

# **Family Ownership as the Optimal Organizational Structure?\***

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# **Family Ownership as the Optimal Organizational Structure?**

## **ABSTRACT**

Using panel data on 275 German exchange-listed companies I examine the relationship between founding-family ownership and firm performance. My results show that family firms are not only more profitable than widely held firms but also outperform companies with other types of blockholders. However, the performance of family businesses is only better in firms in which the founding-family is still active either in the executive or the supervisory board. These findings suggest that family ownership induces incentives that can help to reduce agency conflicts. Families thus seem to successfully balance the two agency problems that minority shareholders are exposed to (owner-manager conflicts on the one hand and minority shareholder expropriation by a controlling shareholder on the other hand). In addition, the results indicate that other blockholders either affect firm performance adversely or have no detectable influence on performance measures.

JEL Classification: G32, G34

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## **I. Introduction**

Recent empirical evidence suggests that founding-family ownership is associated with superior firm performance when compared to widely-held companies, both in terms of accounting performance and market valuation (Anderson and Reeb 2003, Villalonga and Amit 2006, Barontini and Caprio 2006). This result is found to be particularly strong for founder-led companies. Obviously, families as large blockholders successfully mitigate the owner-manager agency problem described by Jensen and Meckling (1976). The positive effects thus seem to outweigh the possible counter-argument that large shareholders may use their position to extract private benefits at the cost of minority shareholders. However, empirical studies so far only show that family ownership leads to a better performance when compared to non-family firms. The existing literature fails to adequately address the question of whether families as blockholders are more successful than other controlling shareholders. As a result, previous studies on the performance of family firms might document a general (positive) blockholder effect, rather than provide evidence in favor of families as specific blockholders.

In order to examine the issue I analyze a sample of 275 German listed companies from 1998 through 2004. In my study, family businesses make up 37.5% of the sample. Families, on average, own voting rights of 63.0% in their company. As one would expect, the average family share of cash flow rights is lower, at 48.7%. The results of the multivariate analysis show that firms with family blockholders outperform firms with other types of blockholders as well as widely-held firms. It thus appears that not only are the blockholder position and the monitoring incentives it entails relevant, but the identity of the blockholder is as well. In panel regressions of performance measures on different blockholder types, family block ownership is the only variable showing positive and significant coefficients. The economic impact of family ownership on return on assets is significant and lies within the range of 3.2% and 4.5%

(depending on the model specification) per year. These results are robust to alternative econometric specifications and do not seem to be influenced by an endogeneity bias.

A further analysis reveals that, based on accounting measures, firm performance is highest for family businesses in which the founder is still active as CEO and still superior compared to non-family firms when either a descendant or a hired professional has taken over the CEO-position. However, a positive effect on market valuation can only be identified for founder-led firms. These results are consistent with prior evidence on the US and other European countries.

These findings are relevant for countries in which a high percentage of firms have a dominant shareholder. In fact, several studies show that the image of the publicly traded company with a dispersed ownership structure, free-rider problems, and the classical owner-manager conflict is not appropriate for most countries (Claessens et al. 2000, Faccio and Lang 2002, La Porta et al. 1999). Widely-held corporations are primarily present in the US, the UK and in Japan, whereas concentrated ownership is typical for Western Europe and the rest of Asia. Family-controlled firms in particular are found to account for up to 60%-70% of all companies in these countries. Based on the study by La Porta et al. (1999), family control can be regarded as the most common ownership structure around the world.

Given these findings, it is not surprising that previous studies on the US do not specifically control for the identity of other blockholders. It is pretty obvious that in a capital market that is characterized by dispersed ownership structures, this is not an issue. In Germany, about 85% of the listed firms have at least one blockholder who holds voting rights of more than 25%. Therefore, the German market provides an ideal environment to gain deeper insight into the performance of family-controlled firms as compared to companies controlled by other types of blockholders. This study further points out the necessity to not only control for blockholdings, but also for the identity of the blockholder when analyzing the effects of concentrated ownership. For example, Thomsen et al. (2006) find a negative effect

of blockholder ownership on firm value and accounting profitability in Continental Europe. However, my results suggest that such findings might probably be driven by an insufficient distinction between different blockholder types. For some blockholders, concentrated ownership indeed seems to have a negative influence on firm performance. In line with theoretical models on the privatization of state-owned companies (e.g. Perotti 1995), firms with government blockholders show negative and highly significant coefficients in all regressions with accounting measures as the dependent variable. In contrast, families do not seem to use their controlling position at the expense of minority shareholders, resulting in a significantly better performance of family firms compared to both widely-held corporations and firms with other blockholders.

