collection process, we record the acquisition activity of the 242 sample firms using M&A data retrieved from *Zephyr*. We consider all completed domestic and cross-border transactions with announcement dates during the period 2003-2012 and transaction values of at least SEK 1 million, in which either the sample company itself or one of its subsidiaries acts as an acquirer. An additional requirement for the transaction to be considered an acquisition is that the bidder’s ownership stake in the target firm’s equity must

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<sup>3</sup> SIS Ägarservice is a database that specializes in the provision of ownership and board of directors data for listed Swedish companies on the NASDAQ stock exchange in Stockholm as well as on the Nordic Growth Market (NGM), Aktietorget and First North.

increase from less than 30% to at least 50%. In order to investigate the propensity to acquire we retain those firm-year observations, in which a company undertakes multiple acquisitions in one year. As a result, there remain 399 acquisition events.

In the third phase, we use *Thomson's SDC Platinum* to identify all divestitures carried out by the sample firms. Analogous to the aforementioned procedure for acquisitions, we limit the sample to those divestitures whose value is at least equal to SEK 1 million and in which the bidder's stake in the divested entity increases from less than 30% to at least 50%. For our sample firms we record 250 divestitures that meet the aforementioned criteria. The data set is finally complemented with financial statement data received from the *Swedish House of Finance* and daily stock prices downloaded from *Finbas*<sup>4</sup>.

### 3.2 Ownership Variables

*Family* control is the key ownership measure employed in this paper. Although the literature on family firms is wide-ranging, a consensually accepted definition has not yet been established. Anderson and Reeb (2003a) define family companies as those in which the founder or a member of the founder's family by either blood or marriage is a manager, director or blockholder, either individually or as a group. However, the authors refrain from imposing requirements regarding the amount of voting or cash flow rights held by the family. Villalonga and Amit (2006) investigate whether family firms are more or less valuable than their non-family counterparts and specifically address the issue of varying family firm definitions by distinguishing between three fundamental elements: Ownership, control, and management. They begin their study with an initially broad definition following Anderson and Reeb (2003a) and later introduce additional conditions, such as a minimum control level of at least 20% of the votes, being the company's largest shareholder, and holding a management position in the firm. Miller et al. (2007) account for varying definitions of the family firm by allowing for a number of variations with regard to minimum thresholds of voting and cash flow rights, the involvement of family members in the management, and the family generation.

This paper employs a definition based on control rights and considers a family firm as a company where a family, an individual or a group of founders represents the largest ultimate

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<sup>4</sup> Finbas is a database providing daily stock price data, fundamentals and information on corporate actions for companies from the Nordic Stock Exchanges, MTFs and OTC Market.

owner and holds at least 10% of the firm’s voting rights. The 10% cut-off rate is in line with the thresholds employed in previous studies by La Porta et al. (1999), Faccio and Lang (2002), Maury (2006), Dahya et al. (2008), and Caprio et al. (2011)<sup>5</sup> and assumes that the largest shareholder with at least 10% of voting rights has sufficient power to influence a company’s core decisions. We expect the results of our empirical analysis not to be highly sensitive to an increase of the threshold to 20% as suggested by Andres (2008) and Franks et al. (2010) since it would not substantially change the number of family firms in our sample. The impact of an alternative threshold will be addressed in the robustness section.

We further need to determine whether a company controlled by a group of founders should be considered as a family firm. In this study, we treat a group of non-related founders as a family since we believe that such a group shares most of the characteristics that distinguish family from non-family owners, namely a higher degree of emotional attachment and the desire to retain control (Caprio, et al., 2011). Moreover, the literature is not clear about whether a company controlled by an individual person should be considered as a family firm. In order to mitigate this concern, we only consider those individuals as a family, where we can find evidence that they act as a long-term oriented strategic investor.

Besides family control itself, this paper uses three additional variables of ownership. The amount of *voting rights* held by the company’s ultimate shareholder with a minimum threshold of at least 5% measures the absolute power of a company’s largest blockholder. The *separation wedge* calculated as the difference between the ultimate owner’s voting and cash flow rights represents the proportion of the absolute voting power which is decoupled from the economic interests (Caprio, et al., 2011). Additionally, we introduce the Herfindahl index proposed by Maury and Pajuste (2005) and examine the voting power of the ultimate owner relative to the distribution of votes among the remaining blockholders. The variable *Herfindahl* is calculated as the sum of squares of the differences between the first and second largest blockholders’, and the second and third largest blockholders’ voting stakes.<sup>6</sup>

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<sup>5</sup> La Porta et al. (1999) and Faccio and Lang (2002) additionally employ a 20% threshold.

<sup>6</sup>  $(Votes_{1st} - Votes_{2nd})^2 + (Votes_{2nd} - Votes_{3rd})^2$

### 3.3 Control Variables

This paper controls for different firm characteristics, which are known to affect the likelihood of engaging in acquisitions and divestitures as well as the stock market reaction to announcements of these transactions.

Firms with a high profitability (*ROA*), measured as EBITDA divided by total assets, typically generate higher cash flows which can be used to finance acquisitions (Caprio, et al., 2011). By contrast, poorly performing companies, which are identified by an indicator variable taking the value of one if the *net income* is negative, are more likely to divest businesses to generate cash (Feldman, et al., 2013).

Empirical literature suggests that *leverage*, calculated by dividing a firm’s book value of long-term debt by total assets, negatively affects the likelihood that a firm becomes a bidder. Jensen (1986) and Stulz (1988) explain that the governance role of debt decreases agency costs through a reduction in the free cash flows available for spending at the discretion of managers. Harford (1999) adds that a higher leverage level reduces a company’s capacity for additional debt and hence its ability to finance an acquisition. Lang et al. (1995) show that companies with a high leverage ratio are likely to divest parts of their business as alternative funding is either not available or too costly. Analogously, a firm’s *cash holding*, measured as cash and cash equivalents divided by total assets, is argued to have a positive relationship with the acquisition probability (Jensen, 1986), while negatively affecting the likelihood of divesting (Feldman, et al., 2013). Cash-rich bidders, furthermore, experience adverse wealth effects on the announcement of acquisitions. While Lang et al. (1991), and Harford (1999) attribute such a negative effect to the agency costs of free cash flows, Gao (2011) highlights the adverse selection effect of cash in acquisitions that are financed by the issuance of new stock.

According to Faccio and Masulis (2005), *tangible assets* have a strong and positive influence on a company’s debt capacity and leave it with additional sources for funding acquisitions. We test this hypothesis by controlling for the portion of total assets that is attributable to tangible assets. Since larger firms are expected to undertake both more acquisitions and divestitures, we also include *size*, measured as a firm’s market value of equity. Furthermore, Moeller et al. (2004) show that the acquirer’s size is negatively related to the announcement returns of the bidder as larger firms tend to pay higher premia and engage in acquisitions that are on average value destroying.

*Tobin's Q* ( $Q$ ), expressed as the sum of the market value of equity and the book value of liabilities divided by total assets, is a measure of future growth opportunities. Lang (1991) and Servaes (1991) empirically investigate differences in the behavior and performance of high- $Q$  and low- $Q$  firms. They show that firms with a high- $Q$  have a positive relationship with acquisition propensity and acquisition performance. To account for this effect, we include a dummy variable that takes on the value of one if a firm's Tobin's  $Q$  is above the sample median.

Firm *age* is approximated by the number of years elapsed since a company's initial entry into the commercial register and serves as a control variable in the divestiture analysis. Older firms are expected to have a greater need for a fundamental realignment of their businesses which is associated with a higher propensity to divest (Feldman, et al., 2013). *Diversification* is defined as the number of different business segments a company operates in.<sup>7</sup> Companies with multiple business segments typically employ divestitures more frequently to increase their focus (Hemang Desai & Jain, 1999).

For the purpose of analyzing the stock market reactions to acquisition and divestiture announcements, this study controls for three additional variables: Firstly, acquirers of *public targets* tend to underperform acquirers of private targets as the latter can be taken over with a liquidity discount (Officer, 2007). Secondly, *relative acquisition size*, calculated as the total acquisition value in year  $t$  divided by the bidder's market capitalization in year  $t-1$ , is generally negatively related to the bidder's announcement return (Moeller, et al., 2004). *Relative divestiture size*, measured as the total divestiture value in year  $t$  divided by the seller's market capitalization in year  $t-1$ , however, is expected to positively affect stock market performance since it is associated with a higher willingness to restructure.

### 3.4 Descriptive Statistics

Table 1 provides an overview of the ownership structures of the 242 sample firms. It shows the voting and cash flow rights held by the ultimate owner and second largest shareholder. Applying the family firm definition with a 10% threshold of voting rights divides our full sample into 1,198 (64.4%) family and 663 (35.6%) non-family firm-year observations.

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<sup>7</sup> Business segments are defined on the basis of different 2-digit SIC codes.

**Table 1 Ownership statistics**

This table reports ownership statistics of the 242 sample firms. The *Ultimate owner* is the shareholder that controls a company via the control chain. A firm is defined as a *Family* firm if a family, an individual or a group of founders represents the largest ultimate owner and holds at least 10% of the company's voting rights. *Separation wedge* is the difference between the ultimate owner's voting and cash flow rights. *Pyramid structure* shows the percentage of firms controlled through a chain of ownership relations. *Dual class shares* documents the percentage of firms with more than one class of shares. *Herfindahl* is calculated as the sum of squares of the differences in voting stakes between the first and second largest blockholder, and the second and third largest blockholder. Ownership statistics are expressed in percentages. The number of firm-year observations is reported in parentheses. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively, for the tests of difference in means and medians (Mood's median test) between family and non-family firms. Heteroscedasticity-consistent (Huber-White) t-statistics and chi-square statistics are reported.

|                        |        | Ultimate owner |                  |                  |                   | 2 <sup>nd</sup> largest shareholder |                  | Herfindahl | Dual class shares |
|------------------------|--------|----------------|------------------|------------------|-------------------|-------------------------------------|------------------|------------|-------------------|
|                        |        | Voting rights  | Cash flow rights | Separation wedge | Pyramid structure | Voting rights                       | Cash flow rights |            |                   |
| Full sample<br>(1,861) | Mean   | 33.567         | 22.637           | 10.930           | 14.347            | 9.336                               | 8.223            | 12.135     | 55.078            |
|                        | Median | 29.100         | 19.600           | 4.100            |                   | 8.100                               | 7.200            | 4.244      |                   |
| Family<br>(1,198)      | Mean   | 40.252***      | 24.978***        | 15.275***        | 21.119***         | 9.645**                             | 8.722***         | 16.107***  | 69.199***         |
|                        | Median | 36.500***      | 22.650***        | 13.745***        |                   | 8.500*                              | 7.600***         | 8.585***   |                   |
| Non-family<br>(663)    | Mean   | 21.486         | 18.408           | 3.078            | 14.347            | 8.777                               | 7.321            | 4.957      | 29.563            |
|                        | Median | 17.500         | 13.700           | 0.000            |                   | 7.700                               | 6.600            | 0.902      |                   |
| T-stat                 |        | 21.205         | 8.929            | 23.877           | 14.560            | 2.356                               | 4.081            | 15.318     | 17.860            |
| $\chi^2$               |        | 253.495        | 110.693          | 370.206          |                   | 3.343                               | 9.189            | 287.134    |                   |

The data confirms the high ownership concentration in Swedish listed companies that was previously documented by La Porta et al. (1999), and Barontini and Caprio (2006). Of our 1,861 firm-year observations, 1,668 or 89.6% show a largest shareholder that holds at least 10% of the company’s voting rights. Furthermore, approximately one out of four companies is controlled by a shareholder who holds more than 50% of the votes. Families on average own a larger stake in their companies compared to the largest shareholders in non-family firms (40.3% vs. 21.5%). This difference is significant at the 1% level. Shareholders of Swedish listed family firms take advantage of control-enhancing devices to retain voting power while giving up some economic interest as indicated by a significantly higher separation wedge (15.3% vs. 3.1%). This wedge is achieved through a greater use of pyramid structures on the side of the ultimate shareholder (21.1% vs. 14.3%) and a greater use of dual class shares on the side of the company (69.2% vs. 29.6%). Overall, more than every second firm deviates from the ‘one share-one vote’ principle (55.1%).

