

When Family Matters: The Impact of Family Control on Firm Valuation after the Financial Crisis 2007-2009

An Empirical study on Nordic Publicly Listed Firms

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Abstract

For a sample of 412 public companies in the Nordics, we study if and how family control affects stock price performance during the 2007-2009 financial crisis and the 2009-2011 post-crisis period. Overall, family-controlled firms do not perform significantly different from other types of firms. However, family-run firms, primarily driven by founder-run firms, outperform other types of control structures post-crisis. We therefore suggest the founder effect to be the most value-enhancing characteristic of family control. During the crisis, founder-run firms perform worse than other-blockholder-controlled and descendant-run firms. We propose this is due to an overreaction of the market, which misinterprets founders' risk reduction tendencies as signs of financial distress. Risk aversion is not evident in crisis period investment decisions and for family firms, investment changes have no significant correlation with post-crisis stock performance. This implies that for family firms, crisis-period investment cuts are not indicative of financial distress.

Keywords: Family control, Founder management, Financial Crisis, Stock Price Performance

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1. Introduction

Two of Sweden's most famous family-controlled companies have fared very differently over the course of the last two years when it comes to their stock price performance. Hennes & Mauritz (H&M) has lost more than 60% of its market value since the share peaked in early 2015. Several news outlets attribute this mainly to the company and CEO Carl-Johan Persson, grandson of founder Erling Persson and son of group chairman and controlling owner Stefan Persson, having missed the transition from stationary to online sales of clothes.¹ Investor AB, the major investment vehicle of the Wallenberg family chaired by Jakob Wallenberg, on the other hand, has increased its share price by more than 20% since February 2015.

Despite their different stock price performance, H&M and Investor have many things in common: they are both controlled by descendants of their respective founders, the chairman of both companies is a family member and both families use control-enhancing mechanisms in the form of dual-class share systems and pyramid structures to yield power over the company and the group. By year end 2017, H&M's chairman Stefan Persson and family own 40.5% of the capital, while they control 71.1% of the votes. For Investor AB, the Wallenberg family holds 23.36% of the capital, while controlling 50.16% of the votes.²

Besides these two concrete examples for Sweden, the Nordic countries in general are of particular interest when it comes to research on blockholder control in general and family-controlled firms in particular. All the Nordic countries allow dual-class shares (Lekvall, 2014). La Porta et al. (1999) add that the Nordics (and Scandinavia in particular) have a big deviation from the one-share, one-vote system, where in the average firm, only 15% of the capital is required to control 20% of the votes. This eases the potential for companies to separate voting rights from cash flow rights, and for families to retain control of companies throughout capital expansions. La Porta et al. (1998) add that the proportion of blockholder-controlled companies as opposed to widely held ones is also significantly higher in the Nordic countries compared to the US and UK, where much of previous research is based.

While research on performance implication of family-controlled firms in "normal" times is quite extensive (e.g. Anderson and Reeb, 2003a), evidence on family firms during crisis periods is scarce. The most recent study is from Lins et al. (2013), who find that for their

¹ <https://www.ft.com/content/253d36ee-2843-11e8-b27e-cc62a39d57a0> accessed on 9th May 2018

² See Annual Report 2017 for both H&M and Investor

sample of more than 8,500 firms from 35 countries, family-controlled firms significantly underperform during the 2007-2009 financial crisis. They include the Nordics in their sample, where in contrast to the overall findings, they detect a positive, but insignificant impact of family control.

We take the main inspiration for our study from Lins et al. (2013). We extend their research, however, by not only replicating their study for the pre-crisis and crisis period for the Nordics, but also investigating the performance of public family-controlled firms in the period after the financial crisis 2007-2009. To our knowledge, we are the first to ever specifically investigate family firms' performance in a post-crisis environment. What is more, we add to existing literature by also being the first ones to ever specifically investigate how family firms perform compared to other blockholders in the Nordics. We further expand current research for family and founder management impact on stock price performance in the Nordic countries.

In our study, we find that in the Nordics, family-controlled firms as a whole do not perform significantly different from other types of control structures during and after the crisis period. For family-run firms specifically, we find better performance in the post-crisis period. The main driver for these findings are founder-run firms, whose stock price performance is significantly better than that of all other control structures in the post-crisis period. We therefore suggest that the most value-enhancing characteristic of family-control is the founder effect. During the crisis, though, our findings suggest that founder-run firms perform worse than other-blockholder-controlled and descendant-run firms. We postulate that this is due to an overreaction of the market, which misinterprets founders' risk reduction tendencies, taken to ensure their firms' long-term survival, as a sign of financial distress. Based on Lins et al. (2013), we investigate whether these risk reduction tendencies are evident in family firms reducing investments more than other firms during the crisis. We find that cutting crisis-period investments does have a negative effect on crisis period stock performance, but that family firms do not change investments to a different extent compared to other firms. We further find that contrary to the crisis period, investment cuts are associated with positive post-crisis period stock returns for the whole sample, but no such correlation is found for the family firm subset. We therefore conclude that overall, crisis-period investment cuts are not indicative of financial distress for family firms.

The rest of the paper is structured in the following way: In section 2, we give an overview about the most relevant literature, which we use to build our hypotheses in section 3. Section 4 outlines the data collection process, followed by Section 5, where we present and discuss our results. Section 6 tests them for robustness. Section 7 is the conclusion, where we summarize our findings, present limitations and propose suggestions for further research.

2. Literature review

This section is structured as follows: first, an overview about the underlying theories regarding concentrated corporate ownership is provided. This is followed by a more detailed look into literature regarding family control. Finally, empirical evidence about the influence of blockholders and family ownership on firm performance is examined.

2.1 Theoretical Background/Ultimate Owner

When separating ownership and control, principal-agent theory as developed by Jensen and Meckling (1976) predicts that managers (the agents) will act in their own interest and maximize their utility, which often goes against the interest of shareholders (the principals). The costs that the principal incurs to monitor the agent and ensure they act in their best interest are called agency costs. Shleifer and Vishny (1986) propose that an investor with a concentrated ownership position in a company has incentives to monitor management, as they are able to internalize the benefits of these monitoring activities. By doing so, they help to reduce the principal-agent conflict. Shleifer and Vishny (1997) as well as Jensen (1986) develop this argument further by stating that large shareholders do not only have an incentive to reduce agency costs, but also the power to do so. They find it easier to coordinate their actions and put pressure on management, as their power is concentrated and not split up between several small investors.

The positive effects of large, concentrated ownership, however, do not come without cost. Shleifer and Vishny (1997) point to the fact that large shareholders' interests do not necessarily align with those of minority shareholders. Controlling shareholders might use their position to extract private benefits and redistribute wealth from other shareholders to themselves. This creates a second type of agency conflict referred to as expropriation of minority shareholders. Shleifer and Summers (1988) as well as Shleifer and Vishny (1997) further argue that firms with a large, undiversified owner, such as founding families, may forgo maximum profits when they are unable to separate their own financial preferences from those of outside owners. Claessens et al. (2002) show that large investors' abilities to do so is enhanced if their control rights are in excess of their cash flow rights. A large divergence between control (voting rights) and ownership (cash flow rights) creates a problem known as the entrenchment effect, making it easier for large shareholders to expropriate minority shareholders. The lower the cash flow rights held by the controlling shareholder, the less

costly it is for them to exercise non-value maximizing behavior, hence making minority expropriation more beneficial (for more details, see Cronqvist and Nilsson, 2003; Bebchuk et al, 2000; Bebchuk, 1999; La Porta et al., 2002; Lemmon and Lins, 2003; Jensen, 1986; Stulz, 1988; Lins 2003).

Looking at the examples above, one can see that concentrated ownership has two opposing effects. On the one hand, it helps to reduce the classical principal-agent conflict by creating an incentive effect to monitor management more closely and hence improving internal control. On the other hand, concentrated ownership, especially if combined with a separation wedge between control and cash flow rights, creates a second agency conflict called the entrenchment effect, which facilitates the expropriation of minority shareholders.

2.2 Family control

A special and very common form of concentrated corporate ownership is family control. Literature on family-controlled firms (family firms) underlines that a main interest of family firms is to preserve the firm and pass it on to future generations (Andersson and Reeb, 2003a). Porter (1992) and Lee (2004) suggest that family businesses have a more long-term view, as they try to preserve wealth for future generations. This longer outlook implies a vital role of firm survival among family firms. Danco (1975) also argues that family firms possess a more long-term commitment to business continuity. James (1999) and Stein (1989) indicate that families tend to have longer investment horizons than other shareholders, which might prevent them from taking ill-advised decisions to boost current or short-term earnings.

A wide range of literature attributes positive effects towards family control. Andres (2008) states that in family firms, most of the families' wealth is invested into the companies. They are therefore particularly concerned about the firm's survival and have a strong incentive to monitor management closely (see also Demsetz and Lehn, 1985). If the monitoring activities require firm- or market-specific knowledge, family firms might have an advantage due to their long-term presence in the firm and knowledge being passed down through generations. Anderson et al. (2003) argue that a family's sustained presence creates a strong reputational effect and can therefore provide incentives for family managers to improve firm performance. Harris et al. (1994) suggest that due to the long-term perspective and the family's pride in their reputation, there seems to be a higher perceived trust in family-companies when it comes to relationships with suppliers, customers or investment partners.

Andres (2008) points out, however, that families often pursue risk reduction strategies by investing in projects uncorrelated to the firm's core business. While this diversification strategy is in the best interest of the ownership family, as most of their wealth is concentrated in the firm, outside shareholders might want to diversify their portfolios independently (see also Anderson and Reeb, 2003b). Also, due to their risk reduction tendencies, family firms tend to raise lower amounts of debt, thereby hampering the firm's ability to raise external financing and forgoing higher interest tax shields. Both these strategies potentially impose costs on minority shareholders. Villalonga and Amit (2006) add that whenever the family can extract private benefits of control using control-enhancing mechanisms, the family and the minority shareholders need to pay for this practice via a discount in value.

Barontini and Caprio (2006) argue that families tend to fill executive positions in a firm with family offspring and are thereby depriving outside shareholders from the value creation potential of possibly better suited outside managers (see also Villalonga and Amit, 2006; Lee, 2004; Anderson and Reeb, 2003a). Shleifer and Vishny (1997) add that the entrenchment of family executives leads to founders and family members staying in the company even though they are no longer competent. This is one of the largest potential costs that controlling blockholders, and families in particular, can impose on a company.

Founder-run family firms

A particular type of family-controlled firms are founder-run firms, i.e. firms where the founder serves as CEO or chairman. In these firms, both the positive and negative effects of family firms are likely to be particularly strong. Jayaraman et al. (2000) state that founders, due to their even stronger reputational tie to the firm, may put more effort into running the firm and serve as superior CEOs. Since most of their wealth is usually also tied into the firm's equity, they might work particularly diligently to exercise their managerial skills. What is more, founders tend to create firms in industries where they are experts, hence giving them a performance advantage. Morck et al. (1988) add that founder CEOs bring innovative expertise into a firm that cannot be replicated by outsiders or even descendants. On the other hand, founders might have a particularly strong interest to align the firm's interests with their own, which could lead to excessive expropriation of minority shareholders and poor firm performance (Jensen and Meckling, 1976). Also, founders are likely to refrain from adopting liberal cash payout or dividend policies (Jayaraman et al., 2000). This could be because they

see the firm as part of their personal wealth and therefore use their firm's resources as their own.

2.3 Performance implications

Thomsen et al. (2006) find a negative correlation between blockholder ownership and firm value for a set of large companies in Continental Europe, with significance only if ownership exceeds the 25% ownership threshold. They see these results applicable for all countries with control-based governance systems (including the Nordics), which is in line with Gugler (1998) and Cronqvist and Nilsson (2003). For the US and the UK, which use a market-based governance system, on the other hand, Thomsen et al. (2006) find that blockholder ownership has no systematic effect on performance, confirming Demsetz and Lehn (1985) and Demsetz and Villalonga (2001). These findings seem to be in line with Denis and McConnell (2003)'s theory that the relationship between ownership structure and performance is influenced by system effects.

Family control vs. non-family control

Anderson and Reeb (2003a) find that listed US companies with continued founding-family presence perform better than non-family firms. This superior accounting and market performance is attributed to the founding family's involvement in the business. Also, family firms with a family CEO perform better than those with an outside CEO (see also Andres, 2008).