The remainder of the paper is organized as follows. The next section provides a brief outline of the literature related to family firm performance. Section III focuses on the construction of the dataset and presents descriptive statistics as well as univariate results. Section IV contains the multivariate analysis based on different panel regressions. Section V concludes.

## **II. Related Literature**

Founding-family ownership has long been regarded as a less efficient ownership structure when compared to widely held firms. This view is primarily based on the assumption that large (and undiversified) shareholders might pursue non-profit maximising objectives whereas small and usually well-diversified investors choose investments that maximise the firms' residual cash flows (Fama and Jensen 1985). The potential costs of family ownership include various forms of private benefits: Demsetz and Lehn (1985) propose the term "amenity potential", standing for nonpecuniary income that does not (directly) come at the expense of profits. They name sports and media as two examples for industries with a

particularly high amenity potential. Irrespective of a specific industry, a founder could derive benefits from having a family member leading the company even though a professional manager might be better qualified. Moreover, a founder who has rendered outstanding services to the company in the past might not be called on to retire by his family or other minority shareholders even though he is no longer competent. According to Shleifer and Vishny (1997) this is one of the greatest costs that large shareholders can impose.

On the other hand, a high ownership concentration mitigates the conflicts of interest between managers and owners, as suggested by Berle and Means (1932). Typically, families have invested a large part of their wealth in the company and are thus not well-diversified. Therefore, their incentive to control management should be particularly high. In many cases owner-manager conflicts are less likely to arise in the first place since the families are part of the executive board. Other possible benefits of family ownership arise from their long presence in the firm. Due to a longer investment horizon, the family's willingness to invest in favourable long-term projects should be higher, suggesting that family firms invest more efficiently (Stein 1988, 1999). In addition, the family might add positive reputation effects to the firm and thereby facilitate the implementation of implicit contracts (Anderson et al. 2003).<sup>1</sup>

These conflicting ideas have recently evoked a number of empirical examinations of the relationship between family ownership and firm performance. In a panel study on S&P 500 firms, Anderson and Reeb (2003) find family firms perform better than non-family firms, both in terms of market and accounting measures. Their results point in the same direction as findings by McConaughy et al. (1998). Morck et al. (2000) show contradictory evidence for Canada, arguing that family ownership leads to poor financial performance.

When investigating family firm performance more closely, a so-called "founder effect" can be identified. Founders seem to have a special influence and put forth unique

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<sup>1</sup> For a more extensive discussion on the potential costs and benefits of family ownership see Anderson and Reeb (2003).

value-adding skills that lead to better performance. Based on accounting performance measures, Anderson and Reeb's (2003) results indicate that family firms only perform better when a family member is CEO. Founder descendants as CEOs do not seem to affect market performance.

For a sample of Fortune 500 (the 500 largest U.S. firms, as measured by sales) firms, Villalonga and Amit (2006) find that family ownership creates value only when the founder serves as CEO or as chairman of the board of directors with a professional CEO. Contrary to Anderson and Reeb (2003), they find that firm value even declines when descendants serve as CEOs. The use of control mechanisms like multiple share classes, pyramids, cross-holdings or voting agreements has a negative effect on firm value, particularly in founder-led companies.

In terms of the European evidence, Sraer and Thesmar (2004) show that for a sample of French stock-market listed companies, family firms outperform widely held corporations. Their results hold for founder-CEO firms as well as for heir-managed firms. They explain this finding through implicit insurance contracts with the labour force in heir-managed firms: employment is less sensitive to industry shocks and as a consequence heirs pay lower wages.

Finally, in a cross-country study of Continental European firms, Barontini and Caprio (2006) confirm the finding that market valuation and operating performance are higher in founder-controlled corporations and at least not worse in descendant-controlled firms.

Turning the focus to Germany, empirical evidence is scarce. Ehrhardt et al. (2004) investigate a sample of 62 family and 62 non-family firms. They find family businesses to outperform non-family firms in terms of operating performance. However, the generality of their results is unknown since they compare these firms over a 100 year time-span and thus require all firms to survive from 1903 till 2003.