The ownership statistics further suggest that family shareholders can exercise a greater power over the remaining blockholders in their firms, which is captured by the Herfindahl differences (16.1% vs. 5.0%).<sup>8</sup> This difference cannot only be explained by the on average significantly higher voting rights of family shareholders, but also by the significantly less powerful second largest shareholder in non-family firms (9.6% vs. 8.8%).

The financial statistics in Table 2 indicate that family firms are significantly more profitable than their non-family counterparts with a mean ROA level of 8.2% and 2.4%, respectively. While both sub-groups seem to have similar leverage levels, family firms hold smaller cash holdings measured as a fraction of total assets (13.8% vs. 16.1%). We find that family firms have a higher level of tangible assets (23.2% vs. 18.0%) but are, on average, significantly smaller in terms of total assets (SEK 7,424 million vs. SEK 13,575 million). The latter is confirmed when comparing the market values of equity of the two sub-groups. The mean size of family firms equals SEK 7,267 million, while non-family firms have an average market value of SEK 11,934 million. This difference is in line with previous studies conducted by Villalonga and Amit (2006) and Bach (2010). Our sample provides no evidence that family firms have different growth opportunities, measured by the value of Tobin’s Q.

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<sup>8</sup> The Herfindahl differences measure assumes values between 0% and 100%.

**Table 2 Financial statistics**

This table reports financial statistics of the 242 sample firms. A firm is defined as a *Family* firm if a family, an individual or a group of founders represents the largest ultimate owner and holds at least 10% of the company's voting rights. *Sales growth* is the nominal growth rate in total sales. *ROA* is calculated as EBITDA divided by total assets. *Capex* is measured as fixed assets in year  $t$  minus fixed assets in year  $t-1$  plus depreciation divided by total assets. *Leverage* is the ratio of long-term debt to total assets. *Cash holding* is cash and cash equivalents divided by total assets. *Tangible assets* is expressed as a share of total assets. *Total assets* is the value of total assets in millions of SEK. *Tobin's Q* is the sum of the market value of equity and the book value of liabilities divided by total assets. *Size* is the market value of equity in millions of SEK. The number of firm-year observations is reported in parentheses. All variables are winsorized at the 1% and 99% level. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively, for the tests of difference in means and medians (Mood's median test) between family and non-family firms. Heteroscedasticity-consistent (Huber-White) t-statistics and chi-square statistics are reported.

| Variable        | Full sample (1,861) |        | Family (1,198) |           | Non-family (663) |         | T-stat | $\chi^2$ |
|-----------------|---------------------|--------|----------------|-----------|------------------|---------|--------|----------|
|                 | Mean                | Median | Mean           | Median    | Mean             | Median  |        |          |
| Sales growth    | 0.112               | 0.058  | 0.103          | 0.061     | 0.129            | 0.055   | -1.589 | 0.878    |
| ROA             | 0.061               | 0.097  | 0.082***       | 0.106***  | 0.024            | 0.081   | 6.878  | 33.378   |
| Capex           | 0.075               | 0.054  | 0.076          | 0.057**   | 0.072            | 0.050   | 0.782  | 4.007    |
| Leverage        | 0.156               | 0.103  | 0.158          | 0.105     | 0.154            | 0.101   | 0.509  | 0.205    |
| Cash holding    | 0.146               | 0.082  | 0.138***       | 0.077***  | 0.161            | 0.094   | -2.756 | 8.058    |
| Tangible assets | 0.213               | 0.112  | 0.232***       | 0.133***  | 0.180            | 0.070   | 4.426  | 25.029   |
| Total assets    | 9,615               | 1,067  | 7,424.174***   | 1,097.950 | 13,574.761       | 917.265 | -5.304 | 1.069    |
| Tobin's Q       | 1.779               | 1.382  | 1.800          | 1.385     | 1.741            | 1.381   | 1.111  | 0.004    |
| Size            | 8,930               | 969    | 7,266.885***   | 1,046.726 | 11,934.186       | 819.307 | -4.004 | 2.304    |

The statistics in Table 3 suggest that family and non-family firms in Sweden have a similar appetite for acquisitions. In fact, family firms account for 284 or 71.2% of the 399 acquisitions observed among the 242 sample companies over the ten-year period. We find that the average annual frequency of undertaking an acquisition by non-family firms is 14.6% and that by family firms is 16.3%.<sup>9</sup> Although this difference in frequencies is not statistically significant, the acquisition behavior of our sample companies differs substantially from that observed in similar studies, where family firms show a more passive attitude towards acquisitions (Caprio, et al., 2011; Shim & Okamuro, 2011). The mean acquisition size of non-family firms (SEK 1,215 million) is larger than that of family-firms (SEK 713 million) and the difference is significant at the 10% level. However, when considering the median acquisition values, family firms do not seem to acquire smaller target companies in general. Finally, family firms show a stronger appetite for diversifying deals than non-family firms. While the average annual probability of observing a diversifying deal by a non-family firm is 5.0%, family firms have a significantly higher probability of 7.5%.

Table 4 presents statistics of divestitures undertaken by the sample firms. Overall, companies show an aversion towards divesting parts of their businesses. The 250 divestitures account for only 62.7% of the number of acquisitions observed during the same period. Consistent with this portrayal, the total value of acquisitions (SEK 342,275 million) exceeds that of divestitures (SEK 303,711 million). The aversion to divest is particularly pronounced in family firms, where the annual frequency of undertaking a divestiture is only 7.2%, more than 5 percentage points lower than that of non-family firms. The difference is statistically significant at the 5% level. For family firms, we further document a significantly lower median divestiture value than for non-family firms (SEK 148 million vs. SEK 365 million).

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<sup>9</sup> The calculation of the annual frequency to acquire (divest) is based on a dummy variable that takes on the value of one if a firm undertakes at least one acquisition (divestiture) in a given year. Please refer to Subsection 3.5 for further information.

**Table 3 Acquisition statistics**

This table reports statistics of 399 acquisitions undertaken by the 242 sample firms. A firm is defined as a *Family* firm if a family, an individual or a group of founders represents the largest ultimate owner and holds at least 10% of the company's voting rights. *Acquisition size* is the deal value in millions of SEK. *Relative size* is the deal value in year  $t$  divided by the acquirer's market value of equity in year  $t-1$ . An acquisition is defined as a *Diversifying deal* if a company acquires a target outside its core industry denoted by the primary 2-digit SIC code. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively, for the tests of difference in means and medians (Mood's median test) between family and non-family firms. Heteroscedasticity-consistent (Huber-White) t-statistics and chi-square statistics are reported.

| Year              | N. of acquisitions | Acquisition size |         | Relative size |        | N. of sample firms | Acquiring sample firms |        | N. of diversifying deals | N. of deals by family firms |
|-------------------|--------------------|------------------|---------|---------------|--------|--------------------|------------------------|--------|--------------------------|-----------------------------|
|                   |                    | Mean             | Median  | Mean          | Median |                    | N. obs.                | %      |                          |                             |
| 2003              | 38                 | 739.476          | 126.272 | 51.387        | 10.549 | 242                | 32                     | 13.223 | 8                        | 22                          |
| 2004              | 25                 | 1,231.457        | 181.147 | 17.410        | 3.232  | 232                | 21                     | 9.052  | 7                        | 16                          |
| 2005              | 59                 | 1,012.584        | 118.000 | 24.684        | 9.671  | 220                | 47                     | 21.364 | 25                       | 38                          |
| 2006              | 54                 | 840.626          | 113.150 | 12.138        | 2.564  | 205                | 39                     | 19.024 | 26                       | 34                          |
| 2007              | 43                 | 839.985          | 119.463 | 21.276        | 1.989  | 194                | 35                     | 18.041 | 14                       | 30                          |
| 2008              | 35                 | 682.893          | 62.000  | 12.770        | 1.435  | 181                | 25                     | 13.812 | 13                       | 30                          |
| 2009              | 19                 | 663.119          | 87.268  | 16.285        | 1.721  | 170                | 14                     | 8.235  | 9                        | 12                          |
| 2010              | 46                 | 694.077          | 123.789 | 12.174        | 1.722  | 160                | 27                     | 16.875 | 17                       | 36                          |
| 2011              | 49                 | 1,085.373        | 123.822 | 6.615         | 2.766  | 151                | 28                     | 18.543 | 14                       | 39                          |
| 2012              | 31                 | 661.994          | 79.056  | 15.292        | 4.541  | 144                | 21                     | 14.583 | 11                       | 27                          |
| Full sample       | 399                | 857.833          | 118.000 | 18.870        | 3.655  | 242                | 133                    | 54.959 | 144                      |                             |
| Family            | 284                | 713.059*         | 101.500 | 16.539        | 2.974  | 151                | 86                     | 56.954 | 104                      |                             |
| Non-family        | 115                | 1,215.362        | 135.000 | 24.628        | 4.650  | 91                 | 47                     | 51.648 | 40                       |                             |
| T-stat / $\chi^2$ |                    | -1.808           | 1.974   | -1.177        | 2.644  |                    |                        |        |                          |                             |

**Table 4 Divestiture statistics**

This table reports statistics of 250 divestitures undertaken by the 242 sample firms. A firm is defined as a *Family* firm if a family, an individual or a group of founders represents the largest ultimate owner and holds at least 10% of the company's voting rights. *Divestiture size* is the deal value in millions of SEK. *Relative size* is the deal value in year  $t$  divided by the seller's market value of equity in year  $t-1$ . A divestiture is defined as *unrelated* if a company sells a business unit outside its core industry denoted by the primary 2-digit SIC code. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively, for the tests of difference in means and medians (Mood's median) between family and non-family firms. Heteroscedasticity-consistent (Huber-White) t-statistics and chi-square statistics are reported.

| Year              | N. of<br>divestitures | Divestiture size |            | Relative size |         | N. of<br>sample firms | Divesting sample firms |        | N. of<br>unrelated<br>divestitures | N. of deals<br>by family<br>firms |
|-------------------|-----------------------|------------------|------------|---------------|---------|-----------------------|------------------------|--------|------------------------------------|-----------------------------------|
|                   |                       | Mean             | Median     | Mean          | Median  |                       | N. obs.                | %      |                                    |                                   |
| 2003              | 27                    | 831.290          | 199.936    | 15.619        | 4.767   | 242                   | 15                     | 6.198  | 8                                  | 11                                |
| 2004              | 24                    | 1,705.678        | 258.485    | 12.693        | 4.071   | 232                   | 16                     | 6.897  | 11                                 | 12                                |
| 2005              | 30                    | 1,072.806        | 143.500    | 6.686         | 2.288   | 220                   | 19                     | 8.636  | 10                                 | 12                                |
| 2006              | 22                    | 3,267.725        | 1,319.920  | 17.008        | 8.350   | 205                   | 13                     | 6.341  | 10                                 | 11                                |
| 2007              | 20                    | 654.188          | 498.345    | 6.209         | 3.662   | 194                   | 15                     | 7.732  | 11                                 | 7                                 |
| 2008              | 18                    | 665.278          | 367.500    | 6.028         | 1.253   | 181                   | 17                     | 9.392  | 7                                  | 6                                 |
| 2009              | 13                    | 880.919          | 460.000    | 17.792        | 3.867   | 170                   | 9                      | 5.294  | 8                                  | 5                                 |
| 2010              | 34                    | 989.029          | 155.000    | 8.834         | 1.930   | 160                   | 23                     | 14.375 | 20                                 | 18                                |
| 2011              | 31                    | 1,107.331        | 243.586    | 8.369         | 2.004   | 151                   | 19                     | 12.583 | 11                                 | 18                                |
| 2012              | 31                    | 1,025.564        | 210.687    | 9.101         | 1.722   | 144                   | 19                     | 13.194 | 17                                 | 17                                |
| Full sample       | 250                   | 1,214.851        | 257.478    | 10.428        | 2.681   | 242                   | 76                     | 31.405 | 113                                |                                   |
| Family            | 117                   | 1,378.305        | 148.500*** | 13.630**      | 4.106** | 151                   | 46                     | 30.464 | 47                                 |                                   |
| Non-family        | 133                   | 1,071.060        | 365.000    | 7.611         | 1.896   | 91                    | 30                     | 32.967 | 66                                 |                                   |
| T-stat / $\chi^2$ |                       | 0.744            | 8.499      | 2.520         | 4.643   |                       |                        |        |                                    |                                   |