Founder-run family firms

Barontini and Caprio (2006) look at almost 700 companies in 11 countries in Continental Europe, finding a higher valuation and outperformance of founder-controlled corporations and a non-worse performance of descendant-controlled firms compared to other types of firms. They also find that family (and founder) firms' superior performance is reduced by their use of control-enhancing mechanisms; nevertheless, the residual effect is clearly positive. In their study on 508 Fortune 500 firms, listed in U.S. stock markets during 1994–2000, Villalonga and Amit (2006) find that family ownership only creates value if the founder still serves as CEO or chairman of the board, and is highest if no control-enhancing mechanisms are put in place. The authors do also find a negative impact of descendant CEOs on return, regardless of the use of control-enhancing mechanisms. Jayaraman et al. (2000) add that the impact of founder

management on a family firm's financial performance is more positive for smaller firms than larger firms. Fahlenbrach (2009) finds that a portfolio of US founder-run firms outperforms other firms significantly over a period from 1993 to 2002.

Family firms vs. other type of blockholders

Isakov and Weisskopf (2014) point out that it is important to make a distinction between family and non-family blockholders, as those two groups have different incentives and motivations that affect their behavior with regards to the company and minority shareholders. While for family firms, the company and its reputation are important since it constitutes a major part of the family's wealth, this is not necessarily true for other blockholders. For example, if the state is a large blockholder, a person representing the state does not have the same direct implications of the suboptimal decisions taken by firm management to their personal wealth. Also, negative news will not impact this person's reputation as much as it would a family, with the latter being much closer linked to the company. Therefore, they see other blockholders closer to widely held firms. In their study, they find that between 2003 and 2010, Swiss public family firms are more profitable than companies that are widely held or have a non-family blockholder. Maury (2006) investigates how family firms fare in relation to firms with a non-family controlling blockholder in Western Europe by the end of 1998. He finds that active family control does lead to higher profitability compared to non-family blockholders, while passive family control has no effect. The effect on firm valuation (measured as Tobin's Q), however, is positive for both active and passive family control. Andres (2008) finds similar results, showing that family-firms are more profitable than both widely-held firms and companies with other types of blockholders.

Impact of blockholder control during times of financial shock

While evidence on the impact of blockholders on firm performance during "normal" times is extensive, research on the impact of exogenous financial shocks on family firms is rather scarce. The most extensive study for family firms is Lins et. al (2013), which investigates the impact of family control on valuation and corporate decisions during the financial crisis 2007-2009 using a sample of more than 8,500 firms from 35 countries. They define the crisis period from August 2008 until March 2009 and find that family firms underperform significantly, cut investments more relative to other firms and that these investment cuts are associated with

stronger underperformance. Their findings are consistent with Lemmon and Lins (2003), who show that during the East Asian Financial Crisis in 1997-1998, firms with managerial control underperform significantly compared to other firms. Cleassens et al. (2003) find that East Asian companies controlled by management/family groups were less likely to file for bankruptcy during a financial crisis. They argue that this insurance against bankruptcy might come at the expense of minority shareholders.

3. Hypothesis

Based on the literature review in Section 2, we build five hypotheses in this section.

After reviewing previous academic literature, we find the conclusive answer that blockholder control in general and family control in particular influence firm valuation, both in normal times and during a crisis (e.g. Anderson and Reeb, 2003a; Lins et al., 2013). However, there is a gap in current research on what happens to family firms in a post-crisis environment. Do these firms continue to underperform even after the crisis, implying that financial distress causes more long-lasting damage to these firms? Do they perform as they did before, once the storm has passed? Or, does the market over-react when these companies are under financial distress, with the stock price picking up and outperforming firms with different shareholder structures once the crisis has passed? These questions lead us to our first hypothesis:

H1: Family-controlled companies perform better than companies with other shareholder structures in the period during or following a financial crisis.

The literature suggests that there is a significant difference within family-controlled firms based on whether they are also family-run. Opposing views on how being family-run affects the performance of the company say that on the one hand, they could outperform if the family exerts higher levels of effort to manage the company since they have both reputation and concentrated wealth tied to the company (Jayaraman et al., 2000). On the other hand, they could underperform if the family's managerial positions allow them to easier expropriate minority shareholders (Jensen and Meckling, 1976). Which of these effects is stronger in a crisis and post-crisis period? We formulate a second hypothesis:

H2: Family-run companies perform better than non-family-run companies in the period during or following a financial crisis.

Within family-run firms, literature suggests that the effects of family control, both positive and negative, are enhanced. Empirical evidence, though, shows that founder-run firms perform better than non-founder-run firms. We therefore want to ask the question: Is this also true in a post-financial crisis environment? We therefore postulate the following hypothesis:

H3: Founder-run companies perform better than non-founder-run companies in the period during or following a financial crisis.

Based on hypotheses H1-H3, we wish to understand the underlying reasons for potential performance differences. Lins et al. (2013) find that the underperformance of family-controlled firms in the crisis to a large degree can be explained by a higher propensity among these firm to cut investments to ensure the long-term survival of the firm, which the market reacts negatively to. We wish to examine if this explanation also holds true for our study, and we thus formulate the hypothesis:

H4: Investment cuts during the crisis period negatively affect a firm's stock price performance in the same period, and family firms cut investment more compared to other firms.

Finally, we wish to understand how crisis-period investment decisions affect the stock-price performance of a firm in the post-crisis period. Does a firm that cuts investments heavily also perform worse after the crisis has passed, or do they recover more quickly? Our final hypothesis:

H5: Firms that heavily cut investments during the crisis period experience a worse post-crisis stock performance.

4. Data

4.1 Data Collection Process

The approach of creating our dataset is inspired by Lins et al. (2013). We start the process with a list of all public companies in the Nordics in 2006, when there was little to no indication of an impending financial crisis. We then remove any companies delisted in 2006, as we use accounting measures by 31.12.2006 (obtained via the Eikon Database) to filter them.

We remove from the sample any firm with less than €10 million euros in assets, negative cash, negative book equity, negative debt, and companies with otherwise missing data needed for our analytical approach. This is done in accordance with Lins et al. (2013) to ensure comparability.

We then, similarly to Lins et al. (2013), use the Orbis database to find the global ultimate owner (GUO) of the remaining firms, with the threshold for this parameter set at 25,01% control of the firm. The GUO in the Orbis database does not only look at direct ownership, but also ownership of the entity controlling the firm, and the ownership of the entity controlling the first entity, until an ultimate owner is found. This bypasses any pyramid structures that would otherwise obscure the ownership of the firm. We remove firms where there is more than one GUO, as it might lead to confusion on which category the firm belongs to (e.g. if there is one family owner and one other blockholder), firms where the control of the company is unknown as well as companies with no US SIC code.

Orbis only provides information about the current GUO. To check whether there has been any change in the GUO since 31.12.2006, which is the date when we selected the companies based on their accounting measures, we manually check for each family-controlled company whether there has been any change in the GUO since the end of 2006. We do so by using Orbis and/or annual reports. At the same time, we check whether family-controlled companies were also family and/or founder run by the end of 2006. If there were changes in either GUO or family management, the company gets eliminated, as it would distort our dataset. For any companies other than family companies, i.e. other blockholders and widely held companies, we assume their GUO structure has not changed. This results in a final sample containing a total of 412 firms.

Our performance measure is the buy-and-hold stock return, which is the total return from the first until the last day of a period and was chosen in accordance with Lins et al. (2013)

to ensure comparably. We create three separate datasets for three different time periods: the pre-crisis period, the crisis period and the post-crisis period. Differently from Lins et al. (2013), we look at the OMX40 stock index as a proxy for the Nordic stock market to establish these periods (see **Figure 1** in the Appendix). As starting date for the pre-crisis period, we choose the second of January 2006, while the end date is the 11th October 2007, when the OMX 40 reached its peak. During this period, we believe there was little to no indication of any crisis approaching, which ensures we get an estimate of the buy-and-hold return during ‘normal’ times. The crisis period starts on the same date that the pre-crisis ends, and continues to the sixth of March 2009, when the OMX 40 hit its nadir during the financial crisis. The post-crisis period starts at this date, and ends on 12th January 2011, when the OMX 40 reached a post-crisis peak.

For each of these periods, we collect a set of control variables. We select the data by the end of the last audited annual financial statement proceeding the starting date of the period. For the pre-crisis period, we select the data by the FY2005; for the crisis, we select the data by FY2006; and for post-crisis, we select the data by FY2008. The control variables are size, as measured by log of market capitalization; leverage, as measured by total debt to total assets; short-term debt, as measured by short term debt to long term debt; stock momentum, as measured by the firm’s stock return over the year preceding the start of the period; free float percent, as measured by the percentage of shares not closely held by corporate insiders; cash holdings, as measured by total cash to total assets; and book to market value, as measured by the book value of equity to market value of equity.

For some of the control variables, Eikon lacks data for several firms. Companies that were delisted during the financial crisis are excluded from the post-crisis dataset as we lack both stock price performance as well as accounting data to run controls with. For several other companies, Eikon lacks data points, despite these companies still being listed. To find the values, we manually go through the firms’ old annual reports. In case these annual reports were not available, and we were therefore unable to find the missing values, we set them to the median value of all other companies. In a later robustness test, we test our results by setting these values to the maximum and minimum, respectively, and perform our analysis on the adjusted data sets.

4.2 Definitions

When researching blockholders and family-controlled firms, it is important to consider what the actual definitions of these terms are, since they vary between different authors in previous literature, making direct comparisons troublesome. To increase comparability between our study and previous research, we use the same definitions as Lins et al. (2013), since their study is the one most closely linked to our own.

We define a firm as being held by a blockholder if one single entity or a group of closely connected entities (e.g. a family) holds more than 25% of the control of the firm, either through direct stock ownership or through indirect holdings that ultimately give the entity control of the firm. It is important to distinguish control from direct share ownership, as blockholders (and families in particular) are prone to use control enhancing mechanisms, separating control from cash flow rights, through pyramid structures and dual-class shares. Using the GUO function in Orbis, we classify the firms as blockholder-controlled or widely held. The blockholder category is then divided into family-controlled firms, and other-blockholder-controlled firms (e.g. states, funds, other firms). Family-controlled firms are further divided into family-run and non-family-run firms, with the former again separated into founder-run and descendant-run family firm.

Family-controlled firms are defined as firms where the GUO is an individual, a family, or a foundation controlled by an individual or family. Family-run firms are in turn defined as companies where the GUO or a member of the GUO's family (which we identify by the same family name) is serving as either CEO or chairman of the firm. Founder-run and descendant-run firms, finally, are firms where the founder or a descendant, respectively, serves as CEO or chairman.

4.3 Descriptive statistics

Table 1 provides summary statistics of the sample based on country and shareholder structure. We find that Swedish firms are the largest sub-sample, which is not unexpected since it is the largest of the Nordic countries. Blockholder control is the most common shareholder structure in all countries except Finland, and in Sweden, Denmark and Finland about half of these blockholders are families. Overall, about half of family-controlled firms are also family run, except for Norway, where a clear majority of these firms have a family member serving as CEO

or chairman. Founder managed firms are the rarest of companies, making up only 5% of all companies and a fifth of family-controlled firms.

Table 1: Distribution of categories

We divide the control structure of the companies in our dataset into several categories. In a first step, we divide them into blockholder-controlled firms and widely held firms. Blockholder-controlled firms are divided into family-controlled firms and other-blockholder-controlled firms, with the former divided into family-run firms and non-family-run firms. Family-run firms are split into founder-run firms and descendant-run firms.

	Sweden	Norway	Finland	Denmark	%
N	150	101	80	81	100%
Blockholders	57%	52%	36%	59%	52%
Family controlled	30%	16%	20%	32%	25%
Family run	16%	13%	10%	14%	14%
Founder run	7%	4%	3%	6%	5%
Descendant run	9%	9%	8%	7%	8%
Non-family-run	14%	3%	10%	19%	11%
Other blockholders	27%	37%	16%	27%	27%
Widely held	43%	48%	64%	41%	48%
%	36%	25%	19%	20%	

Table 2 contains descriptive statistics for the main variables used in our analysis. The median firm in our sample has total assets of ~ €261 million, comparable to the \$239 million in the Lins et al. (2013) sample. The median firm also has a low leverage at 22% as measured by total debt to total assets (17% in the Lins et al. (2013) sample). The median profitability is 12% (EBITDA to total assets), and firms in the 25th percentile are also profitable.

The median for pre-crisis stock return is 12%, while in the crisis period, the median is -57%, with companies in the 75th percentile also having negative stock returns at -38% in this period. In the post-crisis period, the median return is 57%, and firms at the 25th percentile also show positive stock returns at 7%.