In an analysis of German and U.K. initial public offerings (IPOs) in the period from 1981 to 1988, Goergen (1999) compares the performance of 62 German firms that were floated by families to a sample of U.K. IPOs. For 36 German companies, the founding family

remains the largest shareholder over the entire sample period. The results show no statistically significant difference of post-IPO performance between firms under family control and widely held corporations.

### **III. Data**

#### **A. Data Sources and Sample Selection**

The sample for this investigation is based on all companies listed on the official market (*Amtlicher Handel*) on the Frankfurt Stock Exchange on December, 31 1998. Banks and insurance companies were dropped due to problems calculating Tobin's  $q$  and a lack of comparability concerning other performance variables based on EBIT or EBITDA. Furthermore, four companies had to be excluded because they were already insolvent at the beginning of the sample period and liquidated only shortly afterwards. For the remaining companies, I collected data until the end of 2004. This procedure results in a final sample of 275 firms and 1,701 firm-year observations.

In order to classify these companies as family or non-family firms, data on the composition of executive boards (*Vorstand*), and supervisory boards (*Aufsichtsrat*), as well as detailed information on the shareholder structure, were manually collected from Hoppenstedt yearbooks. These books provide in-depth information about all market-listed German companies. Names of the board members were gathered for every other year, shareholdings on a yearly basis.

For some companies, the affiliation of board members to a family is not obvious at first sight. In particular for families with a long presence in the company, last names can be different from the founder's name due to marriages. In these cases, the family affiliation had to be confirmed by at least two publicly available sources (e.g. newspapers) or one official company publication (annual statement, ad hoc announcement, anniversary publication...).



Accounting and share-price data as well as industry-classifications were taken from Datastream databases.

## B. Family Firms

In order for a firm to qualify as a family business it has to meet at least one of the following two criteria: a) the founder and/or family members hold more than 25% of the voting shares, or b) if the founding family owns less than 25%<sup>2</sup> of the voting rights they have to be represented on either the executive or the supervisory board.

The term ‘founder’ requires some remarks concerning its exact meaning: First, a person is considered the founder if he or she founded the sample company or the predecessor company (in case of a change in the legal form and/or the company’s name).

Second, when a person acquires a majority stake in a company and runs the company as CEO, he/she is treated as a founder if he/she changes the company’s operational business significantly. For instance, Stolberger Zink AG, formerly a mining company which gave up its business in the 1970s, was bought by Günter Minninger who then took over several telecom companies and set up a telecom business. In 1999, the name was changed to Stolberger Telecom AG. In the opposite case - a family business is taken over - it is no longer treated as a family firm, although the founding family might still have a stake in the new company.

Third, if a firm was founded by more than one person, they are together treated as one family. Among the different possibilities, this approach makes the most sense since the founders usually act coordinated and almost always even pool their votes. For example, the

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<sup>2</sup> Holdings of more than 5% have to be registered with the German Financial Supervisory Authority (BaFin). Shareholdings of less than 5% - even when reported in Hoppenstedt – were excluded for reasons of data consistency. Thus, a family (or any other shareholder) has to hold at least 5% of the shares.

three founders of SAP, Hasso Plattner, Dietmar Hopp and Klaus Tschira only dissolved the contract pooling their votes because of “international capital market conventions”.<sup>3</sup>

Following Anderson and Reeb (2003) I then broke down family-owned firms into three sub-categories: “founder-controlled” if the founder still acts as the company’s CEO, “descendant-controlled” if the founder is no longer active in the executive board or has passed away and one of his/her descendants is in the position of CEO. And last, a firm is “professionally managed” if it is categorized as a family firm, but has hired a professional management team and the family is thus no longer present in the executive board. Figure 1 depicts the distribution of these categories by percentage. It is not surprising that the share of founder-managed firms decreases over time. However, the decline is quite sharp considering the length of the observation period (7 years), from 20.39% in 1998 to 12.86% in 2004. Comparing the shares of descendant- and professional-managed firms reveals a clear trend towards the appointment of professional managers.