### 3.5 Methodologies

In the first part of the empirical analysis, we apply a probit regression to our unbalanced panel data in order to assess a firm's likelihood of engaging in acquisitions and divestitures in a given year. This binary response model describes the response probability  $Pr(y_i = 1|x_i)$  of the dependent dummy variable  $y_i$ :

$$Pr(y_i = 1|x_i) = F(x_i'\beta) \quad (1)$$

where  $x_i'$  is a  $(K+1)$ -dimensional vector of independent variables including a constant, and  $\beta$  a  $(K+1)$ -dimensional vector of parameters. The probit model assumes that the transformation function  $F$  is the cumulative distribution function of the standard normal distribution:

$$F(x_i'\beta) = \Phi(x_i'\beta) \quad (2)$$

Accordingly, we can estimate a firm's probability of undertaking a transaction (acquisition or divestiture) as follows:

$$Pr(Transaction) = \Phi(\alpha + \beta_1 Family + \beta_2 Voting\ rights + \beta_3 Separation\ wedge + \beta_4 Herfindahl + \beta_5 Control\ variables) \quad (3)$$

The major advantage of the probit model over a linear probability model is that probabilities are limited to values between 0 and 1. However, coefficients can only be interpreted with respect to their sign as the independent variables may have different scales and, hence, hinder a comparison of the magnitudes. We employ a marginal effect analysis at the means to enable the interpretation of the regression results. The marginal effects express by how much the probability of the outcome variable changes with a one unit change of the independent variable  $x_i$  while holding all other independent variables constant. In the case of a change in a binary independent variable, the marginal effect indicates the difference in the predicted probabilities of  $x_i = 1$  and  $x_i = 0$ . We finally include double-clustered standard

errors as suggested by Petersen (2009) and Thompson (2011) to account for unobserved firm and time effects.<sup>10</sup>

The second part of the empirical analysis employs a standard market model to measure the performance implications of the two types of transactions (Brown & Warner, 1985). We examine the abnormal returns around the transaction announcement, while using the daily returns of the OMXS index as the corresponding market portfolio. The market model can be algebraically expressed as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it} \quad (4)$$

where  $R_{it}$  is the logarithmic return of stock  $i$  on trading day  $t$ ,  $R_{mt}$  the logarithmic return of the market index on trading day  $t$ , and  $\alpha_i$  and  $\beta_i$  the intercept and slope of the market model regression. Literature does not provide a uniform agreement on the appropriate length of the estimation window that is employed to calculate the normal returns. Following the suggestions of Broan and Warners (1985) and MacKinlay (1997), we use an estimation window starting 250 trading days prior to the event date and ending one day prior to the beginning of the event window.<sup>11</sup> Based on the efficient market hypothesis and its assumption that asset prices immediately reflect all available information, we focus on a three-day event window  $[+1; -1]$  to calculate the cumulative abnormal return around the announcement date as:

$$CAR_i = \sum_{-1}^{+1} AR_{it} \quad (5)$$

where  $AR_{it}$  is the abnormal return of stock  $i$  on trading day  $t$ , calculated as:

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (6)$$

We add a second event window of 11 days length  $[+5; -5]$  to account for potential run-up effects when relevant information becomes available before the effective announcement date.

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<sup>10</sup> The double-clustered standard error approach allows us to fully exploit all the firm-year observations. By contrast, the inclusion of a firm-fixed effect results in a loss of about half of the observations. The fixed-effect regression perfectly predicts the outcome for firms with zero within-group variance in the dependent variable.

<sup>11</sup> The estimation window comprises a total of 240 trading days  $[-250; -11]$  since the longest event window begins 10 days before the announcement date.

Multiple acquisitions and divestitures undertaken by the same firm within a 10-day rolling period have been excluded from this analysis.

## 4 Empirical Results

*In this section, we analyze and discuss our empirical findings in order to assess the hypotheses. We report the results of the probit regressions used to investigate a firm's acquisition (Hypotheses 1a and 2a) and divestiture propensity (Hypotheses 1b and 2b) in Subsections 4.1 and 4.2, respectively. In Subsections 4.3 and 4.4, we then present the results of the event studies and analyze the abnormal returns around the announcements of acquisitions (Hypotheses 3a) and divestitures (Hypotheses 3b).*

### 4.1 Propensity to Acquire

The first part of the empirical analysis studies the relationship between family control and the propensity to acquire. *Hypothesis 1a* predicts that family controlled firms are less likely than non-family controlled firms to engage in acquisitions. The models reported in Table 5 test this hypothesis by using two different measures of acquisition activity as the dependent variable. The probit regressions in columns 1-3 include a binary variable taking on the value of one if a firm engages in at least one acquisition in year  $t$ , and zero otherwise. The tobit models in columns 4-6 regress a firm's accumulated acquisition value in year  $t$  scaled by its market value of equity in year  $t-1$  on a set of independent variables. We further report the marginal effects of regression 1 in column 7. Ownership and financial data are lagged by one year.

The coefficients in both baseline regressions in columns 1 and 4 indicate a positive but insignificant relationship between the *Family* dummy and acquisition activity. Contrary to our prediction, we do not find evidence that family firms make fewer acquisitions than non-family firms.

A large ultimate owner, however, is associated with a lower propensity to acquire. The variable *Voting rights* is negative and significant across all specifications supporting the argument that concentrated ownership leads to improved monitoring. Large shareholders seem to prevent management from pursuing potentially opportunistic acquisitions. We do not

find a significant relationship between the variable *Separation wedge* and the acquisition probability. This indicates that the use of control enhancing devices does not motivate controlling shareholders to undertake more acquisitions while passing on a large portion of the acquisition costs to minority shareholders. We further document a positive and significant relationship between the variable *Herfindahl* and the acquisition propensity. The marginal effect indicates that a firm with an uncontested blockholder has a 9.2% higher probability of engaging in an acquisition than a company with a contested blockholder. This is consistent with the view that uncontested shareholders may extract private benefits by encouraging managers to pursue more acquisitions.

Literature on the family firm argues that families have a desire to retain control over the company and therefore potentially avoid acquisitions as these might cause a dilution of their voting power (Bauguess & Stegemoller, 2008; Caprio, et al., 2011). If this is indeed the case, we expect that the acquisition activity of a family firm should inversely depend on the amount of voting rights held by the family. Families with low levels of voting rights will be exposed to a relatively larger risk of losing control after an acquisition as the dilution of the voting power has a particularly severe impact in their case. We introduce three dummy variables to examine the effect of different levels of family control on the propensity to acquire: *Family 10%<30%* takes on the value of one if a family is the largest ultimate owner and holds between 10% and 30% of the voting rights, and zero otherwise; *Family 30%<50%* denotes firm-year observations in which a family is the largest ultimate owner and holds between 30% and 50% of the voting rights; *Family >50%* takes on the value of one if a family is the largest ultimate owner and holds more than 50% of the voting rights, and zero otherwise. The results in columns 2 and 5 confirm the finding from the baseline regressions 1 and 4 in that we do not document a general aversion of family firms towards engaging in acquisitions in our sample of Swedish listed companies. All of the three dummy variables show a positive and insignificant relationship with the acquisition probability.

**Table 5 Propensity to acquire**

Columns 1-3 report the results of binary probit regressions in which the dependent variable *Acquisition* takes on the value of one if a firm makes at least one acquisition in year  $t$ , and zero otherwise. Columns 4-6 show the results of tobit regressions in which the dependent variable *Relative acquisition value* represents a firm's total acquisition value in year  $t$  divided by its market value of equity in year  $t-1$ . Column 7 reports the marginal effect of a one unit increase from the mean value (or change from zero to one) of the independent variable using model 1. *Herfindahl* is a dummy variable taking on the value of one if a firm's Herfindahl differences measure is above the sample median, and zero otherwise. For a detailed description of the independent variables, please refer to Appendix, Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

| Variable              | Acquisition          |                      |                      | Rel. acquisition value |                      |                      | Mar. effect |
|-----------------------|----------------------|----------------------|----------------------|------------------------|----------------------|----------------------|-------------|
|                       | (1)                  | (2)                  | (3)                  | (4)                    | (5)                  | (6)                  | (7)         |
| Family                | 0.110<br>[0.098]     |                      |                      | 0.023<br>[0.041]       |                      |                      | 2.390%      |
| Family 10%<30%        |                      | 0.076<br>[0.113]     |                      |                        | 0.012<br>[0.046]     |                      |             |
| Family 30%<50%        |                      | 0.203<br>[0.150]     |                      |                        | 0.053<br>[0.052]     |                      |             |
| Family >50%           |                      | 0.110<br>[0.284]     |                      |                        | 0.044<br>[0.086]     |                      |             |
| Founder CEO/Ch.       |                      |                      | 0.142<br>[0.125]     |                        |                      | 0.006<br>[0.045]     |             |
| Family CEO/Ch.        |                      |                      | 0.022<br>[0.123]     |                        |                      | 0.024<br>[0.036]     |             |
| Voting rights         | -1.193***<br>[0.315] | -1.138***<br>[0.384] | -1.234***<br>[0.334] | -0.321**<br>[0.147]    | -0.334*<br>[0.179]   | -0.322**<br>[0.154]  | -0.259%     |
| Separation wedge      | 0.589<br>[0.485]     | 0.571<br>[0.502]     | 0.664<br>[0.476]     | 0.134<br>[0.165]       | 0.113<br>[0.175]     | 0.147<br>[0.153]     | 0.128%      |
| Herfindahl            | 0.425***<br>[0.149]  | 0.367***<br>[0.132]  | 0.436***<br>[0.152]  | 0.112**<br>[0.049]     | 0.097*<br>[0.051]    | 0.115**<br>[0.048]   | 9.224%      |
| ROA                   | -0.131<br>[0.386]    | -0.147<br>[0.369]    | -0.111<br>[0.385]    | -0.087<br>[0.126]      | -0.093<br>[0.126]    | -0.078<br>[0.127]    | -0.028%     |
| Leverage              | -0.127<br>[0.381]    | -0.118<br>[0.378]    | -0.150<br>[0.393]    | -0.037<br>[0.121]      | -0.035<br>[0.121]    | -0.035<br>[0.122]    | -0.028%     |
| Cash holding          | -0.910**<br>[0.423]  | -0.900**<br>[0.412]  | -0.966**<br>[0.454]  | -0.382**<br>[0.163]    | -0.382**<br>[0.164]  | -0.382**<br>[0.163]  | -0.197%     |
| Tangible assets       | -0.334<br>[0.236]    | -0.323<br>[0.228]    | -0.315<br>[0.230]    | -0.087<br>[0.122]      | -0.086<br>[0.122]    | -0.090<br>[0.121]    | -0.072%     |
| Ln(Size)              | 0.168***<br>[0.030]  | 0.169***<br>[0.029]  | 0.166***<br>[0.029]  | 0.042***<br>[0.010]    | 0.043***<br>[0.010]  | 0.042***<br>[0.009]  | 3.637%      |
| Tobin's Q             | -0.060<br>[0.050]    | -0.061<br>[0.050]    | -0.056<br>[0.051]    | -0.021<br>[0.020]      | -0.021<br>[0.021]    | -0.020<br>[0.020]    | -0.013%     |
| Constant              | -1.594***<br>[0.279] | -1.589***<br>[0.260] | -1.528***<br>[0.288] | -0.572***<br>[0.134]   | -0.565***<br>[0.131] | -0.563***<br>[0.132] |             |
| N. obs.               | 1,838                | 1,838                | 1,838                | 1,838                  | 1,838                | 1,838                |             |
| Pseudo R <sup>2</sup> | 0.097                | 0.098                | 0.097                | 0.096                  | 0.097                | 0.096                |             |
| Industry dummy        | Yes                  | Yes                  | Yes                  | Yes                    | Yes                  | Yes                  |             |