Table 2: Descriptive statistics of control variables

TOTAL ASSETS are the total assets of the firm; TOTAL DEBT is the total debts of the firm; LEVERAGE is the ratio of total debt to total assets; CASH CE is the cash holdings of a firm; CASH_HOLDINGS is the ratio of cash to total assets; TOTAL_SHAREHOLDERS_EQUITY is the book value of equity; MARKET_CAPITALIZATION is the market value of equity; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; CAPEX is the capital expenditures of the firm; INVESTMENTS is the ratio of capital expenditures to total assets; EBITDA is the earnings before interest, taxes, depreciation and amortization; PROFITABILITY is EBITDA to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. Returns are the buy-and-hold stock returns for a firm from (pre) 1.1.2006 to 11.10.2007, (crisis) 11.10.2007 to 6.3.2009, (post) 6.3.2009 to 12.1.2011. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the crisis period.

Variable	N	Mean	25th pctl	Median	75th pctl	SD
TOTAL_ASSETS	412	5 065 500	66 813	261 334	1 306 872	29 267 889
TOTAL_DEBT	412	1 804 568	7 359	52 752	347 085	12 938 610
LEVERAGE	412	0,24	0,07	0,22	0,38	0,19
CASH_CE	412	190 979	6 166	21 310	83 222	714 988
CASH_HOLDINGS	412	0,15	0,03	0,07	0,19	0,18
TOTAL_SHAREHOLDERS_EQUITY	412	838 615	29 635	96 890	453 215	2 398 145
MARKET_CAPITALIZATION	412	2 113 822	70 089	235 480	1 452 507	6 108 796
SIZE	412	12,61	11,16	12,37	14,19	2,13
BOOK_TO_MARKET	412	0,55	0,26	0,40	0,61	0,72
CAPEX	412	84 798	969	4 977	39 351	302 904
INVESTMENTS	412	0,05	0,01	0,03	0,06	0,06
EBITDA	412	348 250	5 744	27 498	183 010	1 296 872
PROFITABILITY	412	0,12	0,06	0,12	0,18	0,13
ST_DEBT	412	1 003 422	1 001	11 354	78 210	8 579 369
ST_DEBT_TO_DEBT	412	0,35	0,08	0,27	0,54	0,31
FREE_FLOAT_PERCENT	412	0,69	0,50	0,73	0,93	0,27
MOMENTUM_PRE	385	0,57	0,14	0,37	0,70	0,79
MOMENTUM_CRISIS	412	0,22	-0,06	0,12	0,38	0,50
MOMENTUM_POST	412	-0,43	-0,63	-0,47	-0,27	0,39
RETURN_PRE	412	0,15	-0,04	0,12	0,28	0,34
RETURN_CRISIS	412	-0,52	-0,72	-0,57	-0,38	0,28
RETURN_POST	412	0,92	0,07	0,57	1,43	1,34

5. Results

In the following section, we present the results of our study. We start with our baseline hypothesis H1, investigating the impact of family control on stock price performance (Section 5.1). We further examine what drives the impact of family control with our second hypothesis H2, which considers the relationship between family management and stock price performance (Section 5.2). To further disentangle the effect of the different types of family management, we study the impact of founder management on stock price performance with hypothesis H3 (Section 5.3). Finally, with hypotheses H4 and H5, we investigate if our results can be explained by changes in relative investment levels in the crisis period (Section 5.4).

5.1 Family-controlled companies

In a first step, by using hypothesis H1, we examine if family-controlled firms perform better than firms with other types of control structures. In our empirical analysis of the data, we follow Lins et al. (2013) and assume the same baseline specification for the buy-and-hold stock market returns in the periods we investigate:

(1)

$$Ret_{p,i} = \alpha + y' \times block_i + z' \times ctrl_{p,i} + d_{SIC1} + d_{ct} + \varepsilon_{p,i}$$

where $Ret_{p,i}$ is the buy-and-hold stock market return for time period p for stock i , $block_i$ is a vector of dummy variables indicating the shareholder structure and ultimate control of the firm as either family-controlled, other-blockholder-controlled or widely held (all mutually exclusive), and $ctrl_{p,i}$ is our set of control variables as described in Section 4.3 for firm i in period p .

d_{SIC1} contains a vector of dummies indicating the one-digit US SIC code of the firm, indicating which industry the firm is mainly operating in, and d_{ct} similarly contains a vector of dummy variables indicating in which of the Nordic countries the stock is listed. Similar to the blockholder dummies, the country and industry dummies are mutually exclusive within their own category, i.e. for the d_{SIC1} vector, the dummy indicating the firm's operational focus is set to "1", and the dummies for all other industries are set to "0". Both the d_{SIC1} and the d_{ct} are used to run fixed effects. Different to Lins et al. (2013), we do not cluster standard errors, since we assume that within the two groups (industry and country), there is no big variation

due to the comparably small number of observations as well as size of the countries and industries.

We run a set of three simple OLS regressions on our data set: one for each of the time periods we investigate – pre-crisis, crisis and post-crisis. The pre-crisis regression is conducted to investigate whether, during ‘normal’ times, there is a difference in stock price performance between the shareholder structures. If there were differences, this would indicate the market fails to properly account for the effect of these structures even in ‘normal’ times, which would have interpretational implications on the crisis and post-crisis results. The crisis regression is not only used to check our hypothesis, but also to check for comparability with Lins et al. (2013). We perform the post-crisis regression to discern whether or not a post-crisis period is to be considered the same as ‘normal’ times, or whether an exogenous financial shock causing a financial crisis affects the medium-term stock price performance of firms with different shareholder structures differently.

Table 3: Family control vs other shareholder structures

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are family-controlled and all other non-family-controlled firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE	RETURN_CRISIS	RETURN_POST
	(1)	(2)	(3)
Family_controlled_dummy	0.042 (0.041)	-0.022 (0.032)	0.059 (0.157)
LEVERAGE	0.074 (0.118)	-0.286*** (0.084)	0.825** (0.403)
CASH_HOLDINGS	0.080 (0.105)	0.101 (0.080)	-0.047 (0.496)
SIZE	-0.0002 (0.010)	-0.016** (0.008)	0.170*** (0.037)
BOOK_TO_MARKET	-0.018 (0.031)	0.024 (0.021)	0.068 (0.045)
INVESTMENTS	-0.347 (0.331)	0.256 (0.240)	-2.202* (1.209)
ST_DEBT_TO_DEBT	-0.012 (0.060)	-0.091** (0.043)	-0.167 (0.219)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.002*** (0.001)	0.003 (0.003)
MOMENTUM_PRE	0.014 (0.023)		
MOMENTUM_CRISIS		-0.026 (0.027)	
MOMENTUM_POST			-1.067*** (0.238)
Observations	383	412	387
R ²	0.158	0.174	0.196
Adjusted R ²	0.106	0.127	0.148

Note:

*p<0.1;**p<0.05;***p<0.01

Table 4: Family control vs. widely held

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are family-controlled firms, other-blockholder-controlled firms and widely held firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE	RETURN_CRISIS	RETURN_POST
	(1)	(2)	(3)
Family_controlled_dummy	0.051 (0.045)	0.010 (0.036)	-0.066 (0.169)
Other_blockholder_dummy	0.023 (0.045)	0.072** (0.034)	-0.321* (0.169)
LEVERAGE	0.073 (0.118)	-0.279*** (0.084)	0.770* (0.403)
CASH_HOLDINGS	0.083 (0.105)	0.111 (0.080)	-0.095 (0.495)
SIZE	0.00000 (0.010)	-0.016** (0.008)	0.172*** (0.036)
BOOK_TO_MARKET	-0.020 (0.032)	0.019 (0.022)	0.078* (0.045)
INVESTMENTS	-0.334 (0.333)	0.288 (0.240)	-2.351* (1.207)
ST_DEBT_TO_DEBT	-0.009 (0.060)	-0.085* (0.043)	-0.179 (0.218)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.002*** (0.001)	0.002 (0.003)
MOMENTUM_PRE	0.014 (0.023)		
MOMENTUM_CRISIS		-0.029 (0.027)	
MOMENTUM_POST			-1.075*** (0.237)
Observations	383	412	387
R ²	0.158	0.184	0.204
Adjusted R ²	0.104	0.135	0.154

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 5: Family control vs. other blockholders

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables, on a subset of blockholder-controlled companies. Blockholder categories are family-controlled firms and other-blockholder-controlled firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE	RETURN_CRISIS	RETURN_POST
	(1)	(2)	(3)
Family_controlled_dummy	0.051 (0.053)	-0.064 (0.043)	0.285 (0.176)
LEVERAGE	0.141 (0.170)	-0.205 (0.130)	0.754 (0.558)
CASH_HOLDINGS	-0.037 (0.151)	0.094 (0.128)	-0.076 (0.661)
SIZE	-0.018 (0.014)	-0.012 (0.012)	0.183*** (0.049)
BOOK_TO_MARKET	-0.053 (0.043)	0.019 (0.031)	0.105* (0.061)
INVESTMENTS	-0.264 (0.651)	0.133 (0.402)	-2.829* (1.660)
ST_DEBT_TO_DEBT	0.027 (0.090)	-0.079 (0.069)	-0.371 (0.285)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.001 (0.001)	0.002 (0.004)
MOMENTUM_PRE	0.026 (0.043)		
MOMENTUM_CRISIS		-0.041 (0.045)	
MOMENTUM_POST			-1.597*** (0.412)
Observations	196	216	194
R ²	0.154	0.152	0.269
Adjusted R ²	0.057	0.065	0.184

Note:

*p<0.1; **p<0.05; ***p<0.01

Results

In **Table 3**, we find that compared to all other types of firms, there is no significant effect of a firm being family controlled, neither in the crisis period nor in the post-crisis period. Hence, we are unable to confirm our hypothesis that family-controlled perform better in this regression. In the pre-crisis period, the effect of family control is also non-significant.

Compared to widely held firms in **Table 4**, family control again has no significant effect on the stock price performance in any of the periods. Thus, we are unable to confirm our hypothesis that family-controlled companies perform better than widely held ones. In the same regression, we find that other blockholder control is significantly positively associated with stock price returns in the crisis period, but significantly negatively associated in the post-crisis period, with statistical significance at the 10% and 5% level, respectively.

Finally, we test the hypothesis on a subset of only blockholder-controlled companies in **Table 5**. We find that the effect of a firm being family-controlled compared to other-blockholder-controlled is not statistically significant in the pre-crisis and crisis periods. In the post-crisis period, we find that a firm being family controlled has an economically large, positive correlation with stock price performance, but again not statistically significant. In summation, we are unable to confirm hypothesis H1.

Coefficients of the significant control variables used in the regressions for the first set of hypotheses show that firms had better buy-and-hold stock returns during the crisis if they were smaller, were less levered, used less short-term debt and had less free float. In the post-crisis, companies that were larger, invested less during the crisis and had weaker momentum performed better.

Economic interpretation

During the crisis and post-crisis periods, we find that family control has no statistically significant influence on the stock performance. When we also include other blockholders in the regressions, findings are in line with those of Lins et al. (2013): they find a positive, but non-significant effect of family control in Sweden, Finland and Norway compared to widely held firms, which we can confirm for our whole dataset. On the other hand, overall, they find that firms controlled by other blockholders perform better than both widely held and family-controlled firms in this period. We can confirm this for the Nordics in the crisis period, with significance at the 5% level.

Previous literature suggests that blockholders in general share a set of characteristics that are separate from owners of widely held firms: a high degree of management monitoring and of wealth concentration in a specific firm (Shleifer and Vishny, 1986), but also the ability to use their controlling stake in the company to expropriate minority shareholders (Shleifer and Summers, 1988; Shleifer and Vishny, 1997). Family owners, being a subset of blockholder, also have these characteristics, as well as an additional set of family-specific particularities: a reputational connection to the firm (Anderson et al., 2003), a long-term view on firm performance (Anderson and Reeb, 2003a; Lee, 2004), an even higher degree of wealth concentration (Andres, 2008), but also propensity towards nepotism in management positions (Shleifer and Vishny, 1997). In summation, the literature is not clear on whether these family-specific characteristics have a net positive or net negative effect on the firm. The results presented in **Table 4** suggest that in the crisis period, the market expects these family particularities to have a negative effect, since other blockholders, which would have only the general blockholder characteristics, have a better stock price performance than family-controlled firms. In the post-crisis period in **Table 5**, however, our results imply, even though not statistically significant, that the reverse is true: family-controlled firms have higher buy-and-hold returns than other-blockholder-controlled firms, meaning that the market believes the family control characteristics to have a net positive effect in this period. This means that contrary to our prediction, we find no statistically significant evidence on family control having a positive influence on stock price performance in the crisis and post-crisis period. To further investigate our results, we continue with our second hypothesis.