[Insert Figure 1 about here]

Compared to other empirical studies (e.g. Anderson and Reeb, 2003; Villalonga and Amit, 2006; Górriz and Fumás, 2005) my family-firm definition is rather restrictive. Górriz and Fumás classify a company as family-owned if the family is the largest shareholder, the others require a founding-family stake larger than 0%.<sup>4</sup>

Based on the definition above, family firms represent 37.5% of the sample (in 1998),<sup>5</sup> a figure roughly in line with previous studies.<sup>6</sup> Taken into account that the definition applied in my study is more restrictive, the percentage of exchange-listed family firms (under similar conditions) seems to be larger in Germany compared to the U.S.

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<sup>3</sup> Official SAP press release, September 3<sup>rd</sup>, 2002.

<sup>4</sup> Villalonga and Amit (2006) use several alternative definitions.

<sup>5</sup> The share of family firms remains stable throughout the observation period: 36.9% in 2000, 35.1% in 2002 and 38.3% in 2004.

<sup>6</sup> Anderson and Reeb (2003) find a percentage of 35.0%, Villaloga and Amit (2006) 38.0%.

### C. Descriptive Statistics

Among these family firms the average family ownership stake is 63.0%. For most families it is reasonable to suppose that most of their wealth is invested in the company. If funds for private consumption are not generated through an executive position (i.e. the executive's salary) dividend payouts or the sale of shares are usually the only sources of family income. Since the latter will always involve a loss in control, one could hypothesize that families decrease their share in the company over time. This effect should be particularly severe through generations since inheritance taxes accrue when the company is passed on. However, the statistics in Table 1 show that the ownership stake of families remains at about the same level, irrespective of generation. At this point, following the same companies over a number of generations would certainly produce more meaningful results. Nevertheless, these findings are in line with results by Ehrhardt et al. (2004), who find that "family ownership is not declining and remains very strong even for later generations".

[Insert Table 1 about here]

As can be seen in Table 2, family firms are present in all kinds of industries. A closer look at the SIC codes reveals that family ownership prevails in electronic and other electrical equipment (SIC code 36), transportation equipment (37), building materials, hardware and gardening (52), miscellaneous retail (59) and business services (73). The distribution of family firms indicates the importance of controlling for industry effects in the regressions. Therefore, industry-dummies for each two-digit SIC code are used in the multivariate analysis. In alternative model specifications, I excluded both industries with only family firms and industries in which family firms are not present (section IV.D).

[Insert Table 2 about here]

Table 3 presents descriptive statistics for the sample, subdivided into family and non-family firms. For the univariate analysis, means are first calculated per company and then averaged across all sample firms.<sup>7</sup>

[Insert Table 3 about here]

Family firms are on average significantly younger than non-family firms. However, the average age of family businesses suggests that these are well-established companies that have not recently gone public. Rows 3, 4 and 5 give information about the size of family firms. They are, on average, smaller (in terms of total assets, sales and employees) than non-family firms, but only partly significantly. These findings are consistent with the existing literature on the U.S. Moreover, family firms use significantly more debt<sup>8</sup> in their capital structures (23.58% compared to 19.99% for non-family firms). This might be an explanation for the finding that family ownership is (more or less) stable throughout generations. If families extract dividends and are not willing to give up control rights (through an increase in share capital) in order to raise funds for profitable investment opportunities, they are – eventually – forced to rely more on debt financing. Row 7 indicates that family stocks are significantly riskier, showing a higher return volatility.<sup>9</sup>

Row 8 refers to a distinctive feature of the German corporate governance system. According to law, German companies have to allow for employees on their supervisory boards (*Aufsichtsrat*). The percentage of employees' representatives varies between one third and 50% of the board members, depending on the total number of employees.<sup>10</sup> One of a few exceptions is the case of a family firm, whose shareholder is a single person or a group of individuals who are related to each other. The analysis shows that the proportion of companies with employees' participation is smaller for family firms, yet not significantly.

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<sup>7</sup> If a company changes its status from family to non-family firm, two means are computed and then assigned proportionately (years as family firm in proportion to years in sample) to the relevant group.

<sup>8</sup> Leverage is defined as total debt/total assets.

<sup>9</sup> Return volatility is measured as the standard deviation of share price returns for the previous 60 months.

<sup>10</sup> Special regulations apply to mining and steel industries.

Since companies with less than 500 employees do not require employees' participation in the supervisory board, the lower share among family firms might probably be caused by their smaller size.