Furthermore, the literature documents that the presence of family members on managerial positions affects firm performance (Villalonga & Amit, 2006; Pérez-González, 2006). To account for a potential effect of the manager's identity on a family firm's acquisition propensity, regressions 3 and 6 consider two binary variables: The first one (*Founder CEO/Chairman*) takes on the value of one if a company is a family firm and if the founder (or one of the founders) serves as the CEO or Chairman of the company in a given year, and zero otherwise; analogously, the second variable *Family CEO/Chairman* denotes firm-year observations in which a family member other than the founder is the CEO or Chairman of a family firm. The results in columns 3 and 6 suggest that neither the presence of the founder nor that of other family members on top positions in the company has a significant impact on a firm's likelihood of engaging in acquisitions. Hence, we do not find evidence that family managers differ from the stereotype empire building CEO in that they exert a stricter monitoring role with respect to acquisition decisions.

Finally, among the control variables, *Size* has the predicted positive and significant effect on acquisition propensity. Against our expectations, however, the variable *Cash holding* shows a negative and significant relation with takeover frequency. One possible explanation could be that cash rich firms have a preference for internal growth.

This first analysis does not provide evidence for a lower propensity to acquire for family firms. The question arises whether families in fact value control more than other corporate shareholders and, hence, are especially wary of acquisitions that may cause a dilution of their voting power. To answer this question and observe the direct impact of dilution, we continue with an analysis of equity-financed acquisitions. Table 6 reports the results of probit regressions in which the dependent variable takes on the value of one if at least 50% of a deal value is financed with equity, and zero otherwise.

Family firms show a distinct aversion towards acquisitions financed with equity, which is expressed by the negative coefficient of the dummy variable in specification 1. According to the marginal effect, the probability that a family firm undertakes an equity deal is around 1.2% lower than that of non-family firms. Furthermore, the results in column 2 show that family firms' reluctance towards equity-financed acquisitions is particularly strong when a family's voting stake in the company is relatively low. Both the *Family 10%<30%* and the

*Family 30%<50%* dummy are negative and significant. We conclude that families distinguish between the consequences of direct dilution following a payment with stock and indirect dilution associated with a higher likelihood of future stock issues in the case of a cash payment. While the direct costs prove to be remarkably high, the costs of an indirect dilution seem to be outweighed by the potential benefits of acquisitions, such as a low purchase price, accelerated growth or higher profitability.

In summary, *Hypothesis 1a* cannot be supported. Although family firms are particularly wary of acquisitions that cause a severe dilution of their voting stakes, they are not more reluctant to engage in acquisitions in general. The results therefore provide support for the argument that families value control more than other corporate shareholders. However, we cannot find evidence confirming that the monitoring effect of family ownership differs from that of other large controlling shareholders in the context of acquisitions.

Furthermore, *Hypothesis 2a* predicts that undiversified holdings of family owners induce them to have a more positive attitude towards acquisitions in areas outside their firms' core industry. The next step of the analysis therefore examines whether family controlled firms have a higher propensity to undertake diversifying acquisitions. Table 7 presents the results of probit regressions testing this hypothesis. The dependent variable *Diversifying deal* takes on the value of one if a firm acquires at least one target company outside its core industry (denoted by the primary 2-digit SIC code) in a given year, and zero otherwise.

In column 1 of Table 7, the coefficient of *Family firm* is positive and significant at the 10% level. The unreported marginal effect of this variable indicates that family control increases the likelihood of acquiring a target company outside a firm's core business by 2.1%. The result provides support for *Hypothesis 2a* and suggests that family owners, typically holding poorly diversified portfolios, have an incentive to reduce firm-specific risk through engaging in diversifying acquisitions.

**Table 6 Equity-financed acquisitions**

This table reports the results of binary probit regressions in which the dependent variable *Equity deal* takes on the value of one if at least 50% of a firm's acquisition value is financed with equity, and zero otherwise. Column 4 reports the marginal effect of a one unit increase from the mean value (or change from zero to one) of the independent variable using model 1. For a detailed description of the independent variables, please refer to Appendix, Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

| Variable              | Equity deal          |                      |                      | Mar. effect |
|-----------------------|----------------------|----------------------|----------------------|-------------|
|                       | (1)                  | (2)                  | (3)                  | (4)         |
| Family                | -0.319**<br>[0.145]  |                      |                      | -1.186%     |
| Family 10%<30%        |                      | -0.321*<br>[0.169]   |                      |             |
| Family 30%<50%        |                      | -0.333**<br>[0.157]  |                      |             |
| Family >50%           |                      | -0.092<br>[0.279]    |                      |             |
| Founder CEO/Ch.       |                      |                      | 0.064<br>[0.191]     |             |
| Family CEO/Ch.        |                      |                      | 0.076<br>[0.263]     |             |
| Voting rights         | -0.549<br>[0.550]    | -0.828<br>[0.733]    | -0.761<br>[0.602]    | -0.020%     |
| Separation wedge      | 0.139<br>[0.690]     | -0.066<br>[0.743]    | -0.249<br>[0.657]    | 0.005%      |
| Herfindahl            | -0.037<br>[0.220]    | 0.003<br>[0.251]     | -0.054<br>[0.224]    | -0.139%     |
| ROA                   | -0.876*<br>[0.458]   | -0.889*<br>[0.456]   | -1.031**<br>[0.472]  | -0.033%     |
| Leverage              | -1.255***<br>[0.447] | -1.243***<br>[0.443] | -1.260***<br>[0.453] | -0.047%     |
| Cash holding          | -2.178***<br>[0.439] | -2.206***<br>[0.441] | -2.064***<br>[0.432] | -0.081%     |
| Tangible assets       | 0.441<br>[0.402]     | 0.410<br>[0.396]     | 0.382<br>[0.407]     | 0.016%      |
| Ln(Size)              | -0.093*<br>[0.052]   | -0.090*<br>[0.053]   | -0.076<br>[0.054]    | -0.343%     |
| Tobin's Q             | 0.077<br>[0.091]     | 0.078<br>[0.090]     | 0.059<br>[0.094]     | 0.003%      |
| Constant              | -0.792**<br>[0.374]  | -0.751*<br>[0.399]   | -0.968***<br>[0.354] |             |
| N. obs.               | 1,838                | 1,838                | 1,838                |             |
| Pseudo R <sup>2</sup> | 0.114                | 0.115                | 0.105                |             |

**Table 7 Diversifying acquisitions**

This table reports the results of binary probit regressions in which the dependent variable *Diversifying deal* takes on the value of one if a firm undertakes at least one acquisition outside its core industry denoted by the primary 2-digit SIC code in year  $t$ , and zero otherwise. Column 4 reports the marginal effect of a one unit increase from the mean value (or change from zero to one) of the independent variable using model 2. For a detailed description of the independent variables, please refer to Appendix, Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

| Variables             | Diversifying deal    |                      |                      | Mar. effect |
|-----------------------|----------------------|----------------------|----------------------|-------------|
|                       | (1)                  | (2)                  | (3)                  | (4)         |
| Family                | 0.227*<br>[0.130]    |                      |                      |             |
| Family 10%<30%        |                      | 0.210<br>[0.137]     |                      | 1.925%      |
| Family 30%<50%        |                      | 0.267<br>[0.209]     |                      | 2.448%      |
| Family >50%           |                      | 0.752**<br>[0.314]   |                      | 6.898%      |
| Founder CEO/Ch.       |                      |                      | 0.202<br>[0.171]     |             |
| Family CEO/Ch.        |                      |                      | 0.212**<br>[0.098]   |             |
| Voting rights         | -0.775<br>[0.498]    | -1.574**<br>[0.660]  | -0.881*<br>[0.530]   | -0.144%     |
| Separation wedge      | 0.025<br>[0.430]     | -0.360<br>[0.506]    | 0.147<br>[0.485]     | -0.033%     |
| Herfindahl            | 0.397**<br>[0.200]   | 0.483**<br>[0.202]   | 0.431**<br>[0.204]   | 4.426%      |
| ROA                   | -0.393<br>[0.283]    | -0.428*<br>[0.257]   | -0.335<br>[0.303]    | -0.039%     |
| Leverage              | -0.266<br>[0.536]    | -0.288<br>[0.546]    | -0.258<br>[0.533]    | -0.026%     |
| Cash holding          | -1.812***<br>[0.469] | -1.877***<br>[0.471] | -1.851***<br>[0.468] | -0.172%     |
| Tangible assets       | -0.197<br>[0.431]    | -0.285<br>[0.455]    | -0.217<br>[0.439]    | -0.026%     |
| Ln(Size)              | 0.179***<br>[0.034]  | 0.196***<br>[0.036]  | 0.180***<br>[0.035]  | 1.802%      |
| Tobin's Q             | -0.029<br>[0.053]    | -0.034<br>[0.055]    | -0.023<br>[0.054]    | -0.003%     |
| Constant              | -2.742***<br>[0.437] | -2.677***<br>[0.451] | -2.663***<br>[0.393] |             |
| N. obs.               | 1,813                | 1,813                | 1,813                |             |
| Pseudo R <sup>2</sup> | 0.119                | 0.125                | 0.119                |             |
| Industry dummy        | Yes                  | Yes                  | Yes                  |             |

Columns 2 and 3 offer additional insights into what types of family controlled firms have a particular inclination towards diversifying deals. The coefficient of *Family >50%* in column 2 is positive and significant at the 5% level. The marginal effects indicate that the level of voting rights held by the family is positively correlated with the propensity to undertake a diversifying deal. A family firm with an ultimate owner holding more than 50% of the company's votes is 6.9% more likely to acquire a target firm outside its core industry than the remainder of the sample. Since the voting rights are highly correlated with the actual economic interest of the ultimate owner, we can support the finding of Miller et al. (2010), who argue that the propensity to engage in diversifying acquisitions increases with the level of family ownership which in turn is positively related to a family's wealth concentration in that particular firm. Furthermore, the coefficient of the dummy variable *Family CEO/Chairman* in column 3 is positive and significant at the 5% level. We interpret this finding as evidence that active family owners holding top positions in the company are able to pursue their own interests, such as a reduction in firm-specific risk, by influencing the firm's acquisition behavior.

## 4.2 Propensity to Divest

The previous subsection investigated family firms' behavior on the buy-side of the Swedish M&A market. This subsection looks at the opposite situation, that is, the effect of family control on the propensity that a company acts on the sells-side by divesting a business. *Hypothesis 1b* states that family controlled firms are less likely than non-family controlled firms to engage in divestitures. The models reported in Table 8 test this hypothesis. Columns 1-2 present the results of binary probit regressions with a dependent variable taking on the value of one if a firm engages in at least one divestiture in year  $t$ , and zero otherwise. The tobit models in columns 3-4 consider as the dependent variable a firm's total divestiture value in year  $t$  scaled by its market value of equity in year  $t-1$ .