5.2 Family-run companies

To investigate the influence of a firm being both family-controlled and family-run, we run a second set of regressions specifically for family-run firms in all the periods. The regression equation follows:

(2)

$$Ret_{p,i} = \alpha + x' \times mgmt_i + y' \times block_i + z' \times ctrl_{p,i} + d_{SIC1} + d_{ct} + \varepsilon_{p,i}$$

where the $mgmt_i$ vector is added, containing two mutually exclusive dummies indicating whether (1) or not (0) the firm is run by a member of the controlling family. The other variables are the same as in equation (1). The results of these regressions are presented in **Table 6** to **Table 9**.

Table 6: Family-run vs. non-family-run

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are family-run firms and all other non-family-run firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE	RETURN_CRISIS	RETURN_POST
	(1)	(2)	(3)
Family_run_dummy	0.024 (0.051)	0.009 (0.040)	0.227 (0.196)
LEVERAGE	0.077 (0.118)	-0.290*** (0.084)	0.836** (0.402)
CASH_HOLDINGS	0.086 (0.105)	0.097 (0.080)	-0.058 (0.494)
SIZE	-0.001 (0.010)	-0.015** (0.008)	0.171*** (0.036)
BOOK_TO_MARKET	-0.018 (0.031)	0.025 (0.022)	0.069 (0.045)
INVESTMENTS	-0.341 (0.332)	0.255 (0.241)	-2.246* (1.207)
ST_DEBT_TO_DEBT	-0.008 (0.060)	-0.094** (0.043)	-0.159 (0.219)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.002*** (0.001)	0.004 (0.003)
MOMENTUM_PRE	0.012 (0.023)		
MOMENTUM_CRISIS		-0.025 (0.027)	
MOMENTUM_POST			-1.071*** (0.238)
Observations	383	412	387
R ²	0.156	0.173	0.199
Adjusted R ²	0.104	0.127	0.150

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 7: Family-run vs. widely held

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are family-run firms, non-family-run family firms, other-blockholder-controlled firms and widely held firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE (1)	RETURN_CRISIS (2)	RETURN_POST (3)
Family_run_dummy	0.043 (0.056)	0.035 (0.044)	0.081 (0.210)
Non_family_run_dummy	0.060 (0.058)	-0.017 (0.045)	-0.227 (0.217)
Other_blockholder_dummy	0.022 (0.045)	0.073** (0.034)	-0.318* (0.168)
LEVERAGE	0.073 (0.118)	-0.281*** (0.084)	0.798** (0.403)
CASH_HOLDINGS	0.082 (0.105)	0.109 (0.080)	-0.089 (0.495)
SIZE	-0.0001 (0.010)	-0.015** (0.008)	0.172*** (0.036)
BOOK_TO_MARKET	-0.020 (0.032)	0.020 (0.022)	0.078* (0.045)
INVESTMENTS	-0.338 (0.333)	0.307 (0.241)	-2.418** (1.208)
ST_DEBT_TO_DEBT	-0.009 (0.060)	-0.083* (0.043)	-0.166 (0.219)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.002*** (0.001)	0.002 (0.003)
MOMENTUM_PRE	0.014 (0.023)		
MOMENTUM_CRISIS		-0.028 (0.027)	
MOMENTUM_POST			-1.087*** (0.237)
Observations	383	412	387
R ²	0.158	0.186	0.207
Adjusted R ²	0.102	0.135	0.155

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 8: Family-run vs. other blockholders

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables, on a subset of blockholder-controlled firms. Blockholder categories are family-run firms, non-family-run family firms and other-blockholder-controlled firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE	RETURN_CRISIS	RETURN_POST
	(1)	(2)	(3)
Family_run_dummy	0.040 (0.064)	-0.040 (0.051)	0.460** (0.209)
Non_family_run_dummy	0.064 (0.066)	-0.091* (0.054)	0.083 (0.218)
LEVERAGE	0.144 (0.171)	-0.210 (0.130)	0.812 (0.557)
CASH_HOLDINGS	-0.040 (0.152)	0.091 (0.128)	-0.071 (0.658)
SIZE	-0.018 (0.014)	-0.012 (0.012)	0.187*** (0.048)
BOOK_TO_MARKET	-0.053 (0.044)	0.020 (0.031)	0.106* (0.061)
INVESTMENTS	-0.267 (0.653)	0.170 (0.405)	-2.912* (1.655)
ST_DEBT_TO_DEBT	0.026 (0.090)	-0.075 (0.069)	-0.342 (0.284)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.001 (0.001)	0.003 (0.004)
MOMENTUM_PRE	0.029 (0.043)		
MOMENTUM_CRISIS		-0.038 (0.045)	
MOMENTUM_POST			-1.664*** (0.412)
Observations	196	216	194
R ²	0.154	0.155	0.279
Adjusted R ²	0.052	0.064	0.191

Note:

*p<0.1;**p<0.05;***p<0.01

Table 9: Family-run vs. non-family-run family firms

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables, on a family-controlled subset. Blockholder categories are family-run firms and non-family-run family firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE	RETURN_CRISIS	RETURN_POST
	(1)	(2)	(3)
Family_run_dummy	-0.032 (0.068)	0.070 (0.047)	0.452** (0.210)
LEVERAGE	-0.065 (0.207)	-0.056 (0.133)	0.404 (0.635)
CASH_HOLDINGS	0.037 (0.165)	0.121 (0.130)	-0.809 (0.733)
SIZE	-0.023 (0.019)	0.021 (0.014)	0.076 (0.063)
BOOK_TO_MARKET	0.028 (0.141)	0.131 (0.093)	-0.272* (0.152)
INVESTMENTS	0.161 (0.767)	0.494 (0.378)	-0.190 (1.896)
ST_DEBT_TO_DEBT	0.005 (0.109)	-0.061 (0.072)	-0.503 (0.327)
FREE_FLOAT_PERCENT	0.004*** (0.001)	-0.002** (0.001)	-0.00003 (0.005)
MOMENTUM_PRE	0.011 (0.053)		
MOMENTUM_CRISIS		-0.060 (0.064)	
MOMENTUM_POST			-2.217*** (0.636)
Observations	100	103	100
R ²	0.281	0.364	0.469
Adjusted R ²	0.099	0.209	0.334

Note:

*p<0.1;**p<0.05;***p<0.01

Results

Our second hypothesis investigates the impact of family management on stock price performance. When comparing family-run firms to all other firms in **Table 6**, we find no significant results in the pre-crisis and crisis period, and an economically large and positive, but insignificant correlation in the post-crisis period.

When comparing family-managed firms to widely held firms in **Table 7**, we find no significant effect in any of the time periods. However, we find that non-family-run family firms (i.e. family-controlled firms with outside management) underperform compared to widely held firms at an economically large, but statistically insignificant level in the post-crisis period. For other blockholders, we again find a positive and significant impact on stock price performance during the crisis at the 5% level and a negative impact during the post-crisis period, significant at the 10% level.

In **Table 8**, we examine family-run firms on a subset of only blockholder-controlled companies. For the post-crisis period, we can confirm our hypothesis, with family-run companies having a positive and significant impact on share price performance at the 5% level compared to other-blockholder-controlled firms. During the pre-crisis and crisis period, we find no significant effect. We find that non-family-run family firms perform worse than other-blockholder-controlled companies during the financial crisis, significant at the 5% level. In the pre- and post-crisis period, we find no significant effect.

In the final part of our second set of regressions, we test the impact of family management on stock price performance on a subset of only family-controlled companies, presented in **Table 9**. Both in the pre-crisis and crisis periods, we find no significant effect. In the post-crisis period, on the other hand, we find that family run companies perform significantly better than non-family-run family firms on the 5% significance level.

In summary, we find partial support for the hypothesis that family-run firms' stock price performs better than that of other types of firms. The results are statistically significant only compared to non-family-run family firms in the post-crisis period.

Looking at the coefficients of the significant control variables of our second set of hypotheses, we can see that companies' stock price performed better during the crisis if they were smaller, used less leverage, used less short-term debt and had less free float. In the post-crisis period, companies that had more leverage, were larger, invested less and had negative

momentum performed better. The more specific our regressions get, the less significant the controls are due to smaller sample sizes.

Economic interpretation

When we compare family-run companies' stock price performance with that of all other types of firms (Table 6), it is not unsurprising to find that the results are not statistically significant. The literature attributes many positive characteristics to family control (Andres, 2008; Demsetz and Lehn, 1985; Anderson et al., 2003; Harris et al., 1994) and even more to founder management. Founders are considered particularly diligent when it comes to managing their firm (Jayaraman et al., 2000) and since most of their wealth is tied in the firm, they are particularly suited to resolving the principal-agent conflict as proclaimed by Jensen and Meckling (1976). When it comes to descendant-managed family companies, though, the literature is quite clear that descendant-management does not have positive effects on firm performance (Barontini and Caprio, 2006; Villalonga and Amit, 2006). Since our dummy variable for family management includes both these types of family firm management, we see it as not unsurprising that there is no statistically significant effect when testing it against all non-family-run companies in our dataset. We assume that the mix between the positive characteristics of founders and the negative ones from decedents prevents us from finding significant results.

The same impact of the mix between the effects of founder- and descendant-run firms can be seen when looking at Table 7, where we test family-run firms against widely held ones: during and after the crisis, family-run firms are not statistically distinguishable from widely held firms, which we attribute to the same effect. Other-blockholder-controlled firms, on the other hand, are statistically distinguishable from widely held firms both during and post crisis. During the crisis, blockholders perform better, which again confirms Lins et al. (2013)'s findings for other-blockholder-controlled firms. Other-blockholder-controlled firms performing worse compared to widely-held firms after the financial crisis is also not unexpected and in line with previous literature (Thomsen et al., 2006; Gugler, 1998). We explain it by the negative agency effects that blockholders are associated with (Shleifer and Vishny, 1997; Bebchuk, 1999). Since we do not find statistical significance for family-controlled firms, though, we assume that they possess additional positive effects compared to other blockholders.

In **Table 8**, we show the results of the comparison between family-run firms and other-blockholder-controlled firms. We explain the positive correlation that family-run firms have with stock price performance in the post-crisis period by the presence of the controlling family. While the effects of founder and descendant management with regards to agency costs are again not distinguishable in this specific hypothesis, we assume that the fact the company is run by any type of family member is enough for the market to attribute them a higher relative value in the post-crisis period. We speculate the reason for this is that by having a family member in charge of running the family-controlled company, the negative agency effects of blockholders (Shleifer and Summers, 1988; Shleifer and Vishny, 1997) are reduced significantly.

Our hypothesis that controlling-family presence has a positive association with share price performance is confirmed for the post-crisis period by our findings in **Table 9**, where family run firms perform significantly better than non-family-run family firms. This is in line with Andres (2008) and Anderson and Reeb (2003a). We take this confirmation as motivation to further investigate what drives the positive effect of family management in our third hypothesis.

5.3 Founder-run firms

Our third set of regressions, run for all three periods, is used to investigate whether the founder serving as CEO or chairman, i.e. the company is classified as “founder-run”, has a positive effect on firm-performance. The equation follows:

(3)

$$Ret_{p,i} = \alpha + w' \times founder_i + x' \times mgmt_i + y' \times block_i + z' \times ctrl_{p,i} + d_{SIC1} + d_{ct} + \varepsilon_{p,i}$$

where the *founder* vector is added, which contains two mutually exclusive dummies indicating whether (1) or not (0) the firm is run by the founder or not (i.e., “1” indicates founder-run and “0” indicates descendant-run). The other variables are the same as in equations (1) and (2).