Moreover, family-owned companies' propensity to issue preferred stock is significantly higher. Among non-family firms the share of companies that have issued preferred shares is as low as 9.83%, in contrast to 26.21% for family firms (1998 data). In these cases, all voting rights (or at least the majority) are usually held by the family, whereas the preference shares are traded on the stock exchange. This means that families hold control (or voting) rights in excess of cash flow rights. While preferred shares without voting rights (granting the holder an extra dividend) are the ordinary case, they are sometimes endowed with super-voting rights. For instance, from 1920 till 1999 Siemens had issued preferred shares with six times (!) the voting rights of ordinary shares. These preferred shares that were completely in the hands of the Siemens family increased their cash-flow rights of 6.94% to a voting stake of 14.03%. Towards the end of the observation period the proportion of companies with different share classes that cause a divergence of cash flow and voting rights declines. This trend is more pronounced for larger and index-listed companies (DAX or MDAX) and could be interpreted as a move towards the requirements of international investors. In the multivariate performance analysis this issue will be covered in more detail, including other control-enhancing mechanisms.

Different performance measures are presented in rows 10, 11 and 12. The mean Tobin's q of family firms is higher by 0.27, but the difference is not statistically significant. Like other recent empirical corporate finance studies, I use market-to-book value as a proxy for Tobin's q, the ratio of the firm's market value to its replacement cost. For companies with several share classes of which one is not traded on a stock exchange, I adopt the price of the publicly listed class for the unlisted shares. In terms of accounting variables, the univariate

analysis shows a highly significant difference (at the 0.01-level), indicating that family firms are more profitable<sup>11</sup> than non-family firms.

Despite the comparatively high age of family firms one might raise concerns that - due to the high market-to-book values - a large part of these companies are growth stocks. However, the typical and (in retrospect) highly overvalued growth-stocks of the late 1990s were listed on the *Neuer Markt*. Since this trading segment was not part of the official market, young start-up companies are not included in the sample. Due to the high percentage of founder-led (and hence family) firms and the high market valuation in this segment, an inclusion would undoubtedly have biased the results towards an overperformance of family firms.

Data on the distribution of the different CEO-types as well as on the ownership stake are provided in rows 13-16. The small percentage of founding family ownership in non-family businesses is due to the family firm definition.

#### **IV. Multivariate Analysis**

The results of the univariate analysis suggest that family firms are not only better performers, but also smaller and younger. Besides that, they differ from non-family firms in terms of share price volatility and capital structure and seem to operate in (slightly) different industries. These findings point out the necessity of a multivariate analysis controlling for these influences.

##### **A. Empirical Design**

In order to gain insight into the relation between firm performance and family ownership I employ the following regression model:

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<sup>11</sup> Return on assets is EBIT or EBITDA divided by the book value of total assets.

$$y_{it} = \beta_0 + \beta_1 (\text{family firm}) + \beta_2 (\text{control variables}) \quad (1)$$

$$+ \beta_3 (\text{industry dummies}) + \beta_4 (\text{year dummies}) + \varepsilon_{it},$$

where  $y_{it}$  = firm performance measured as ROA (based on EBIT/EBITDA) and Tobin's q. *Family firm* is a dummy variable that equals 1 if a company is categorized as a family firm. The *control variables* comprise firm size (natural log of total assets), natural log of firm age, dividends divided by book value of equity, capital structure and share price volatility, both as defined above. Employees' participation in the supervisory board is also included as a dummy variable. One might argue that employees' representatives could successfully attempt to restrain efforts to increase efficiency at the cost of employees and thus be a competitive disadvantage. In an empirical study of German codetermination, Gorton and Schmid (2004) support this view and find that market valuation decreases with the number of employees' representatives in the supervisory board. In addition, a dummy variable captures control-enhancing measures like pyramids, cross-holdings<sup>12</sup> and share classes which violate the one-share-one-vote principle. *Industry dummies* are based on two-digit SIC codes, controlling for possible effects of the 45 sample industries. Lastly, each year of the sample period is assigned a dummy variable.

By nature, fixed effects models require longitudinal variation in the data. Since only very few companies in the sample change their family status and/or industry affiliation over the sample period, fixed effects cannot be identified by this equation. I therefore use random effects GLS regressions. In the appendix (Table A1) I present an alternative econometric method (pooled OLS-regressions) to test the robustness. The results from these specifications are quantitatively and qualitatively similar to the random effects results. Several other robustness checks as well as the issue of endogeneity are addressed in section IV.D.