**Table 8 Propensity to divest**

Columns 1-2 report the results of binary probit regressions in which the dependent variable *Divestiture* takes on the value of one if a firm makes at least one divestiture in year  $t$ , and zero otherwise. Columns 3-4 show the results of tobit regressions in which the dependent variable *Total divestiture value* represents a firm's total divestiture value in year  $t$  divided by its market value of equity in year  $t-1$ . Column 5 reports the marginal effect of a one unit increase from the mean value (or change from zero to one) of the independent variable using model 1. For a detailed description of the independent variables, please refer to Appendix, Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

| Variable              | Divestiture |           | Total divestiture value |           | Mar. effect |
|-----------------------|-------------|-----------|-------------------------|-----------|-------------|
|                       | (1)         | (2)       | (3)                     | (4)       | (5)         |
| Family                | -0.296*     |           | -0.060*                 |           | -3.204%     |
|                       | [0.166]     |           | [0.034]                 |           |             |
| Founder CEO/Ch.       |             | 0.050     |                         | 0.014     |             |
|                       |             | [0.220]   |                         | [0.061]   |             |
| Family CEO/Ch.        |             | -0.290*   |                         | -0.067*   |             |
|                       |             | [0.174]   |                         | [0.039]   |             |
| Voting rights         | 0.083       | -0.189    | -0.026                  | -0.078    | 0.009%      |
|                       | [0.860]     | [0.830]   | [0.191]                 | [0.187]   |             |
| Separation wedge      | 0.644       | 0.488     | 0.085                   | 0.058     | 0.070%      |
|                       | [0.550]     | [0.505]   | [0.152]                 | [0.145]   |             |
| Herfindahl            | -1.185      | -0.981    | -0.242                  | -0.205    | -0.128%     |
|                       | [0.889]     | [0.865]   | [0.196]                 | [0.193]   |             |
| Leverage              | -0.105      | -0.118    | -0.061                  | -0.063    | -0.011%     |
|                       | [0.353]     | [0.372]   | [0.106]                 | [0.110]   |             |
| Cash holding          | -2.222***   | -2.227*** | -0.628***               | -0.629*** | -0.241%     |
|                       | [0.448]     | [0.456]   | [0.129]                 | [0.131]   |             |
| Ln(Size)              | 0.233***    | 0.242***  | 0.051***                | 0.053***  | 2.526%      |
|                       | [0.032]     | [0.033]   | [0.009]                 | [0.009]   |             |
| Neg. net income       | 0.195       | 0.213*    | 0.064**                 | 0.068**   | 2.116%      |
|                       | [0.123]     | [0.123]   | [0.030]                 | [0.031]   |             |
| Age                   | 0.000       | 0.001     | 0.000                   | 0.000     | 0.005%      |
|                       | [0.003]     | [0.003]   | [0.001]                 | [0.001]   |             |
| Diversification       | 0.047       | 0.047     | 0.013                   | 0.013     | 0.510%      |
|                       | [0.045]     | [0.046]   | [0.013]                 | [0.013]   |             |
| Constant              | -2.841***   | -2.938*** | -0.670***               | -0.685*** |             |
|                       | [0.694]     | [0.703]   | [0.155]                 | [0.158]   |             |
| N. obs.               | 1,838       | 1,838     | 1,838                   | 1,838     |             |
| Pseudo R <sup>2</sup> | 0.174       | 0.173     | 0.226                   | 0.226     |             |
| Industry dummy        | Yes         | Yes       | Yes                     | Yes       |             |

The regression result in column 1 shows that family control is associated with less frequent divestitures. The coefficient of the *Family* dummy is negative and significant at the 10% level. Being a family firm reduces the divestiture probability by 3.2%. The negative and significant coefficient of *Family* in the tobit regression in column 3 confirms this finding. Taken together, these results provide support for *Hypothesis 1b* and reinforce the conclusion of Subsection 4.1 in that family owners seem to have a strong desire to retain control while preserving the firm for succeeding generations.

Regressions in columns 2 and 4 address the issue of active family involvement in management. While the coefficient of *Family CEO/Chairman* is negative and significant at the 10% level, the coefficient of *Founder CEO/Chairman* is positive, though not statistically significant in any of the two specifications. The avoidance of potentially value-enhancing divestitures in the case of non-founder family involvement in leading positions signals the risk of an agency conflict between family owners and minority shareholders. However, when the founder is involved as the CEO or Chairman of the company we do not find support for the aforementioned agency conflict.

The only control variable with statistical significance across all specifications is *Cash holding*. In line with the expectations, a company's cash level has a negative relationship with the divestiture probability.

To further disaggregate family firms' aversion towards divestitures we divide the sample into unrelated and related divestitures in the regressions presented in Table 9. *Hypothesis 2b* proposes that family controlled firms divest unrelated businesses less frequently than non-family controlled firms.

In column 1, the coefficient of *Family* is negative and significant at the 5% level. Consistent with *Hypothesis 2b*, we find evidence that family firms are more reluctant to sell-off unrelated businesses expressed by a marginal effect of -2.5% for the *Family* indicator variable. This finding coincides with the results obtained in the analysis of the propensity to engage in diversifying acquisitions in Subsection 4.1 (*Hypothesis 2a*). We conclude that family owners are on average poorly diversified and, hence, attempt to manage their firm-specific risk by acquiring more and divesting less unrelated operations.

**Table 9 Unrelated and related divestitures**

Columns 1-2 report the results of binary probit regressions in which the dependent variable *Unrelated divestiture* takes on the value of one if a firm divests at least one business that is not related to its core industry denoted by the primary 2-digit SIC code in year  $t$ , and zero otherwise. Columns 3-4 show the results of binary probit regressions in which the dependent variable *Related divestiture* takes on the value of one if a firm divests at least one business that is related to its core industry denoted by the primary 2-digit SIC code in year  $t$ , and zero otherwise. Column 5 reports the marginal effect of a one unit increase from the mean value (or change from zero to one) of the independent variable using model 1. For a detailed description of the independent variables, please refer to Appendix, Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

|                       | Unrelated divestiture |                      | Related divestiture  |                      | Mar. effect |
|-----------------------|-----------------------|----------------------|----------------------|----------------------|-------------|
| Variable              | (1)                   | (2)                  | (3)                  | (4)                  | (5)         |
| Family                | -0.375**<br>[0.179]   |                      | -0.284<br>[0.190]    |                      | -2.459%     |
| Founder CEO/Ch.       |                       | 0.072<br>[0.221]     |                      | -0.030<br>[0.241]    |             |
| Family CEO/Ch.        |                       | -0.233<br>[0.212]    |                      | -0.409***<br>[0.120] |             |
| Voting rights         | 0.195<br>[1.151]      | -0.205<br>[1.140]    | -0.443<br>[0.777]    | -0.621<br>[0.729]    | 0.013%      |
| Separation wedge      | 0.867*<br>[0.522]     | 0.584<br>[0.493]     | 0.363<br>[0.723]     | 0.219<br>[0.693]     | 0.057%      |
| Herfindahl            | -1.323<br>[1.116]     | -1.050<br>[1.120]    | -0.488<br>[0.892]    | -0.261<br>[0.798]    | -0.087%     |
| Leverage              | -0.342<br>[0.425]     | -0.358<br>[0.431]    | 0.237<br>[0.436]     | 0.235<br>[0.462]     | -0.022%     |
| Cash holding          | -2.102***<br>[0.570]  | -2.062***<br>[0.581] | -1.458***<br>[0.431] | -1.454***<br>[0.449] | -0.138%     |
| Ln(Size)              | 0.210***<br>[0.033]   | 0.217***<br>[0.034]  | 0.214***<br>[0.050]  | 0.224***<br>[0.055]  | 1.377%      |
| Neg. net income       | 0.288**<br>[0.122]    | 0.309**<br>[0.124]   | 0.061<br>[0.160]     | 0.077<br>[0.158]     | 1.889%      |
| Age                   | 0.001<br>[0.003]      | 0.001<br>[0.003]     | -0.000<br>[0.003]    | -0.000<br>[0.003]    | 0.007%      |
| Diversification       | 0.114*<br>[0.059]     | 0.105*<br>[0.056]    | -0.005<br>[0.058]    | -0.003<br>[0.062]    | 0.745%      |
| Constant              | -3.192***<br>[0.678]  | -3.227***<br>[0.683] | -2.590***<br>[0.796] | -2.738***<br>[0.833] |             |
| N. obs.               | 1,813                 | 1,813                | 1,838                | 1,838                |             |
| Pseudo R <sup>2</sup> | 0.171                 | 0.164                | 0.182                | 0.184                |             |
| Industry dummy        | Yes                   | Yes                  | Yes                  | Yes                  |             |

By contrast, the coefficient of *Family* in column 3 is not statistically significant. However, we find a negative relationship between the variable *Family CEO/Chairman* and the likelihood of divesting related businesses. The coefficient is statistically significant at the 1% level and suggests that family firms engage in fewer divestitures of related business units only when the family is actively involved in leading positions.

### 4.3 Acquiring Firm Performance

*Hypothesis 3a* predicts that family control positively affects acquiring firm performance. In this subsection, we therefore assess whether family control influences the performance of acquisitions complementing our prior results. We measure acquisition performance by the cumulative abnormal return (CAR) around the announcement date of the acquisitions.

In Table 10, we report a positive and significant CAR of 2.1% in the three-day event window  $[+1; -1]$  for the full sample of acquisitions. With a positive and significant CAR of 1.9%, we obtain a similar result in the longer event window of 11 days length  $[+5; -5]$ . The results indicate that acquisitions undertaken by Swedish listed firms create value for their shareholders. These findings are consistent with those of previous studies documenting that acquiring firm shareholders earn positive abnormal returns in European takeover deals (Martynova & Renneboog, 2011; Caprio, et al., 2011).

Our main goal is to compare acquisition performance of family and non-family firms. As depicted in Table 10, we obtain positive and significant CARs of 2.0% and 2.3% in the three-day event window  $[+1; -1]$  for family and non-family controlled firms, respectively. The difference in CARs between family and non-family firms (-0.3%) is not statistically significant. The results of the univariate analysis suggest that acquisitions by family firms do not outperform those by non-family firms in the Swedish M&A market.

Furthermore, it can be observed that CARs for some of the sub-groups are lower and less statistically significant over the longer interval  $[+5; -5]$  suggesting that stock prices already fully reflect all available information in the three-day event window  $[+1; -1]$ . This is confirmed by Figure 1 (see Appendix) showing that the main stock market reaction to acquisition announcements by our sample firms takes place in the shorter event window. Therefore, we focus on the three-day event window  $[+1; -1]$  in our multivariate regressions.