Table 10: Founder-run vs. non-founder-run

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are founder-run firms and all other non-founder-run firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE (1)	RETURN_CRISIS (2)	RETURN_POST (3)
Founder_run_dummy	0.053 (0.076)	-0.088 (0.060)	0.749** (0.303)
LEVERAGE	0.076 (0.118)	-0.290*** (0.084)	0.882** (0.400)
CASH_HOLDINGS	0.083 (0.105)	0.097 (0.080)	-0.028 (0.490)
SIZE	-0.001 (0.010)	-0.016** (0.008)	0.173*** (0.036)
BOOK_TO_MARKET	-0.018 (0.031)	0.023 (0.021)	0.068 (0.045)
INVESTMENTS	-0.336 (0.332)	0.249 (0.240)	-2.190* (1.199)
ST_DEBT_TO_DEBT	-0.006 (0.060)	-0.097** (0.043)	-0.119 (0.218)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.002*** (0.001)	0.004 (0.003)
MOMENTUM_PRE	0.011 (0.023)		
MOMENTUM_CRISIS		-0.028 (0.027)	
MOMENTUM_POST			-1.036*** (0.236)
Observations	383	412	387
R ²	0.156	0.178	0.209
Adjusted R ²	0.105	0.131	0.161

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 11: Founder-run firms vs. widely held firms

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are founder-run firms, descendant-run firms, non-family-run family firms, other-blockholder-controlled firms and widely held firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE (1)	RETURN_CRISIS (2)	RETURN_POST (3)
Founder_run_dummy	0.070 (0.079)	-0.054 (0.062)	0.598* (0.313)
Descendant_run_dummy	0.024 (0.068)	0.093* (0.052)	-0.212 (0.247)
Non_family_run_dummy	0.060 (0.058)	-0.015 (0.045)	-0.229 (0.216)
Other_blockholder_dummy	0.022 (0.045)	0.074** (0.033)	-0.322* (0.168)
LEVERAGE	0.072 (0.118)	-0.290*** (0.084)	0.846** (0.401)
CASH_HOLDINGS	0.079 (0.106)	0.103 (0.080)	-0.051 (0.492)
SIZE	0.00001 (0.010)	-0.016** (0.008)	0.175*** (0.036)
BOOK_TO_MARKET	-0.020 (0.032)	0.019 (0.021)	0.077* (0.045)
INVESTMENTS	-0.333 (0.334)	0.317 (0.240)	-2.352* (1.202)
ST_DEBT_TO_DEBT	-0.008 (0.060)	-0.091** (0.043)	-0.124 (0.218)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.002*** (0.001)	0.002 (0.003)
MOMENTUM_PRE	0.013 (0.023)		
MOMENTUM_CRISIS		-0.030 (0.027)	
MOMENTUM_POST			-1.049*** (0.237)
Observations	383	412	387
R ²	0.159	0.194	0.218
Adjusted R ²	0.100	0.142	0.164

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 12: Founder-run vs. other blockholders

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables, on a blockholder subset. Blockholder categories are founder-run firms, non-founder-run family firms and non-family-run family firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE (1)	RETURN_CRISIS (2)	RETURN_POST (3)
Founder_run_dummy	0.048 (0.088)	-0.127* (0.072)	0.929*** (0.300)
Descendant_run_dummy	0.034 (0.075)	0.015 (0.061)	0.194 (0.241)
Non_family_run_dummy	0.063 (0.066)	-0.090* (0.054)	0.088 (0.216)
LEVERAGE	0.143 (0.171)	-0.225* (0.130)	0.895 (0.552)
CASH_HOLDINGS	-0.041 (0.152)	0.072 (0.128)	0.031 (0.653)
SIZE	-0.018 (0.014)	-0.013 (0.012)	0.190*** (0.048)
BOOK_TO_MARKET	-0.053 (0.044)	0.019 (0.031)	0.105* (0.060)
INVESTMENTS	-0.267 (0.654)	0.185 (0.403)	-2.815* (1.638)
ST_DEBT_TO_DEBT	0.027 (0.090)	-0.090 (0.069)	-0.262 (0.284)
FREE_FLOAT_PERCENT	0.001 (0.001)	-0.001 (0.001)	0.003 (0.004)
MOMENTUM_PRE	0.028 (0.044)		
MOMENTUM_CRISIS		-0.041 (0.045)	
MOMENTUM_POST			-1.556*** (0.411)
Observations	196	216	194
R ²	0.154	0.168	0.298
Adjusted R ²	0.047	0.073	0.208

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 13: Founder-run vs. non-family-run family firms

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables, on a family-controlled subset. Blockholder categories are founder-run firms, descendant-run firms and non-family-run family firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE	RETURN_CRISIS	RETURN_POST
	(1)	(2)	(3)
Founder_run_dummy	-0.020 (0.090)	-0.021 (0.060)	0.966*** (0.270)
Descendant_run_dummy	-0.039 (0.078)	0.126** (0.052)	0.119 (0.232)
LEVERAGE	-0.064 (0.208)	-0.085 (0.131)	0.641 (0.613)
CASH_HOLDINGS	0.038 (0.166)	0.100 (0.127)	-0.728 (0.702)
SIZE	-0.022 (0.019)	0.017 (0.014)	0.072 (0.061)
BOOK_TO_MARKET	0.025 (0.142)	0.120 (0.091)	-0.320** (0.146)
INVESTMENTS	0.166 (0.772)	0.468 (0.368)	-0.244 (1.815)
ST_DEBT_TO_DEBT	0.008 (0.111)	-0.105 (0.072)	-0.289 (0.322)
FREE_FLOAT_PERCENT	0.004*** (0.001)	-0.002* (0.001)	-0.001 (0.004)
MOMENTUM_PRE	0.008 (0.055)		
MOMENTUM_CRISIS		-0.071 (0.062)	
MOMENTUM_POST			-1.773*** (0.629)
Observations	100	103	100
R ²	0.282	0.403	0.519
Adjusted R ²	0.088	0.248	0.390

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 14: Founder-run vs. descendant run

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables, on a family-run subset. Blockholder categories are founder-run and descendant-run firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	RETURN_PRE (1)	RETURN_CRISIS (2)	RETURN_POST (3)
Founder_run_dummy	0.027 (0.088)	-0.140* (0.072)	1.009*** (0.326)
LEVERAGE	-0.243 (0.250)	-0.024 (0.211)	2.093** (0.826)
CASH_HOLDINGS	-0.139 (0.402)	0.417 (0.264)	-1.153 (1.342)
SIZE	0.006 (0.023)	-0.004 (0.020)	-0.015 (0.088)
BOOK_TO_MARKET	0.319* (0.180)	0.155 (0.135)	-0.330* (0.187)
INVESTMENTS	0.838 (0.879)	1.456* (0.725)	0.862 (2.512)
ST_DEBT_TO_DEBT	0.093 (0.170)	-0.100 (0.118)	0.424 (0.508)
FREE_FLOAT_PERCENT	0.004* (0.002)	0.0004 (0.002)	0.009 (0.008)
MOMENTUM_PRE	0.022 (0.061)		
MOMENTUM_CRISIS		-0.124 (0.117)	
MOMENTUM_POST			-1.429 (1.040)
Observations	54	56	54
R ²	0.439	0.543	0.667
Adjusted R ²	0.100	0.282	0.466

Note:

*p<0.1; **p<0.05; ***p<0.01

Results

We find that in the post-crisis period, a firm being run by its founder has a strong positive correlation with stock price returns, significant at the 5% level, compared to non-founder-run companies in **Table 10**. We can thus confirm the hypothesis that founder-run firms perform better compared to all other companies for the post crisis period. Both in the pre-crisis and crisis periods, we find no statistically significant results.

In **Table 11**, we find similar results: founder-run firms have a positive association with stock price returns in the post-crisis period compared to widely held firms, this time significant at the 10% level. We find no statistical significance before or during the crisis. Again, our hypothesis is only supported in the post-crisis period, but not in the crisis period. In addition to the findings directly related to hypothesis H3, we also find that, compared to widely held firms, descendant-run companies have a positive association with stock return at the 10% significance level during the crisis. Other blockholders, similar to the results for hypothesis H2, are positively associated with stock price returns during the crisis compared to widely held firms at the 5% level, and negatively associated, significant at the 10% level, post-crisis.

For a subset of only blockholder-controlled companies in **Table 12**, we find that, compared to other-blockholder-controlled firms, founder-run firms have a negative and significant impact at the 10% level during the crisis. Post-crisis, on the other hand, they have a strongly positive and significant correlation with stock price performance with significance at the 10% level. We can therefore only confirm our hypothesis in the post-crisis period. In addition to the findings directly related to hypothesis H3, we find that, compared to other-blockholder-controlled firms, non-family-run family firms have a negative association with stock performance in the crisis period, significant at the 10% level. Both pre- and post-crisis results are non-significant. For descendant-run firms, we find a non-significant impact on stock-price return compared to other-blockholder-controlled firms for all three periods.

When running the regression on a subset of only family-controlled firms, we find a strongly positive correlation between founder management and stock performance compared to non-family management (**Table 13**), significant at the 1% level. During the pre-crisis and crisis period, we find non-significant results. We can therefore confirm our hypothesis for the post-crisis, but not the crisis period. We also find that descendant-run firms have a better stock performance in the crisis period compared to non-family-run family firms, significant at the 5% level, with pre-crisis and post-crisis effects being non-significant.

For our final regression, on a family-run subset, we again find a highly significant and strongly positive correlation between founder management and stock price returns, significant at the 1% level, while it is negative and significant (at the 10% level) during the crisis period. The analysis is performed compared to descendant-run firms. For the pre-crisis period, we find a non-significant effect. Based on these results, presented in **Table 14**, we find support for hypothesis H3 only for the post-crisis period, but not the crisis period.

In conclusion, we find strong support for the hypothesis that founder-run firms' stock price performs better than that of other types of firms in the post-crisis period. On the other hand, the association is negative in the crisis period with varying levels of significance depending on which firm control structure the founder-run firms are compared against.

For our third hypothesis, less leverage, smaller size, less short-term debt and less free-float improve the buy-and-hold stock return during the crisis. For the post-crisis, this is true for companies that had more leverage, were bigger, invested less and had a negative momentum. Again, the more specific we get with the regression, the less significant the control become due to the smaller sample sizes.

Economic interpretation

Throughout our analysis for hypothesis H3, founder-run firms are the best-performing class of firms in the post-crisis period. Therefore, we suggest that it is founders' specific characteristics that lead to these results and that the most value-enhancing characteristic of family control is the founder effect. We assume this is predominantly because founders can reduce the principal-agent conflict to a minimum, as they align the interests of management and controlling owners to a very large extent, as well as their intimate knowledge of the company. We conclude that these positive effects outweigh potential negative effects of family control, predominantly minority-owner expropriation, and that they are more highly valued by the market in the post-crisis environment than during 'normal' times.

However, we do not find the same significantly positive results for the pre-crisis and crisis period. We hypothesize that in the pre-crisis period, where we do not find any statistically significant effect, the answer is rather trivial: the founder effect is documented in previous research, so the market seems to have already priced it into the share price of the firm. During the crisis period, though, we find that a firm being founder-run has a significantly negative association with the firm's stock performance in relation to other-blockholder-

controlled firms (**Table 12**) and descendant-run firms (**Table 14**). We assume these findings are due to the founders' special connection to their company. Founders are likely to be prepared to take uncomfortable decisions in times of crisis to ensure the long-term survival of the firm. Since they have both controlling ownership and manage day-to-day operations of the firm, they can implement these decisions easily. Stein (1989) indicates that due to their long-term view, families (and founders in particular) refrain from taking ill-advised decision to boost or support the stock price. We assume that this means that even if founders knew that certain decisions lowered their firm's market value during the crisis, they value their firm's overall survival (or fear the risk of their firm's demise) more than they fear temporarily declining stock prices, and consequently, a reduction in their wealth. Therefore, they still reduce risk. Markets might interpret founders taking such risk reduction strategies as a bad sign during the crisis, as it could signal the company being in trouble. Founders, though, due to their special connection to the firm, are just more risk averse than other managers (Anderson and Reeb 2003b). They hence take actions that a neutral manager would only take in times of potential distress. During the crisis, the market does not seem to differentiate between the different intentions, which consequently leads to founder-run firms' stock price performing worse during the crisis. After the crisis is over, the same values that lead founders to take the risk-reduction strategy seem to be seen in a positive light again, and lead to better stock price performance. We therefore argue that the relative underperformance of founder-run firms' stock price compared to descendant-run firms' and other-blockholder-controlled firms' during the crisis is an example of the short-term view of the market (Keynes, 1936) as well as the overreaction of stock markets to new information (Bondt and Thaler, 1985).

We find that descendant run-companies show a different pattern from founder-run ones. We disentangle the effect in our last regression, where, compared to founder-run firms, we find that descendant-run firms perform better during the crisis and worse post-crisis. This could be because descendants lack founder-specific characteristics, but also due to their own particularities. Descendants presumably do not share the founders' view of the firm as their legacy, since they were not necessarily part of the firm's creation. Also, they might have been selected to run the company based on nepotism rather than competence (Shleifer and Vishny, 1997). The combination of these two factors leads us to the assumption that descendants do not have the same ingrainedness in family firms as founders have. Therefore, they are not afraid to take more risky decisions during the crisis to keep stock prices up. On the other hand,

they might also be forced to take such actions during the crisis as other family members might use stock price underperformance as a reason to oust the managing family member and take control on their own. We therefore explain the better stock price performance of descendant-run firms compared to founder-run firms during the crisis with the former being more inclined to take decisions that help support or boost the short-term stock price and thinking less about the implications for long-term firm survival. By doing so, the market has less negative news to react to during the crisis and descendant-run firms' stock prices perform better.