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<sup>12</sup> Cross-holdings imply that a company holds own shares or shares in another firm that is under the influence of the family and consequently increase the voting power of the existing shares.

The White (1980)-test indicates the presence of heteroskedasticity in the error distribution. In order to test for serial correlation, I follow Wooldridge (2002, 282-283) and Drukker (2003) who suggest a test for autocorrelation in linear panel-data models. The test statistic rejects the null hypothesis of no serial correlation at the 0.05-level for most specifications. As a consequence, the Huber-White sandwich estimator for variance is used to allow for heteroskedasticity and autocorrelation in the data.

## B. Family Firm Performance

Table 4 reports the results of random effects regressions of the different performance measures on several firm characteristics. In columns 1 to 4 I use ROA (with EBITDA and EBIT as numerator) as the measure for accounting performance and in columns 5 and 6 Tobin's q as the market performance measure.

[Insert Table 4 about here]

Columns 1, 3 and 5 confirm the univariate differences and show strong evidence for the superior performance of family firms compared to non-family firms. The coefficients of the family dummy are 0.043 and 0.045 (both significant at the 0.01-level) for the accounting performance measures and also positive and significant with Tobin's q as dependent variable.

Both theory and former empirical research suggest the occurrence of the so-called "founder-effect", meaning that the performance of family firms is particularly strong when the founder is still active as CEO. The regression results in columns 2, 4 and 6 shed light on the question if the performance of family firms is indeed stronger for founder-led firms. The family dummy is therefore broken down into firms with their founder, a descendant or a professional manager hired as CEO by the controlling family. As expected, founder-CEOs do better than descendants or professionals in all regressions. In terms of accounting performance, the coefficients of Descendant CEO and Professional CEO are about equal (and significant), suggesting that founder descendants and professional managers are equally



successful and still perform better than CEOs in non-family firms. When using Tobin's  $q$  as the dependent variable, the coefficients of Descendant CEO and Hired CEO are not significant, indicating that market participants assess heir CEOs and professional CEOs in family-firms similar to CEOs in non-family firms.

These results are more or less consistent with evidence on the U.S. by Anderson and Reeb (2003) but stand (partially) in contrast with Sraer and Thesmar (2004). They find descendant CEOs to be as successful as founders (based on ROA). Cross-European results by Barontini and Caprio (2006) exhibit that the performance of family firms with descendant CEOs is not statistically distinguishable from non-family firms, while Villalonga and Amit (2006) even provide evidence of significantly worse performance (in terms of Tobin's  $q$ ) of descendant-CEO firms.

In firms where members of the founding family serve on the executive board, ownership and control are concentrated in the hands of the same shareholder. Given their long-term presence and the substantial fraction in the firm's equity, family members might be even more entrenched than managers with high equity stakes in non-family firms. In their seminal paper, Morck et al. (1988) mention founder-managers in particular and argue that their status can lead to entrenchment (due to their personality and a high degree of company-specific knowledge) even with relatively small ownership stakes. These arguments suggest that family ownership might be related to performance in a non-monotonic way. Therefore, regressions in Table 5 control for possible nonlinearities and include the family's fractional equity stake (of voting shares).

[Insert Table 5 about here]

The analysis in columns 1, 3 and 5 includes fractional family share ownership and the respective squared term, whereas columns 2, 4 and 6 focus on a more narrow definition. In these regressions, founding-family ownership is only included if the founder or one of the descendants serve as executives. Consequently, these specifications examine the influence of

managerial family ownership and are closer to the idea of the original Morck et al. (1988) analysis. The results based on accounting performance measures as dependent variable indicate a linear relationship and thus show no signs of managerial or family entrenchment. The linear coefficients of family (insider) ownership are positive and significant in all regressions and confirm the results presented above, whereas the coefficients of the squared terms are not significant. Results with respect to Tobin's q as dependent variable show only weak signs of a nonlinear relationship between market valuation and family ownership. In column 5, the coefficients of both ownership variables are statistically significant at the 0.10-level. However, the coefficients of family insider ownership (column 6) are not significant at any reasonable level. By and large, these results do not show signs of a non-linear pattern but indicate a strong and positive relationship between founding-family ownership and firm performance.