**Table 10 Event study for acquisitions**

This table reports the event study results for 337 acquisitions undertaken by the 242 sample firms.  $CAR [-1; +1]$  is the cumulative abnormal return in the 3-day event window around the announcement date of an acquisition.  $CAR [-5; +5]$  is the cumulative abnormal return in the 11-day event window around the announcement date of an acquisition. Abnormal returns are expressed in percentages. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Heteroscedasticity-consistent (Huber-White) t-statistics for the tests of difference in means are reported.

|                    | N. obs. | CAR [-1; +1] |            |        | CAR [-5; +5] |            |        |
|--------------------|---------|--------------|------------|--------|--------------|------------|--------|
|                    |         | Mean         | Mean diff. | T-stat | Mean         | Mean diff. | T-stat |
| Full sample        | 337     | 2.107***     |            |        | 1.882***     |            |        |
| Family             | 230     | 2.027***     | -0.253     | -0.364 | 1.810***     | -0.227     | -0.237 |
| Non-family         | 107     | 2.280***     | 0.253      | 0.364  | 2.037**      | 0.227      | 0.237  |
| Family 10% < 30%   | 82      | 2.940***     | 1.100      | 1.317  | 2.039*       | 0.207      | 0.176  |
| Family 30% < 50%   | 89      | 1.487***     | -0.843     | -1.404 | 2.137***     | 0.346      | 0.364  |
| Family > 50%       | 59      | 1.573*       | -0.648     | -0.740 | 1.000        | -1.070     | -0.893 |
| Founder CEO/Ch.    | 38      | 1.751**      | -0.401     | -0.460 | 1.500        | -0.431     | -0.290 |
| Family CEO/Ch.     | 57      | 3.072***     | 1.161      | 1.208  | 2.193*       | 0.374      | 0.273  |
| Equity deals       | 45      | 2.990***     | 1.019      | 0.899  | 2.158        | 0.318      | 0.225  |
| Diversifying deals | 128     | 2.092***     | -0.025     | -0.037 | 1.459*       | -0.683     | -0.724 |

Based on the univariate analysis of CARs, there seems to be no difference in the acquisition performance of family and non-family controlled firms. In order to verify these results we conduct multivariate regressions where we control for additional factors omitted in the univariate analysis. The results of these regressions are presented in Table 11. Columns 1-3 show the results of regressions in which the dependent variable is the CAR in the three-day event window  $[+1; -1]$  around the acquisition announcement. The regression models in columns 4-6 consider as the dependent variable the CAR in the three-day event window  $[+1; -1]$  around the announcement of an equity deal. Among the independent variables we include all control variables that were used in the previous analysis of the acquisition propensity. In line with Caprio et al. (2011), we consider *Relative acquisition size* as the target size in relation to acquiring firm size and a *Public target* dummy for the acquisition of public firms as additional control variables.

The results in columns 1-3 of Table 11 confirm that the positive CAR around the acquisition announcement are not more pronounced in family firms than in non-family firms.

None of the family control variables are statistically different from zero. Consequently, consistent with the results obtained by Caprio et al. (2011), we do not find evidence that family control affects acquisition performance. Nevertheless, this result is still relevant as it contributes to the existing empirical literature by showing that, in our sample of Swedish listed firms, the relation between family control and acquisition performance is neither positive as reported by Ben-Amar & André (2006) and Bouzgarrou and Navette (2013), nor negative as documented by Bauguess and Stegemoller (2008).

The analysis in Subsection 4.1 has shown that family firms adopt a more cautious attitude towards equity-financed acquisitions than non-family firms. It is therefore of interest to investigate whether equity deals undertaken by family firms are of better average quality. The regression results in columns 4-6 of Table 11 show that family control has a positive and significant effect on the performance of equity deals. The coefficient of the *Family* dummy in column 4 is positive and significant at the 1% level. We further show that this effect depends on the amount of voting rights held by the family. The coefficient of the *Family 10%<30%* dummy in column 5 is positive and significant at the 1% level. This effect, however, becomes less statistically significant as the voting rights held by the family increase to more than 30%. When family owners hold more than 50% of the voting rights, the positive effect of family control on CARs becomes insignificant. In light of the results of the propensity analysis, these findings suggest that market participants assume equity-financed acquisitions by family firms to be of better average quality when family owners demonstrate a willingness to overcome their fear of losing control in the transaction. Furthermore, the coefficients of the dummy variables *Family CEO/Chairman* and the *Founder CEO/Chairman* are both positive and significant indicating that active family control positively affects the performance of equity deals.

Considering the remaining independent variables, unlike Moeller et al. (2004) and Caprio et al. (2011), we find a positive and significant relationship between *Relative acquisition size* and announcement return. Relatively small bidders appear to gain more as measured by abnormal returns. This is consistent with Asquith et al. (1983) proposing that the absolute gain from an acquisition is more readily observable in the case of a small bidder.

**Table 11 CAR regressions for acquisitions**

Columns 1-3 report the results of multivariate regressions in which the dependent variable is the CAR in the three-day event window  $[+1; -1]$  around the announcement of an acquisition. Columns 4-6 show the results of regressions in which the dependent variable is the CAR in the 3-day event window  $[+1; -1]$  around the announcement of an equity deal. For a detailed description of the independent variables, please refer to Appendix, Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

| Variable                | Acquisition         |                     |                      | Equity deal          |                      |                     |
|-------------------------|---------------------|---------------------|----------------------|----------------------|----------------------|---------------------|
|                         | (1)                 | (2)                 | (3)                  | (4)                  | (5)                  | (6)                 |
| Family                  | 0.006<br>[0.009]    |                     |                      | 0.067***<br>[0.018]  |                      |                     |
| Family 10%<30%          |                     | 0.009<br>[0.010]    |                      |                      | 0.059***<br>[0.018]  |                     |
| Family 30%<50%          |                     | -0.003<br>[0.011]   |                      |                      | 0.102**<br>[0.039]   |                     |
| Family >50%             |                     | -0.019<br>[0.027]   |                      |                      | 0.066<br>[0.047]     |                     |
| Founder CEO/Ch.         |                     |                     | 0.012<br>[0.013]     |                      |                      | 0.072**<br>[0.027]  |
| Family CEO/Ch.          |                     |                     | 0.013<br>[0.012]     |                      |                      | 0.055*<br>[0.030]   |
| Voting rights           | -0.008<br>[0.021]   | 0.024<br>[0.045]    | -0.016<br>[0.028]    | 0.010<br>[0.064]     | 0.011<br>[0.046]     | -0.072<br>[0.104]   |
| Separation wedge        | -0.015<br>[0.020]   | 0.008<br>[0.034]    | -0.009<br>[0.024]    | -0.117<br>[0.119]    | -0.079<br>[0.156]    | -0.053<br>[0.179]   |
| Herfindahl              | -0.009<br>[0.009]   | -0.009<br>[0.009]   | -0.008<br>[0.008]    | -0.060***<br>[0.010] | -0.079***<br>[0.018] | -0.034<br>[0.029]   |
| ROA                     | 0.006<br>[0.034]    | 0.007<br>[0.032]    | 0.006<br>[0.033]     | -0.082<br>[0.064]    | -0.078<br>[0.070]    | -0.057<br>[0.069]   |
| Leverage                | 0.044<br>[0.041]    | 0.050<br>[0.042]    | 0.047<br>[0.043]     | -0.273***<br>[0.098] | -0.278***<br>[0.080] | -0.234*<br>[0.133]  |
| Cash holding            | 0.005<br>[0.035]    | 0.010<br>[0.034]    | 0.006<br>[0.035]     | -0.182**<br>[0.080]  | -0.202**<br>[0.079]  | -0.174**<br>[0.083] |
| Tangible assets         | 0.012<br>[0.027]    | 0.015<br>[0.027]    | 0.010<br>[0.026]     | 0.116*<br>[0.065]    | 0.108<br>[0.079]     | 0.152***<br>[0.053] |
| Ln(Size)                | -0.002<br>[0.002]   | -0.003<br>[0.002]   | -0.001<br>[0.002]    | 0.014***<br>[0.004]  | 0.015***<br>[0.005]  | 0.013***<br>[0.003] |
| Tobin's Q               | 0.006<br>[0.004]    | 0.006<br>[0.004]    | 0.007<br>[0.004]     | -0.004<br>[0.005]    | -0.002<br>[0.009]    | 0.003<br>[0.009]    |
| Rel. acquisition size   | 0.072***<br>[0.020] | 0.071***<br>[0.021] | 0.073***<br>[0.020]  | 0.058***<br>[0.011]  | 0.057***<br>[0.009]  | 0.068***<br>[0.018] |
| Public target           | -0.026**<br>[0.011] | -0.027**<br>[0.012] | -0.028***<br>[0.011] | -0.074***<br>[0.012] | -0.082***<br>[0.014] | -0.080<br>[.]       |
| Constant                | 0.017<br>[0.026]    | 0.016<br>[0.027]    | 0.017<br>[0.026]     | -0.032<br>[0.038]    | -0.034<br>[0.039]    | -0.031<br>[0.051]   |
| N. obs.                 | 337                 | 337                 | 337                  | 45                   | 45                   | 45                  |
| Adjusted R <sup>2</sup> | 0.143               | 0.144               | 0.146                | 0.285                | 0.256                | 0.211               |
| Industry dummy          | Yes                 | Yes                 | Yes                  |                      |                      |                     |

Overall, *Hypothesis 3a* cannot be supported. We do not find evidence that family controlled firms generally outperform non-family controlled firms when engaging in acquisitions. Consequently, family owners' firm-specific knowledge and their economic incentives to maximize firm value do not seem to translate into superior acquisition performance. Nevertheless, we find a positive and significant relationship between family control and the performance of equity-financed acquisitions.

#### 4.4 Divesting Firm Performance

According to *Hypothesis 3b*, family control positively affects divesting firm performance. In order to test this hypothesis, this subsection addresses the performance implications of divestitures undertaken by family firms. Using the same methodology as in the previous subsection, we investigate the cumulative abnormal return around the announcement of divestitures.

In Table 12, we document a positive and significant CAR of 1.2% in the three-day event window  $[+1; -1]$  for the full sample of divestitures. In the longer event window  $[+5; -5]$ , however, the CAR is not statistically different from zero. The results indicate that divestitures undertaken by listed Swedish firms are well received by investors. This is in line with the findings of previous researchers who report positive market reactions to the announcement of divestitures (Hearth & Zaima, 1972; Alexander, et al., 1984; Jain, 1985; Hite, et al., 1987; Gleason, et al., 2000; Owen, et al., 2010). The CAR for unrelated divestitures in the three-day event window  $[+1; -1]$  is also positive and significant (1.8%) at the 1% level. However, the difference in CARs between unrelated and related divestitures (1.3%) is not statistically significant.

When comparing the divestiture performance of family and non-family firms in the three-day event window  $[+1; -1]$ , we obtain a positive and significant CAR of 1.8% for family firms, which is larger than that of non-family firms. The difference in CARs between the two sub-groups (1.0%), however, is not statistically significant.

**Table 12 Event study for divestitures**

This table reports the event study results for 204 divestitures undertaken by the 242 sample firms.  $CAR [-1; +1]$  is the cumulative abnormal return in the three-day event window around the announcement date of a divestiture.  $CAR [-5; +5]$  is the cumulative abnormal return in the 11-day event window around the announcement date of a divestiture. Abnormal returns are expressed in percentages. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Heteroscedasticity-consistent (Huber-White) t-statistics for the tests of difference in means are reported.

|                        | N. obs. | CAR [-1; +1] |            |        | CAR [-5; +5] |            |        |
|------------------------|---------|--------------|------------|--------|--------------|------------|--------|
|                        |         | Mean         | Mean diff. | T-stat | Mean         | Mean diff. | T-stat |
| Full sample            | 204     | 1.237***     |            |        | 0.835        |            |        |
| Family                 | 91      | 1.790***     | 0.999      | 1.177  | 1.603*       | 1.387      | 1.117  |
| Non-family             | 113     | 0.792        | -0.999     | -1.177 | 0.216        | -1.387     | -1.117 |
| Founder CEO/Ch.        | 9       | 7.132*       | 6.167*     | 1.942  | 10.576*      | 10.190**   | 2.116  |
| Family CEO/Ch.         | 27      | 1.165        | -0.083     | -0.067 | -0.862       | -1.956     | -1.216 |
| Unrelated divestitures | 117     | 1.781***     | 1.275      | 1.553  | 1.381        | 1.281      | 1.019  |
| Related divestitures   | 87      | 0.506        | -1.275     | -1.553 | 0.100        | -1.281     | -1.019 |

In order to investigate whether the positive relationship between family control and CAR can be explained by factors that are not considered in the previous analysis, we report multivariate regressions in Table 13. In the regressions in columns 1-2, we use as the dependent variable the CAR in the three-day event window  $[+1; -1]$  around the announcement of a divestiture. Columns 3-4 present the results of regressions in which the dependent variable is the CAR in the three-day event window  $[+1; -1]$  around the announcement of an unrelated divestiture. The independent variables include all control variables that were used in the analysis of the divestiture propensity. As an additional independent variable we consider *Relative divestiture size* measured as the size of the divested unit in relation to the divesting firm's size.