We see the above suggestion about descendant-run firms supported by the fact that in their stock price performance pattern, they resemble other-blockholder-controlled firms. Both controlling structures are the only ones whose stock price performs significantly better than widely held companies during the crisis and, more importantly, they are not statistically distinguishable from each other in the same time period. Other blockholders lack founder-specific characteristic such as trying to ensure a firm's survival in the long term regardless of short-term stock price implications. While descendants do have the family specific characteristics, we assume they also have additional descendant-specific characteristics, making them more likely, compared to founders, to act in accordance with the market rather than the founding family's interest during the crisis.

On a side note, we find that non-family-run family firms do not perform significantly different from founder-run firms during the crisis. We speculate this might be because outside managers are afraid of being held accountable by the family owners for leading the firm into financial distress in the crisis period. Professional managers might therefore take decisions to reduce running into such a risk, as they have little personal incentives to keep short-term stock prices up. We think that outside managers act based on the idea that the controlling family is prepared to pay for the survival of their firm by means of a short-term stock price decline during the crisis period. Therefore, outside managers are more likely to reduce risk in order to act in accordance with the founding family's long-term priorities. We propose this to be the reason for their founder-run-like stock price performance during the crisis. Since we only find founder and non-family-run family firms to be indistinguishable during the crisis period, we assume the pattern of risk reduction behavior is only the case in a period of an unexpected exogenous financial shock and not true in normal times.

Based on our findings, we want to examine what could constitute risk-reduction tendencies, and if there is quantitative evidence of this behavior for family firms in the crisis

period. According to Lins et al. (2013), family-controlled firms make different investment decisions during the crisis, in that they cut investments to a greater extent than other types of firms. This could be a form of risk-reducing behavior, explaining the relative stock price underperformance of family-/founder-run firms. We therefore continue to investigate whether this behavior is evident in our study, as well as how such investment decisions affect the stock price performance in the post-crisis period.

5.4 Investments

To investigate hypothesis H4, we make some modifications to the baseline specification in (3) by adding delta investments between the pre-crisis and crisis periods, defined as $((\text{Investments}_{2008} - \text{Investments}_{2006}) / \text{Investments}_{2006})$, where Investments are Capex/Total assets for the given year. Since some firms' values are extreme because they have miniscule Capex in one of the years (e.g. Bonheur ASA increases their investment level by a factor of 709), this variable is winsorized around the median, setting values outside of three standard deviations to that value, in order to handle these extreme outliers. A value of zero thus indicates that investment levels are the same in the crisis as before, while a value above or below zero indicates an investment increase and cut, respectively. We then categorize all firms based on their change of investment into three overlapping categories: $I < 0$, $I < \text{median}$ and $I < 25^{\text{th}}$ percentile. We apply this to the following regression model:

(4)

$$Ret_i = \alpha + v' \times \delta Inv_i + w' \times founder_i + x' \times mgmt_i + y' \times block_i + z' \times ctrl_i + d_{SIC1} + d_{ct} + \varepsilon_i$$

In this model, Ret_i is the crisis-period buy-and-hold stock return. All other variables are the same as in (3), except for *control*, which no longer contains the *Investment* predictor since this aspect is now captured by the δInv indicator. δInv is a vector containing dummies for the three investment categories specified above, as well as the actual change in investments as a continuous variable, and regressions are run using these four indicators separately.

To further test hypothesis H4, the shareholder structure dummies previously introduced are then matched to the investment categories. This is done to estimate what proportion of each shareholder structure falls into these investment categories. We perform a panel data regression, according to the following model:

(5)

$$InvDec_i = \alpha + u' \times w' \times founder_i + u' \times x' \times mgmt_i + u' \times y' \times block_i + z' \times ctrl_i + d_{SIC1} + d_{ct} + \varepsilon_i$$

Where $InvDec_i$ is an investment decision for a firm in the crisis period in relation to the firm's pre-crisis investment decision, and u captures the change in investments for the different shareholder structure indicators. All other variables are the same as in (3) with the exception of *control*, which no longer contains the *Investments* indicator.

Finally, to test hypothesis H5, we modify the regression model from (4) to instead investigate the post-crisis stock returns:

(6)

$$Ret_i = \alpha + v' \times \delta Inv_i + w' \times founder_i + x' \times mgmt_i + y' \times block_i + z' \times ctrl_i + d_{SIC1} + d_{ct} + \varepsilon_i$$

Ret_i is the post-crisis period buy-and-hold stock price return. All other variables are the same as in (4), with *control* now containing the values for the post-crisis period rather than the crisis period.

Table 15: Investment decisions on crisis return, delta investments level

Regressions of the dependent variable crisis-period stock returns on blockholder categories and control variables. Returns are the buy-and-hold stock returns for a firm from 11.10.2007 to 6.3.2009. Blockholder categories are founder-run firms, descendant-run firms, non-family-run family firms and other-blockholder-controlled firms. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM_CRISIS is a firm's stock return over the year preceding the crisis period. All firm-level statistics other than MOMENTUM_CRISIS and returns are as of the full year annual report preceding the period. Below_0_dummy means lower capital expenditures to total assets in FY2008 than in FY2006, Below_median_dummy means capital expenditures to total assets levels are below the median value of all firms; Twentyfifth_percentile_dummy means capital expenditures to total assets levels are below the 25th percentile value of all firms; and DELTA_INVESTMENTS is the difference in capital expenditures to total assets between FY2006 and FY2008. All regressions include country and one-digit US SIC code industry fixed effects.

	Return Crisis			
	(1)	(2)	(3)	(4)
Founder_run_dummy	-0.044 (0.055)	-0.046 (0.056)	-0.046 (0.056)	-0.048 (0.056)
Descendant_run_dummy	0.100** (0.044)	0.101** (0.045)	0.102** (0.045)	0.102** (0.045)
Non_family_run_dummy	-0.020 (0.038)	-0.023 (0.038)	-0.022 (0.038)	-0.023 (0.038)
Other_blockholder_dummy	-0.025 (0.030)	-0.021 (0.030)	-0.020 (0.030)	-0.021 (0.030)
Below_0_dummy	-0.054** (0.023)			
Below_median_dummy		-0.032 (0.023)		
Twentyfifth_percentile_dummy			-0.023 (0.027)	
DELTA_INVESTMENTS				0.014 (0.011)
LEVERAGE	-0.263*** (0.072)	-0.268*** (0.072)	-0.267*** (0.072)	-0.264*** (0.072)
CASH_HOLDINGS	0.062 (0.068)	0.066 (0.069)	0.075 (0.069)	0.069 (0.069)
SIZE	-0.012* (0.007)	-0.012* (0.007)	-0.012* (0.007)	-0.012* (0.007)
BOOK_TO_MARKET	0.034* (0.018)	0.037** (0.019)	0.036* (0.019)	0.036* (0.019)
ST_DEBT_TO_DEBT	-0.076** (0.038)	-0.074* (0.038)	-0.074* (0.038)	-0.076** (0.038)
FREE_FLOAT_PERCENT	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.001*** (0.001)
MOMENTUM_CRISIS	-0.033 (0.024)	-0.032 (0.024)	-0.030 (0.024)	-0.033 (0.024)
Observations	387	387	387	387
R ²	0.218	0.210	0.208	0.210
Adjusted R ²	0.164	0.156	0.153	0.155

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 16: Distribution of shareholder categories matched to investment level categories

Percentage of firms within each shareholder structure category that changes investment at specified levels. Shareholder structure categories are founder-run firms, descendant-run firms, non-family-run family firms, other-blockholder-controlled firms and widely held firms. Below_0_dummy means lower capital expenditures to total assets in FY2008 than in FY2006, Below_median_dummy means capital expenditures to total assets levels are below the median value of all firms; and Twentyfifth_percentile_dummy means capital expenditures to total assets levels are below the 25th percentile value of all firms.

	Below_0_dummy	Below_median_dummy	Twentyfifth_percentile_dummy
Founder_run_dummy	0,47	0,47	0,26
Non_family_run_dummy	0,54	0,59	0,37
Descendant_run_dummy	0,46	0,54	0,31
Other_blockholder_dummy	0,34	0,44	0,19
Widely_held_dummy	0,45	0,51	0,24

Table 17: Investment decisions, panel data

Panel regression of the dependent variable Change in capital expenditures to total assets from FY2006 to FY2008 on blockholder categories and control variables. Blockholder categories are founder-run firms, descendant-run firms, non-family-run family firms and other-blockholder-controlled firms. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM_CRISIS is a firm's stock return over the year preceding the crisis period. All firm-level statistics other than MOMENTUM_CRISIS and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	Delta Capex/Assets		
	(1)	(2)	(3)
Founder_run_dummy	-0.005 (0.011)		
Descendant_run_dummy	-0.003 (0.009)		
Non_family_run_dummy	0.0003 (0.008)		
Family_controlled_dummy		-0.002 (0.006)	
Other_blockholder_dummy	-0.009 (0.006)	-0.009 (0.006)	
Blockholder_dummy			-0.005 (0.005)
LEVERAGE	0.053*** (0.015)	0.054*** (0.015)	0.055*** (0.015)
CASH_HOLDINGS	0.004 (0.017)	0.005 (0.017)	0.006 (0.017)
SIZE	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)
BOOK_TO_MARKET	-0.003 (0.002)	-0.003 (0.002)	-0.004 (0.002)
ST_DEBT_TO_DEBT	-0.023** (0.009)	-0.023** (0.009)	-0.022** (0.009)
FREE_FLOAT_PERCENT	-0.0002* (0.0001)	-0.0002* (0.0001)	-0.0002* (0.0001)
MOMENTUM_CRISIS	0.005 (0.005)	0.005 (0.005)	0.004 (0.005)
Observations	387	387	387
R ²	0.295	0.294	0.292
Adjusted R ²	0.248	0.252	0.252

Note:

*p<0.1;**p<0.05;***p<0.01

Table 18: Crisis investments impact on post crisis returns, winsorized

Regressions of the dependent variable post crisis-period stock returns on a relative investment change indicator from FY2006 to FY2008 and control variables in (2), and on a relative investment change indicator from FY2006 to FY2008, blockholder indicators, and control variables in (1). Post crisis returns are the buy-and-hold stock returns for a firm from 6.3.2009 to 12.1.2011. Blockholder categories are founder-run firms, descendant-run firms, non-family-run family firms and other-blockholder-controlled firms. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM_CRISIS is a firm's stock return over the year preceding the crisis period. All firm-level statistics other than MOMENTUM_CRISIS and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	Post crisis returns	
	(1)	(2)
DELTA_INVESTMENTS	-0.119** (0.060)	-0.120** (0.060)
Founder_run_dummy	0.634** (0.313)	
Descendant_run_dummy	-0.222 (0.247)	
Non_family_run_dummy	-0.215 (0.216)	
Other_blockholder_dummy	-0.277* (0.168)	
LEVERAGE	0.720* (0.398)	0.702* (0.399)
CASH_HOLDINGS	-0.0004 (0.492)	0.007 (0.493)
SIZE	0.181*** (0.036)	0.177*** (0.037)
BOOK_TO_MARKET	0.083* (0.045)	0.075* (0.045)
ST_DEBT_TO_DEBT	-0.064 (0.217)	-0.111 (0.218)
FREE_FLOAT_PERCENT	0.003 (0.003)	0.003 (0.003)
MOMENTUM_POST	-1.023*** (0.237)	-1.049*** (0.237)
Observations	387	387
R ²	0.218	0.197
Adjusted R ²	0.164	0.151

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 19: Crisis investments impact on post crisis returns, only family

Regressions of the dependent variable post crisis-period stock returns on blockholder categories, control variables, on a subsample consisting only of family firms. Returns are the buy-and-hold stock returns for a firm from 6.3.2009 to 12.1.2011. Blockholder categories are founder-run firms, descendant-run firms and non-family-run family firms. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM_POST is a firm's stock return over the year preceding the post-crisis period. All firm-level statistics other than MOMENTUM_POST and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects.

	Post-crisis returns	
	(1)	(2)
DELTA_INVESTMENTS	-0.039 (0.094)	-0.028 (0.101)
Founder_run_dummy	0.970*** (0.269)	
Descendant_run_dummy	0.117 (0.232)	
LEVERAGE	0.655 (0.610)	0.342 (0.644)
CASH_HOLDINGS	-0.712 (0.692)	-0.850 (0.738)
SIZE	0.073 (0.061)	0.064 (0.065)
BOOK_TO_MARKET	-0.313** (0.147)	-0.260* (0.156)
ST_DEBT_TO_DEBT	-0.277 (0.322)	-0.570* (0.333)
FREE_FLOAT_PERCENT	-0.001 (0.004)	-0.001 (0.005)
MOMENTUM_POST	-1.777*** (0.598)	-1.977*** (0.606)
Observations	100	100
R ²	0.520	0.438
Adjusted R ²	0.391	0.304

Note:

*p<0.1; **p<0.05; ***p<0.01

Results

When investigating hypothesis H4, we find that in the crisis period, maintaining pre-crisis investment levels has a positive association with share price performance. This is evident from regression 1 in **Table 15**, where cutting relative investment levels has a negative and statistically significant association with crisis period return at the 5% level. Firms that have investment levels below the median of all firms, as well as firms in the lower quartile, also show negative returns, albeit not at a significant level. In addition to this, the delta investment variable is positive (but not significant), again indicating that higher investments lead to a higher stock return in the crisis period across the sample. We interpret this as supporting our hypothesis that investment cuts during the crisis lowers the stock returns in the same period.