### C. Is Family Control Special?

Given the results of the performance analysis, founding-family ownership can be regarded as an efficient ownership structure. Since families have strong incentives to diminish agency costs and maximise firm value, companies under family-control do not suffer from the free-rider problem associated with atomistic shareholders. However, these incentives do not apply solely to families but also to any other investor or group of investors with an appreciable equity stake. The empirical evidence so far only responds to the question whether family ownership leads to a better performance compared to any other ownership structure. It might be the case that family ownership is just as beneficial as other large blockholders with comparable incentives.

Therefore, I estimate additional regressions including dummy variables for different blockholder types. Blocks are defined as shareholdings of at least 25% of the voting shares. Shareholders who reach this threshold are subdivided into the following categories:

government (all public authorities), financials (banks, insurances), strategic investors (other companies), individuals (wealthy investors who invested part of their private wealth without being linked to the company), families (as defined above) and others (management teams, foundations).<sup>13</sup> A share of 25% is chosen because it represents a blocking minority and should be high enough to ensure both sufficient incentives to monitor and the power to exert control. Based on this definition, 84.7% of the sample companies (in 1998) have at least one blockholder. This confirms the high level of ownership concentration in German firms that has been documented in a number of previous studies. Franks and Mayer (2001), for example, find that ‘85% of the largest quoted companies have a single shareholder owning more than 25% of the voting shares’.

[Insert Table 6 about here]

Columns 1, 3 and 5 in Table 6 present panel regression results including these blockholder dummies. Concerning the influence of family ownership on firm performance, all regressions confirm the previous results, showing positive and significant coefficients. With respect to the accounting performance measures, the coefficients on “government” are negative and significant, suggesting that privatized companies where the government is still a controlling shareholder are less efficient or at least less profitable than widely held firms. It should be noted that firms with other blockholder types are less profitable, yet not significantly. The results in column 5 (based on Tobin’s q) point in the opposite direction, with higher market valuations for firms with blockholders. Again, the coefficients for non-family blockholders are either not significantly different from zero or only statistically significant at the 0.10-level. Evidently, families add value to a company in a way that distinguishes them from all other types of blockholders.

Having confirmed that family ownership is indeed more beneficial than other blockholdings, it still remains unclear if it is crucial how families use their control rights.

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<sup>13</sup> If two or more shareholders exceed the 25%-threshold and these investors belong to different categories, the block is assigned to the largest stake.

Specifically, does it make any difference whether families are represented in the firm (in at least one of the boards) and use their control rights actively or not? Families with large shareholdings may have other means than a seat in the supervisory board to effectively control management. In additional regressions the family-block dummy is now broken down into two dummy-variables; 1 if the family is present in the firm (either in the executive or the supervisory board), and 0 if not. Note that these variables are different from the CEO-type analysis above. A family with a hired CEO can still make active use of its control rights through the supervisory board! As one would expect, the results in columns 2, 4 and 6 show positive and significant coefficients for families who are present in the company. To the contrary, family firms without board representation of the founding-family do not exhibit a significantly better performance (for the accounting measures) compared to firms without blockholders.<sup>14</sup> The results based on the regression of Tobin's q (column 6) indicate that despite a significantly different operating performance, the market value of family firms is not influenced by the type of control the family exerts.

Concerning the variable on control-enhancing mechanisms in family firms, the coefficient is negative and significant in regressions with operating performance as dependent variable. This finding suggests that families who use mechanisms to hold voting rights in excess of cash flow rights use their controlling position in the firm at the expense of minority shareholders. As a robustness check, the dummy variable is replaced by the wedge between voting and cash-flow rights in family firms. The results of these alternative specifications (not reported) are similar and confirm a negative relation between deviations from the one-share-one-vote principle and accounting performance.

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<sup>14</sup> Tests for the equality of regression coefficients indicate that the coefficients of the two dummy variables that capture the type of family control (*Family representation* and *No family representation*) are only statistically different from each other (at the .10-level) in one regression (column 4). In columns 2 and 6 the coefficients are not statistically different from each other at any reasonable significance level.

#### D. Robustness and Endogeneity

As mentioned above, the results based on pooled OLS-regressions (shown in appendix A1) confirm the findings discussed above. As a further robustness check, I test the random effects results by using the return on equity (ROE) as the dependent variable. These regression results are reported in the appendix (Table A2) and also confirm my results concerning the superior performance of family firms, the founder effect and family representation. The coefficients of the various variables measuring family involvement are slightly higher.