Based on the results in columns 1-2 of Table 13, we find evidence that family control positively affects divesting firm performance only when the founder serves as the CEO or as the Chairman. Whereas the coefficient of the *Family* dummy in column 1 is not statistically significant, the coefficient of the dummy variable *Founder CEO/Chairman* is positive and statistically significant at the 1% level.

**Table 13 CAR regressions for divestitures**

Columns 1-3 report the results of multivariate regressions in which the dependent variable is the CAR in the three-day event window  $[+1; -1]$  around the announcement of a divestiture. Columns 4-6 show the results of regressions in which the dependent variable is the CAR in the 3-day event window  $[+1; -1]$  around the announcement of an unrelated divestiture. For a detailed description of the independent variables, please refer to Appendix, Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

| Variable                | Divestiture         |                     | Unrelated divestiture |                     |
|-------------------------|---------------------|---------------------|-----------------------|---------------------|
|                         | (1)                 | (2)                 | (3)                   | (4)                 |
| Family                  | 0.006<br>[0.011]    |                     | 0.033**<br>[0.013]    |                     |
| Founder CEO/Ch.         |                     | 0.059***<br>[0.002] |                       | 0.075***<br>[0.013] |
| Family CEO/Ch.          |                     | 0.012<br>[0.014]    |                       | 0.033<br>[0.021]    |
| Voting rights           | -0.077<br>[0.068]   | -0.095<br>[0.061]   | -0.174*<br>[0.092]    | -0.139<br>[0.101]   |
| Separation wedge        | -0.123<br>[0.076]   | -0.095<br>[0.068]   | -0.229**<br>[0.090]   | -0.178**<br>[0.082] |
| Herfindahl              | 0.198**<br>[0.083]  | 0.179**<br>[0.073]  | 0.337**<br>[0.134]    | 0.263*<br>[0.138]   |
| Leverage                | 0.008<br>[0.048]    | 0.005<br>[0.050]    | -0.047<br>[0.070]     | -0.051<br>[0.073]   |
| Cash holding            | 0.160***<br>[0.049] | 0.194***<br>[0.044] | 0.296**<br>[0.132]    | 0.328***<br>[0.117] |
| Ln(Size)                | -0.003<br>[0.003]   | -0.003<br>[0.003]   | 0.002<br>[0.005]      | 0.001<br>[0.005]    |
| Neg. net income         | 0.034***<br>[0.009] | 0.034***<br>[0.009] | 0.041**<br>[0.018]    | 0.041**<br>[0.019]  |
| Age                     | -0.000<br>[0.000]   | -0.000<br>[0.000]   | -0.000<br>[0.000]     | -0.000<br>[0.000]   |
| Diversification         | 0.011***<br>[0.004] | 0.011***<br>[0.004] | 0.025**<br>[0.011]    | 0.025***<br>[0.007] |
| Rel. divestiture size   | 0.044<br>[0.030]    | 0.047*<br>[0.028]   | 0.041<br>[0.042]      | 0.026<br>[0.036]    |
| Constant                | -0.003<br>[0.047]   | 0.001<br>[0.045]    | -0.040<br>[0.079]     | -0.033<br>[0.076]   |
| N. obs.                 | 204                 | 204                 | 117                   | 117                 |
| Adjusted R <sup>2</sup> | 0.245               | 0.274               | 0.337                 | 0.369               |
| Industry dummy          | Yes                 | Yes                 | Yes                   | Yes                 |

As pointed out in Subsection 4.2, family firms are particularly reluctant to divest unrelated businesses. Consistent with this finding, the regression results in columns 3-4 of Table 13 show that investors react favorably when family firms engage in unrelated divestitures. The *Family* dummy in column 3 and the *Founder CEO/Chairman* dummy in column 4 are both positive and significant. This result suggests that family owners' willingness to put their preference for operational diversification aside when engaging in unrelated divestitures is perceived as a positive sign by investors.

In sum, *Hypothesis 3b* can be partly supported. As shown by the results of the multivariate regression, family control positively affects divesting firm performance when the founder holds either a board or an executive management position. We further reveal a significantly positive relationship between family control and the CAR around the announcement of unrelated divestitures.

## 5 Robustness

This section addresses the robustness of our results to changes in the econometric model, a different specification of the dependent variable, and an alternative definition of family control. We conclude this section by addressing concerns regarding multicollinearity.

Firstly, the logit model provides an alternative technique for dealing with dichotomous dependent variables as in the case of the empirical analyses in Subsections 4.1 and 4.2. While the probit model assumes that the error terms follow a normal distribution function, the logit model depends on the assumption that the error terms are distributed following a logistic function. We therefore test whether our results are sensitive to the model choice. The results in columns 1-3 in Table 16 and columns 1-2 in Table 17 show that the outcomes of our analysis of the propensity to acquire and divest are in line with those obtained from the probit regressions in Table 5 and Table 8. Furthermore, both probit and logit regressions produce maximum likelihood estimations that may suffer from a small-sample bias when one of the two outcomes of the dichotomous variable is small. As acquisitions and divestitures occur with a relatively low annual frequency of 15.7% and 8.9% in our sample, we employ a rare event logit model according to King and Zeng (2001) to specifically account for a

potential rare event bias. The unreported results of the rare event logit regression are in line with those of the standard probit model used in the empirical analysis and are available from the authors upon request.

Secondly, we address the issue that certain sample firms acquire more than one target company in a given year. As a consequence, the 399 acquisitions translate into 289 acquisition dummies. To account for the information contained in those firm-year observations corresponding to multiple acquisitions, we employ a model with the number of acquisitions of a firm in year  $t$  as the dependent variable. The estimates of the tobit regressions in columns 4-6 of Table 16 are fully in line with the results obtained in the regressions in Table 5. Similarly, a number of sample firms undertake more than one divestiture in a given year, resulting in 250 divestitures being expressed through 165 divestiture dummies. We run tobit regressions with the number of divestitures as the dependent variable in columns 3-4 in Table 17 and again receive results that are remarkably similar to those in the regressions depicted in Table 8.

Thirdly, we test the robustness of our results to a different family firm definition. As explained in Subsection 2.3, our family firm definition, based on a threshold of 10% of the voting rights, is consistent with those employed in similar studies. Andres (2008) and Franks et al. (2010), however, argue that a 20% level of voting rights is needed to exert control over a company's operations. If a different threshold applied for family control would lead to systematically different effects, the conclusions drawn from our results would be invalid. For this reason, we re-run all baseline models with a *Family* dummy taking on the value of one if a family, an individual or a group of founders represents the largest ultimate owner and holds at least 20% of the company's voting rights. The results of the unreported regressions are very similar to those obtained in Section 4 and provide strong support that our findings are independent of the threshold used in the family firm definition.<sup>12</sup>

Finally, Table 15 shows that correlations for some of the ownership variables used in our study are moderately high. In order to rule out the possibility of multicollinearity problems,

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<sup>12</sup> Specifically, we find support for *Hypothesis 1b*, *Hypothesis 2a*, *Hypothesis 2b* and *Hypothesis 3b*, while *Hypothesis 1a* and *Hypothesis 3a* cannot be supported. The unreported regression results are available upon request.

we analyze the variance inflation factor (VIF) in each baseline regression model. None of the obtained values in question exceeds critical levels. We find that all models have a mean VIF of less than 2.0, while obtaining VIFs of less than 1.4 for our main variable of interest, namely the *Family* dummy. We further find that the largest VIFs for some of the control variables are less than 4.0 indicating that multicollinearity is not a major concern in our study.

## 6 Conclusion

This paper provides an understanding of how family control influences a firm's acquisition and divestiture behavior. Using a hand-collected data set of 242 Swedish listed companies over the period 2003-2012 we do not find evidence that family firms are less likely to engage in acquisitions than non-family firms. While documenting a negative relationship between the largest shareholder's voting stake and acquisition propensity, our results suggest that the owner's identity does not influence a firm's acquisition likelihood. Nevertheless, we find that family firms are significantly more averse towards equity-financed acquisitions. The evidence is the strongest when a family's voting stake in the company is relatively low. This is consistent with the notion that a dilution following a stock deal may put the family's controlling position at risk. We also find evidence that family controlled firms are more reluctant to divest than their non-family controlled counterparts. From an agency perspective, this result is consistent with family shareholders extracting private benefits of control while avoiding potentially value-enhancing divestitures.

We further shed light on family shareholders' preference for corporate diversification. Our results show that family firms are significantly more likely to undertake diversifying acquisitions and significantly less likely to divest unrelated businesses. This supports the view that family owners, typically being poorly diversified, seek to reduce the variance of their portfolios by shaping a company's acquisition and divestiture decisions.

Furthermore, we do not find evidence that family firms generally outperform non-family firms when engaging in acquisitions. However, we document a positive relationship between family control and the announcement returns of equity-financed acquisitions.

Finally, we provide evidence that family control positively affects divesting firm performance only when the founder serves as the CEO or Chairman.

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## 7 Appendix

**Table 14 Descriptions of the independent variables**

| Variable                                          | Description                                                                                                                                                                                                 |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Family                                            | Dummy variable taking on the value of one if a family, an individual or a group of founders represents the largest ultimate owner and holds at least 10% of the company's voting rights, and zero otherwise |
| Family 10%<30%,<br>Family 30%<50%,<br>Family >50% | Dummy variables taking on the value of one if a family is the ultimate owner and holds between 10% and 30%, 30% and 50%, and more than 50% of a firm's voting rights, respectively, and zero otherwise      |
| Founder CEO/Chairman,<br>Family CEO/Chairman      | Dummy variables taking on the value of one if the founder (a family member) is the CEO or Chairman of a family firm, and zero otherwise                                                                     |
| Voting rights                                     | Voting rights held by the ultimate owner                                                                                                                                                                    |
| Separation wedge                                  | Difference between the voting and cash flow rights held by the ultimate owner                                                                                                                               |
| Herfindahl                                        | The sum of squares of the differences between the first and second largest blockholders' and the second and third largest blockholders' voting stakes                                                       |
| ROA                                               | EBITDA divided by total assets                                                                                                                                                                              |
| Leverage                                          | Long-term debt divided by total assets                                                                                                                                                                      |
| Cash holding                                      | Cash and cash equivalents divided by total assets                                                                                                                                                           |
| Tangible assets                                   | Tangible assets divided by total assets                                                                                                                                                                     |
| Ln(Size)                                          | Natural logarithm of the market value of equity                                                                                                                                                             |
| Tobin's Q                                         | The sum of the market value of equity and the book value of liabilities divided by total assets                                                                                                             |
| Negative net income                               | Dummy variable taking on the value of one if a firm has a negative net income, and zero otherwise                                                                                                           |
| Age                                               | The number of years elapsed since a firm's initial entry into the commercial register                                                                                                                       |
| Diversification                                   | The number of different business segments a company operates in                                                                                                                                             |
| Relative acquisition size                         | Acquisition value divided by the bidder's prior year market value of equity                                                                                                                                 |
| Public target                                     | Dummy variable taking on the value of one if the acquired firm was publicly listed, and zero otherwise                                                                                                      |
| Relative divestiture size                         | Divestiture value divided by the seller's prior year market value of equity                                                                                                                                 |