Next, we test if there is a difference in how firms controlled by different shareholders make investment decisions. In **Table 16**, we present the distribution of shareholder categories matched to investment level categories. We find that overall, family-controlled firms cut investments more than other types of firms, with other-blockholder-controlled firms cutting investments the least. However, from **Table 17**, where we perform a panel regression on investments for the different shareholder categories, these results are not confirmed. Here we find that, while family firms cut investments more than widely held firms, they cut them less than other blockholders, who, according to the analysis from **Table 16**, cut them the least, although all results are at a non-significant level. With these conflicting results, we conclude that the evidence is inconclusive and that we do not find support for the second part of hypothesis H4 that family firms cut investments more than other types of firms.

In summation, we find support for the first part of hypothesis H4, in that investment cuts during the crisis have a negative impact on stock price performance in the same period. However, the second part of the hypothesis, which says that family firms cut investments more than other types of firms, cannot be confirmed.

For hypothesis 5, we find that contrary to our hypothesis, an increase in investments during the crisis actually has a negative correlation with the post-crisis stock performance across the entire sample at a significance level of 5% (see **Table 18**). However, when looking at only family-controlled firms (**Table 19**), we no longer find this correlation – that is, within family-controlled firms, the level of relative investment in the crisis period does not have an impact on the post-crisis stock performance that is statistically significant. With these findings, we cannot confirm Hypothesis H5.

Economic interpretation

From the analysis shown in **Table 15**, we conclude that our results confirm the findings of Lins et al. (2013) that investment cuts in the crisis period are associated with worse stock price performance in the same period. However, we can find no evidence supporting Lins et al. (2013)'s finding that family firms cut their investments more than other types of companies, and therefore we dismiss this as an explanation for the family-specific results we obtain.

Additionally, across the entire sample, we find that in the post-crisis period, crisis-period investment cuts have a positive association with stock price returns – negative investment delta correlates to higher post-crisis stock performance. We hypothesize that cutting investments during the crisis either indicates that the firm is cutting investments that are profitable (i.e. the firm is already in financial difficulties), or it has a signaling effect to the market: the firm is cutting investment now to save cash in anticipation of future financial problems. Conversely, not cutting or increasing investments send the opposite signals: if the firm is able to keep investing despite the ongoing crisis, it must still be doing well. However, this is a well-established fact that managers are aware of. This could lead to managers with a short-term perspective and a pressure to perform on a quarterly basis not cutting investments when they ought to. That way, they keep up a positive appearance. In turn, this increases the risk that the firm's troubles deepen, resulting in a corresponding worse performance in the post-crisis period when the market eventually becomes aware of the actual situation the firm is in. When looking at the family-firm subset only (**Table 19**), the negative correlation between reducing investments and post-crisis stock price returns is no longer statistically significant. Family firms (and founders in particular) have a more long-term perspective and are less affected in their decisions by short-term stock price declines and would therefore be more inclined to invest as the firm situation dictates, in order to ensure the long-term survival of the firm. As previously mentioned, though, the market does not seem to take this into account in the crisis period, where the signaling effect of investment decisions are taken at face value, regardless of the motivations and incentives of the managers making them. Based on the arguments made in section 5.3, we suggest that the market interprets risk reduction tendencies as a sign of financial distress.

In our study, we find that relative investment levels of family firms are not associated with changes in post-crisis stock performance. We therefore conclude that for family firms, relative investment levels during the crisis period are not an indicator of current or impending

financial distress. We also conclude that while lowered crisis-period investment levels is a form of risk reduction, we cannot confirm that it is the main reason for some family firms (i.e. founder-run and non-family-run family firms) underperforming during the crisis period. Thus, we provide additional context to the findings of Lins et al. (2013).

6 Robustness

6.1 Minimum and maximum values for missing variables

To check the robustness of our analysis, we alter the dataset for the companies where there were lacking data points from Eikon. Whereas in the main analysis, we set the values of these parameters to the median of all other companies, we check the robustness of our results two ways: first, by setting those values to the minimum of the values for all other firms, and second by setting them to the maximum. This way, we examine whether our results are still significant under these conditions.

We find that using minimum or maximum values for the missing control variables does not significantly affect the outcome of the main analysis. All our findings retain their significance (see **Table 20** in Appendix for sample regressions), with some of them even becoming more significant when using the minimum levels. We therefore conclude that the missing variables do not significantly alter the conclusions drawn from the interpretation of our results in section 5.

6.2 Adding back firms with changed GUO

To further test the robustness of our analysis, we add back the 69 companies we previously removed due to having a categorical change in GUO. For these companies, we assume that they are a) family-controlled, b) controlled by another blockholder, and c) widely held, and again perform the regressions from our main analysis to investigate whether this exclusion affects our main findings.

Overall, we find lower levels of significance under this robustness test than we did in our main analysis, but our main finding that founder-run firms outperform all other types of firms in the post-crisis period is still significant and therefore, we conclude, robust (see **Table 21** in Appendix). However, these lower significance levels may put into perspective some of the other interpretations of the results in section 5, as some of our findings are not robust when we add back the excluded companies. For instance, when treating the additional companies as family-controlled, we no longer find significance for the performance of family-run firms in the post crisis period, when compared to other types of blockholders (see **Table 22** in Appendix). However, it must be noted that the entire sample of family-controlled firms and other-blockholder-controlled firms consists of 103 and 113 firms, respectively; adding another 69 companies to these samples should be expected to lower the significance by a substantial

extent, as the added companies constitute a large percentage of the family-controlled and other-blockholder-controlled firms in the new total sample. We would therefore conclude that the findings that are still significant to this robustness test indicate that these results truly are solid, rather than that the results which are no longer significant are necessarily to be disregarded.

6.3 Country-level regressions

To investigate whether our results are also true on a country-wide level, or only on the aggregate, we test the regressions run in section 5 on a country level. We find varying levels of significance for our results in the different countries. In some cases, we also find that results that are significant on the aggregate are not significant in any country in this robustness test.

Case in point is founder-run firms in the post crisis: their stock price performance is significantly better than that of widely held firms on the aggregate, but non-significant at the country level. However, since we do control for the origins of the firms in our main analysis, we conclude that the lack of significance on the country-level robustness test is likely due to the individual samples being small and the standard deviation high, and that our main findings in section 5 are still valid. This is confirmed by the fact that the magnitude of the effect in the individual countries is similar among themselves, as well as by the fact that when testing hypothesis H3, we do find the relative outperformance of founder-run firms in the post crisis period to be significant in Sweden, which is the largest of the countries investigated (see **Table 23** in Appendix).

7. Conclusion

In our study, we use a dataset of 412 listed companies to investigate whether family control has a positive impact on buy-and-hold stock price returns in the Nordics during and after the financial crisis 2007-2009. To start our analysis, we test hypothesis H1, which proclaims that family control in general has a positive impact on stock price performance. This hypothesis cannot be confirmed: we find a non-significant relationship between family control and stock price performance, both in the crisis and post-crisis period.

As previous research has shown that it is family management which is especially beneficial for stock price performance (Anderson et al., 2003; Andres, 2008), we continue our analysis in that direction. To do so, we create hypothesis H2, where we speculate that family-run companies perform better than firms with other types of control structures. We can confirm this hypothesis for family-run companies only in comparison to other-blockholder-controlled and non-family-run family firms for the post-crisis period. We explain this positive association with the controlling family's presence in management, which reduces the negative agency effects associated with blockholders (Shleifer and Summers, 1988; Shleifer and Vishny, 1997).

Due to the positive results in the post-crisis period and to disentangle their respective effects, we further divide the family-run companies into founder-run and descendant-run firms. By doing so, we try to confirm previous literature that attributes founder management to superior firm performance (Barontini and Caprio, 2006; Villalonga and Amit, 2006; Jayaraman et al., 2000; Fahlenbrach, 2009). In hypothesis H3, we proclaim that founder-run firms perform better than other companies in the crisis and post-crisis period. We can confirm founder-run companies' stock price returns outperforming compared to any other type of control structure in the post-crisis period, while during the crisis, they underperform at a statistically significant level when compared to descendant-run companies and other-blockholder-controlled firms. We explain the outperformance in the post-crisis period with founders having certain characteristics (e.g. particular diligence, innovative expertise, seeing the company as their legacy; see Jayaraman et al., 2000; Morck et al., 1988) that are valued more highly by the market in the post-crisis period than during 'normal' times. During the crisis, however, we suggest that it is these characteristics and the market's overreaction to them that lead to family-firms' underperformance. We suggest founders to be more risk-averse because of their strong tie to the firm and therefore more likely to take risk-reduction

decisions earlier or in a more radical way than neutral managers would do (Anderson and Reeb, 2003b). The market, due to its short-term view and overreaction to new information (Keynes, 1936; Bondt and Thaler, 1985), however, does not properly distinguish between distressed firms and founder-run firm during the crisis, and hence overly discounts the latter. This leads to founder-run firms' stock price underperforming compared to other control structures during the crisis.

We also test if the risk-reduction tendencies above are evident in differences in relative investment levels during the crisis for the different shareholder structures, as suggested by Lins et al. (2013), as well as how investment decisions affect stock price performance. We find support for the view that investment cuts during the crisis are negatively associated with stock price performance in the same period. However, we find no conclusive evidence that family firms cut investments more compared to other types of firms. We also find that for the entire sample of firms, investment cuts in the crisis period have a positive association with the post-crisis stock performance. This correlation is not evident when examining family-controlled firms only. This suggests that family firms have a more long-term view of their firm and are not as affected in their decision making by market short-termism, implying that investment cuts during the crisis are not indicative of financial distress in these firms.

Limitations

Our study is inspired by Lins et al. (2013) and despite following their approach as closely as possible when selecting the companies included in our dataset, summary statistics are different for the two datasets. We assume this is mainly because Lins et al. (2013) were able to use the GUO data as of 31.12.2006 directly out of Orbis, while we manually back-tracked the GUO for each family-controlled firm. This could potentially impact our results, as they are not based on the same data source. Regardless of these differences, though, we can confirm large parts of Lins et al. (2013)'s study: first, we find that that in the Nordics, family control in general has a positive, but not significant effect on stock price performance during the crisis. And second, we can also confirm that other-blockholder-controlled firms significantly outperform other widely held firms during the crisis. Based on these findings, we are confident that the differences between the datasets do not significantly influence the validity of our results.

Further research

We suggest several topics for further research that would help better understand and explain our findings. First, while we know that founders (and family firms in general) are more risk-averse than other firms (Anderson and Reeb, 2003b), it would be interesting to investigate how exactly founders express their risk aversion, besides reducing investments, during times of crisis. By doing so, we would be able to better understand which decisions have an influence on the stock price during a crisis period. Second, we would be interested in finding out what exactly differs family-controlled firms and other-blockholder-controlled firms. While we assume that it is the lack of family-specific characteristics that make other blockholders behave differently from them, we would be particularly interested in a qualitative study that finds specific answers for this question. Finally, we would like to see an extension of our study design, which investigates how the separation wedge between cash flow and voting rights impacts stock price performance during and post-crisis, as there currently is no crisis-specific literature on this topic.