**Table 15 Correlation matrix of the main independent variables**

| Variable             | (1)    | (2)    | (3)    | (4)    | (5)    | (6)    | (7)    | (8)    | (9)    | (10)   | (11)   | (12)  | (13) |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|------|
| (1) Family           | 1      |        |        |        |        |        |        |        |        |        |        |       |      |
| (2) Voting rights    | 0.443  | 1      |        |        |        |        |        |        |        |        |        |       |      |
| (3) Separation wedge | 0.426  | 0.692  | 1      |        |        |        |        |        |        |        |        |       |      |
| (4) Herfindahl       | 0.317  | 0.785  | 0.625  | 1      |        |        |        |        |        |        |        |       |      |
| (5) ROA              | 0.158  | 0.209  | 0.148  | 0.187  | 1      |        |        |        |        |        |        |       |      |
| (6) Leverage         | -0.001 | 0.051  | -0.001 | 0.081  | 0.063  | 1      |        |        |        |        |        |       |      |
| (7) Cash holding     | -0.049 | -0.070 | 0.002  | -0.035 | -0.282 | -0.437 | 1      |        |        |        |        |       |      |
| (8) Tangible assets  | 0.097  | 0.215  | 0.111  | 0.203  | 0.133  | 0.572  | -0.347 | 1      |        |        |        |       |      |
| (9) Ln(Size)         | -0.033 | 0.068  | 0.185  | 0.091  | 0.452  | 0.225  | -0.168 | 0.238  | 1      |        |        |       |      |
| (10) Tobin's Q       | 0.022  | -0.009 | 0.013  | 0.036  | -0.065 | -0.248 | 0.478  | -0.218 | 0.117  | 1      |        |       |      |
| (11) Neg. net income | -0.122 | -0.154 | -0.136 | -0.140 | -0.711 | -0.075 | 0.194  | -0.126 | -0.441 | 0.031  | 1      |       |      |
| (12) Age             | 0.086  | 0.110  | 0.211  | 0.095  | 0.258  | 0.119  | -0.178 | 0.228  | 0.441  | -0.124 | -0.227 | 1     |      |
| (13) Diversification | 0.119  | 0.068  | 0.151  | 0.001  | 0.057  | -0.046 | -0.022 | -0.049 | 0.033  | -0.041 | -0.067 | 0.196 | 1    |

**Table 16 Robustness Tests – Propensity to acquire**

Columns 1-3 report the results of binary logit regressions in which the dependent variable *Acquisition dummy* takes on the value of one if a firm makes at least one acquisition in year  $t$ , and zero otherwise. Columns 4-6 show the results of tobit regressions in which the dependent variable *Acquisition number* represents the number of acquisitions undertaken by firm  $i$  in year  $t$ . For a detailed description of the independent variables, please refer to Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

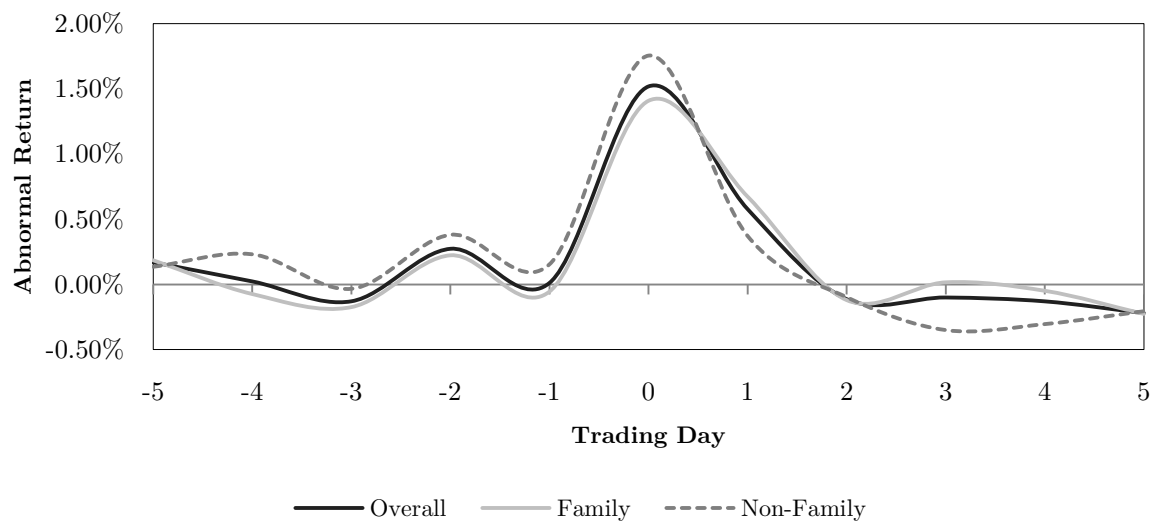
| Variable              | Acquisition dummy    |                      |                      | Acquisition number  |                     |                     |
|-----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|---------------------|
|                       | (1)                  | (2)                  | (3)                  | (4)                 | (5)                 | (6)                 |
| Family                | 0.188<br>[0.186]     |                      |                      | 0.315<br>[0.286]    |                     |                     |
| Family 10%<30%        |                      | 0.115<br>[0.211]     |                      |                     | 0.190<br>[0.268]    |                     |
| Family 30%<50%        |                      | 0.377<br>[0.278]     |                      |                     | 0.667<br>[0.575]    |                     |
| Family >50%           |                      | 0.187<br>[0.514]     |                      |                     | 0.261<br>[0.584]    |                     |
| Founder CEO/Ch.       |                      |                      | 0.284<br>[0.212]     |                     |                     | 0.211<br>[0.264]    |
| Family CEO/Ch.        |                      |                      | 0.038<br>[0.215]     |                     |                     | 0.007<br>[0.233]    |
| Voting rights         | -2.225***<br>[0.621] | -2.126***<br>[0.769] | -2.346***<br>[0.670] | -3.056**<br>[1.327] | -2.758*<br>[1.414]  | -3.095**<br>[1.339] |
| Separation wedge      | 1.210<br>[0.871]     | 1.175<br>[0.910]     | 1.364<br>[0.865]     | 1.525<br>[1.091]    | 1.491<br>[1.125]    | 1.796<br>[1.120]    |
| Herfindahl            | 0.765***<br>[0.261]  | 0.647***<br>[0.227]  | 0.786***<br>[0.269]  | 1.015**<br>[0.413]  | 0.776**<br>[0.324]  | 1.063**<br>[0.438]  |
| ROA                   | -0.122<br>[0.770]    | -0.150<br>[0.741]    | -0.084<br>[0.770]    | -0.494<br>[0.731]   | -0.565<br>[0.754]   | -0.404<br>[0.723]   |
| Leverage              | -0.216<br>[0.724]    | -0.198<br>[0.720]    | -0.258<br>[0.741]    | -0.256<br>[0.726]   | -0.216<br>[0.734]   | -0.291<br>[0.732]   |
| Cash holding          | -1.750**<br>[0.864]  | -1.725**<br>[0.853]  | -1.840**<br>[0.914]  | -2.046**<br>[0.900] | -1.998**<br>[0.902] | -2.166**<br>[0.922] |
| Tangible assets       | -0.651<br>[0.481]    | -0.621<br>[0.472]    | -0.621<br>[0.454]    | -1.055<br>[0.790]   | -0.995<br>[0.771]   | -1.009<br>[0.772]   |
| Ln(Size)              | 0.300***<br>[0.054]  | 0.304***<br>[0.051]  | 0.299***<br>[0.051]  | 0.397***<br>[0.100] | 0.400***<br>[0.106] | 0.388***<br>[0.094] |
| Tobin's Q             | -0.101<br>[0.097]    | -0.103<br>[0.097]    | -0.095<br>[0.099]    | -0.202*<br>[0.121]  | -0.204*<br>[0.122]  | -0.190<br>[0.118]   |
| Constant              | -2.782***<br>[0.446] | -2.768***<br>[0.418] | -2.668***<br>[0.454] | 1.143<br>-4.036***  | 1.074<br>-4.004***  | 1.089<br>-3.856***  |
| N. obs.               | 1.838                | 1.838                | 1.838                | 1.838               | 1.838               | 1.838               |
| Pseudo R <sup>2</sup> | 0.099                | 0.100                | 0.099                | 0.085               | 0.086               | 0.084               |
| Industry dummy        | Yes                  | Yes                  | Yes                  | Yes                 | Yes                 | Yes                 |

**Table 17 Robustness Tests – Propensity to divest**

Columns 1-3 report the results of binary logit regressions in which the dependent variable *Divestiture dummy* takes on the value of one if a firm divests at least one business in year  $t$ , and zero otherwise. Columns 4-6 show the results of tobit regressions in which the dependent variable *Divestiture number* represents the number of divestitures undertaken by firm  $i$  in year  $t$ . For a detailed description of the independent variables, please refer to Table 14. All independent variables are lagged by one year and winsorized at the 1% and 99% level, except for ownership variables. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% levels, respectively. Firm and time (double-) clustered standard errors are reported in brackets.

| Variable              | Divestiture dummy    |                      | Divestiture number   |                      |
|-----------------------|----------------------|----------------------|----------------------|----------------------|
|                       | (1)                  | (2)                  | (3)                  | (4)                  |
| Family                | -0.663**<br>[0.338]  |                      | -0.873**<br>[0.382]  |                      |
| Founder CEO/Ch.       |                      | 0.079<br>[0.467]     |                      | 0.105<br>[0.581]     |
| Family CEO/Ch.        |                      | -0.493<br>[0.341]    |                      | -0.790**<br>[0.400]  |
| Voting rights         | 0.325<br>[1.700]     | -0.272<br>[1.695]    | 0.160<br>[2.070]     | 0.160<br>[2.070]     |
| Separation wedge      | 1.542<br>[1.066]     | 1.042<br>[0.999]     | 1.923<br>[1.615]     | 1.923<br>[1.615]     |
| Herfindahl            | -2.527<br>[1.758]    | -2.014<br>[1.759]    | -3.144<br>[2.156]    | -3.144<br>[2.156]    |
| Leverage              | -0.014<br>[0.660]    | -0.039<br>[0.706]    | -0.046<br>[1.048]    | -0.046<br>[1.048]    |
| Cash holding          | -4.164***<br>[0.946] | -4.097***<br>[0.972] | -5.302***<br>[1.102] | -5.302***<br>[1.102] |
| Ln(Size)              | 0.467***<br>[0.067]  | 0.479***<br>[0.072]  | 0.582***<br>[0.095]  | 0.582***<br>[0.095]  |
| Neg. net income       | 0.335<br>[0.245]     | 0.394<br>[0.248]     | 0.499**<br>[0.254]   | 0.499**<br>[0.254]   |
| Age                   | -0.000<br>[0.005]    | 0.000<br>[0.005]     | 0.000<br>[0.007]     | 0.000<br>[0.007]     |
| Diversification       | 0.132<br>[0.090]     | 0.117<br>[0.091]     | 0.127<br>[0.130]     | 0.127<br>[0.130]     |
| Constant              | -5.590***<br>[1.290] | -5.726***<br>[1.322] | -6.476***<br>[1.719] | -6.476***<br>[1.719] |
| N. obs.               | 1,838                | 1,838                | 1,838                | 1,838                |
| Pseudo R <sup>2</sup> | 0.143                | 0.141                | 0.143                | 0.141                |
| Industry dummy        | Yes                  | Yes                  | Yes                  | Yes                  |

**Figure 1** Abnormal returns around the acquisition announcement



**Figure 2** Abnormal returns around the divestiture announcement