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9. Appendix

Figure 1: Stock Market Returns of OMX 40 for the period from 2nd January 2006 until 30th September 2011

Vertical lines indicate dates chosen for beginning/end of sample periods. Accordingly, the periods are defined as follows: Pre-crisis 2.1.2006 to 11.10.2007; Crisis: 11.10.2007 to 6.3.2009; Post-crisis: 6.3.2009 to 12.1.2011

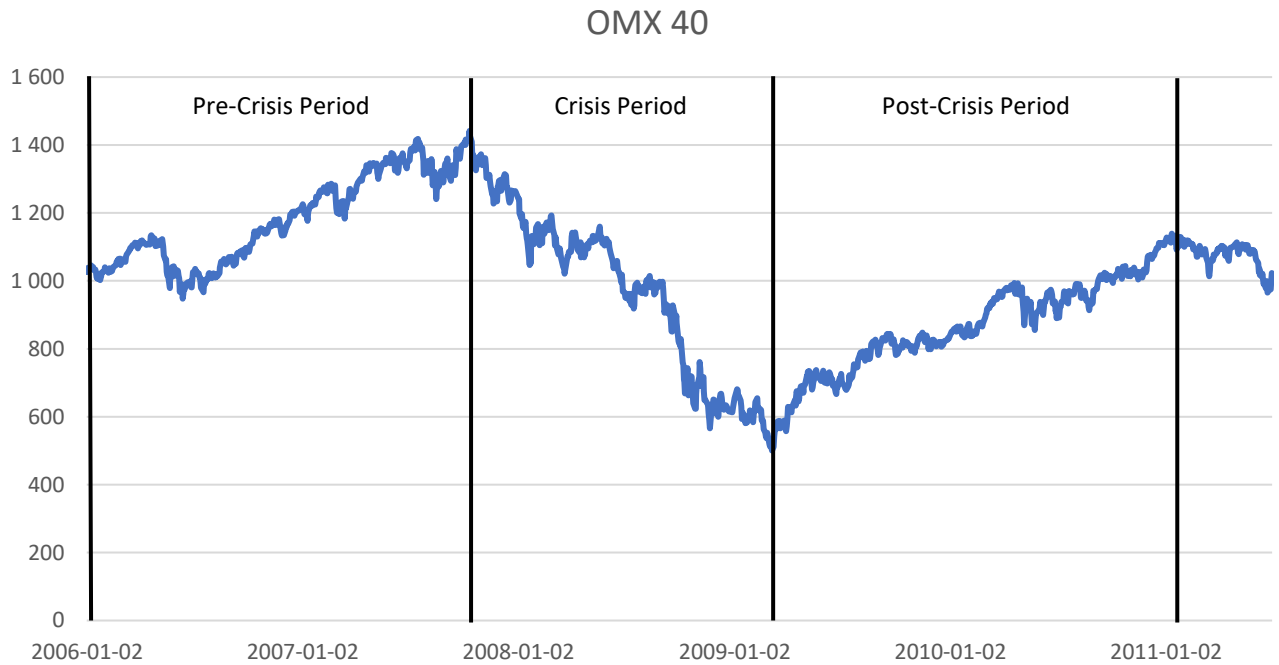


Table 20: Robustness test - Founder-run firms vs. widely held firms with max values for lacking data points

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are founder-run firms, descendant-run firms, non-family-run family firms, other-blockholder-controlled firms and widely held firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects. Missing data points, which in the main analysis were set to median values of other firms, are set to maximum of all other firms.

	Return pre (1)	Return crisis (2)	Return post (3)
Founder_run_dummy	0.042 (0.079)	-0.030 (0.062)	0.687** (0.318)
Descendant_run_dummy	-0.009 (0.064)	0.108** (0.051)	-0.221 (0.247)
Non_family_run_dummy	0.040 (0.057)	-0.007 (0.044)	-0.169 (0.218)
Other_blockholder_dummy	0.009 (0.044)	0.077** (0.033)	-0.320* (0.167)
LEVERAGE	0.142 (0.108)	-0.256*** (0.080)	0.779* (0.405)
CASH_HOLDINGS	0.079 (0.095)	0.108 (0.078)	-0.283 (0.493)
SIZE	0.001 (0.009)	-0.015** (0.007)	0.173*** (0.035)
BOOK_TO_MARKET	0.018 (0.023)	0.041** (0.018)	0.042 (0.039)
INVESTMENTS	-0.002 (0.036)	0.163 (0.175)	0.678 (0.494)
ST_DEBT_TO_DEBT	0.029 (0.057)	-0.099** (0.043)	-0.122 (0.221)
FREE_FLOAT_PERCENT	0.001 (0.003)	-0.002** (0.001)	0.004 (0.004)
MOMENTUM_PRE	0.015 (0.023)		
MOMENTUM_CRISIS		-0.020 (0.027)	
MOMENTUM_POST			-0.795*** (0.190)
Observations	383	412	387
R ²	0.159	0.193	0.199
Adjusted R ²	0.100	0.141	0.144

Note:

*p<0.1, **p<0.05, ***p<0.01

Table 21: Robustness test – Founder run vs widely held, add firms removed because of change in GUO as non-family-run family firms

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are founder-run firms, descendant-run firms, non-family-run family firms, other-blockholder-controlled firms and widely held firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects. Previously removed companies due to changed GUO were added back as non-family-run family firms.

	Return pre (1)	Return crisis (2)	Return post (3)
Founder_run_dummy	0.015 (0.172)	-0.054 (0.066)	0.473* (0.277)
Descendant_run_dummy	0.046 (0.104)	0.060 (0.038)	-0.151 (0.164)
Non_family_run_dummy	0.022 (0.125)	-0.020 (0.047)	-0.075 (0.200)
Other_blockholder_dummy	-0.033 (0.098)	0.074** (0.035)	-0.252* (0.148)
LEVERAGE	0.827*** (0.224)	-0.295*** (0.079)	0.459 (0.341)
CASH_HOLDINGS	0.128 (0.209)	0.063 (0.078)	-0.681** (0.323)
SIZE	-0.026 (0.020)	-0.015** (0.008)	0.105*** (0.025)
BOOK_TO_MARKET	-0.123* (0.066)	0.022 (0.022)	-0.131 (0.101)
INVESTMENTS	-1.133 (0.698)	0.272 (0.216)	-0.063 (0.336)
ST_DEBT_TO_DEBT	-0.135 (0.120)	-0.075* (0.042)	-0.258 (0.185)
FREE_FLOAT_PERCENT	-0.003* (0.002)	-0.001** (0.001)	0.006** (0.002)
MOMENTUM_PRE	-0.064 (0.048)		
MOMENTUM_CRISIS		-0.042 (0.027)	
MOMENTUM_POST			-0.964*** (0.201)
Observations	439	475	476
R ²	0.118	0.155	0.218
Adjusted R ²	0.065	0.108	0.175

Note:

*p<0.1, **p<0.05, ***p<0.01

Table 22: Robustness test – Family run vs other blockholders, add firms removed because of change in GUO as non-family-run family firms

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables, on a subset of blockholder-controlled firms. Blockholder categories are family-run firms, non-family-run family firms and other-blockholder-controlled firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include country and one-digit US SIC code industry fixed effects. Previously removed companies due to changed GUO were added back as non-family-run family firms.

	Return pre (1)	Return crisis (2)	Return post (3)
Family_run_dummy	0.064 (0.146)	-0.029 (0.047)	0.181 (0.162)
Non_family_run_dummy	0.128 (0.172)	-0.100* (0.056)	0.225 (0.197)
LEVERAGE	1.326*** (0.348)	-0.272** (0.113)	0.680* (0.385)
CASH_HOLDINGS	-0.021 (0.340)	0.004 (0.113)	-0.491 (0.373)
SIZE	-0.061* (0.032)	-0.015 (0.012)	0.085*** (0.026)
BOOK_TO_MARKET	-0.207** (0.104)	0.020 (0.031)	-0.049 (0.115)
INVESTMENTS	-1.595 (1.506)	0.182 (0.310)	-1.999 (1.420)
ST_DEBT_TO_DEBT	-0.239 (0.198)	-0.058 (0.061)	-0.107 (0.219)
FREE_FLOAT_PERCENT	-0.004 (0.002)	-0.0004 (0.001)	0.004* (0.002)
MOMENTUM_PRE	-0.114 (0.091)		
MOMENTUM_CRISIS		-0.061 (0.041)	
MOMENTUM_POST			-0.962*** (0.223)
Observations	252	279	282
R ²	0.171	0.123	0.207
Adjusted R ²	0.095	0.051	0.143

Note:

*p<0.1, **p<0.05***p<0.01

Table 23: Robustness example - Founder run vs all other, country level

Regressions of the dependent variables, (1) pre-crisis period stock returns, (2) crisis-period stock returns, (2) post-crisis period stock returns, on blockholder categories and control variables. Blockholder categories are founder-run firms and all other non-founder-run firms. Returns are the buy-and-hold stock returns for a firm from (1) 2.1.2006 to 11.10.2007, (2) 11.10.2007 to 6.3.2009, (3) 6.3.2009 to 12.1.2011. LEVERAGE is the ratio of total debt to total assets; CASH_HOLDINGS is the ratio of cash to total assets; SIZE is the ln of the firm's market capitalization; BOOK_TO_MARKET is the ratio of the book value of equity to the market value of equity; INVESTMENTS is the ratio of capital expenditures to total assets; ST_DEBT_TO_DEBT is the ratio of short-term debt to total debt; FREE_FLOAT_PERCENT is defined as 100 minus the percentage of shares closely held; MOMENTUM is a firm's stock return over the year preceding the pre-crisis, crisis, and post-crisis periods. All firm-level statistics other than MOMENTUM and returns are as of the full year annual report preceding the period. All regressions include one-digit US SIC code industry fixed effects. All regressions are run on a country-level subset.

	Return pre				Return crisis				Return post			
	Sweden	Norway	Finland	Denmark	Sweden	Norway	Finland	Denmark	Sweden	Norway	Finland	Denmark
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Founder_run_dummy	0.007 (0.105)	0.112 (0.193)	0.067 (0.210)	0.036 (0.226)	-0.084 (0.096)	-0.132 (0.169)	0.325** (0.132)	-0.249* (0.133)	0.788* (0.447)	0.997 (0.615)	0.674 (0.898)	0.608 (0.741)
LEVERAGE	0.044 (0.192)	0.046 (0.266)	-0.199 (0.288)	0.486 (0.321)	-0.194 (0.158)	-0.394* (0.235)	-0.435*** (0.156)	-0.338** (0.163)	1.433* (0.755)	-0.570 (0.734)	0.534 (0.993)	0.459 (0.917)
CASH_HOLDINGS	-0.037 (0.169)	0.088 (0.224)	-0.214 (0.240)	0.475 (0.327)	0.131 (0.155)	0.116 (0.191)	-0.075 (0.159)	-0.127 (0.201)	0.817 (0.859)	-0.020 (0.730)	-0.543 (1.219)	-1.145 (1.227)
SIZE	0.019 (0.016)	-0.005 (0.022)	0.033* (0.017)	-0.059* (0.031)	-0.006 (0.014)	-0.048** (0.020)	-0.048*** (0.012)	-0.0004 (0.020)	0.154** (0.064)	0.197*** (0.066)	0.170** (0.084)	0.200** (0.097)
BOOK_TO_MARKET	0.183* (0.108)	-0.005 (0.038)	0.199 (0.123)	-0.139 (0.233)	-0.048 (0.079)	0.029 (0.030)	-0.033 (0.088)	0.043 (0.167)	0.332** (0.144)	-0.022 (0.044)	1.339*** (0.195)	-0.404** (0.201)
INVESTMENTS	0.392 (0.667)	-0.708 (1.000)	0.471 (0.550)	-1.314* (0.780)	0.137 (0.472)	0.097 (0.544)	-0.228 (0.423)	0.826 (0.517)	-1.784 (3.204)	-4.078* (2.375)	0.208 (2.109)	-3.009 (2.427)
ST_DEBT_TO_DEBT	-0.010 (0.087)	0.194 (0.131)	-0.126 (0.160)	-0.027 (0.175)	-0.105 (0.073)	-0.146 (0.117)	0.185** (0.088)	-0.079 (0.097)	-0.011 (0.348)	-0.290 (0.363)	0.198 (0.584)	-0.827 (0.516)
FREE_FLOAT_PERCENT	0.002 (0.001)	0.0002 (0.002)	-0.0001 (0.002)	0.001 (0.002)	-0.003** (0.001)	-0.002 (0.001)	0.001 (0.001)	-0.002** (0.001)	0.002 (0.005)	0.013** (0.005)	0.002 (0.007)	0.007 (0.006)
MOMENTUM_PRE	0.085** (0.037)	-0.025 (0.057)	0.104 (0.079)	-0.035 (0.067)								
MOMENTUM_CRISIS					0.059 (0.057)	-0.092 (0.058)	-0.007 (0.047)	-0.044 (0.061)				
MOMENTUM_POST									-0.833** (0.361)	-0.731* (0.427)	-1.535* (0.829)	-2.412*** (0.815)
Observations	139	87	77	80	150	101	80	81	142	90	79	76
R ²	0.230	0.361	0.208	0.228	0.230	0.276	0.469	0.288	0.281	0.306	0.616	0.422
Adjusted R ²	0.115	0.192	-0.038	0.017	0.124	0.117	0.312	0.096	0.176	0.130	0.501	0.253

Note: *p<0.1, **p<0.05, ***p<0.01