In addition, firms that drop out of the sample during the observation period could bias the results. Therefore, I also estimated all regressions using a balanced sample of 184 companies with complete data from 1998 till 2004. The regression results in Table A3 confirm the previous results. Other specifications with different performance measures (not reported) are also robust for the balanced panel dataset.

Despite the inclusion of industry dummies, the distribution of family and non-family firms among industries may induce a bias in the estimations. In particular, family firms are not present in capital-intensive and heavily regulated industries, such as gas and electricity suppliers (SIC-Code 49) or transportation (41, 47 and 47). On the other hand, there are some industries with a comparatively low share of non-family firms. As an additional robustness test, I excluded all industries where the representation of the two types of businesses is completely biased in one direction or the other. These regressions are not reported as they do not materially change the results obtained for the whole sample. In fact, significance levels consistently remain the same and the coefficients of the different family firm measures point to an even stronger economic (and positive) impact of family ownership on performance.

Empirical studies relating performance measures to ownership characteristics potentially suffer from the problem of endogeneity. In the case of family firms, the observed relation between family ownership and firm performance might be the result of a reversed

causality. Strong performance could prompt families to keep their shares whereas poor performance might be an incentive to give up family control. Thus, the question is whether family ownership improves performance or good performance leads to long-lasting family ownership?

However, the argument for stronger performance causing family ownership is questionable for several reasons. Although families certainly have information advantages about the firms' future prospects it is unreasonable to assume that they are able to predict the performance over decades. As shown in Table 1, the ownership stakes of families remain very stable even over generations. Furthermore, average family ownership remains stable at around 60% throughout the sample period, with a minimum of 58.8% in 2002. In addition, families have held their stakes on average for about 82 years. These findings suggest that families stick with their companies even in economically bad times and thus confirm the causality that family ownership leads to superior performance.

Several examples of large German companies confirm this argument and show that families maintain their stakes in bad times or even take the opportunity of low share prices in order to increase their shareholdings in periods of bad performance. Madelaine Schickedanz, widow of the founder of Karstadt, increased her stake in KarstadtQuelle from 39.14% to 58.23%. After regaining the majority, the company was restructured and the share price has since risen by more than 100%. In another example, the Porsche/Piëch family has just recently increased their share in Volkswagen dramatically to 29.9% and is thus turning Volkswagen into a family business again.

Despite of anecdotal evidence showing long-lasting family holdings in Germany, I tested the robustness of the results presented above by employing linear instrumental variable regressions. In these 2SLS regressions, all ownership variables are instrumented by their

lagged values. The regression estimates obtained by this method as well as the test statistics of the Wu-Hausman test of endogeneity are presented in Table 7.<sup>15</sup>

[Insert Table 7 about here]

The results show that even after controlling for endogeneity, the relationship between firm performance and the various family firm variables still exhibit the same pattern. In all specifications, the exogeneity of family ownership variables cannot be rejected (the lowest Wu-Hausman p-value is 0.23). These findings are consistent with Gugler and Weigand (2003), who provide empirical evidence that the largest shareholder influences corporate performance exogenously in a sample of German firms. Overall, these regression results can be regarded as a clear indication that the evidence presented in this paper is not driven by endogeneity in family ownership.

## **V. Conclusion**

Based on the observation that family ownership plays an important role in many countries, the performance of family firms has recently been the object of investigation of empirical research. Most studies find that family firms perform better or at least as well as non-family firms. For this reason, the assumption that family ownership is a less profitable ownership structure (due to the extraction of private benefits of control) seems to be disproved. However, these findings raise another question: is it the mere existence of a blockholder who mitigates owner-manager conflicts that leads to a superior performance of family firms compared to all other companies or is it really the *type* of blockholder that matters?

In my analysis I address this question using a detailed panel dataset of 275 listed German companies from 1998-2004. The results indicate that family firms are indeed more

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<sup>15</sup> All 2SLS regressions displayed in Table 7 are based on ROA (EBITDA) as dependent variable. Due to the large number of possible specifications, IV-regressions with ROA (EBIT) and Tobin's q as dependent variables are not reported in the paper as they do not change the results.

profitable than both companies with a dispersed shareholder structure and other firms with a controlling shareholder. This leads to the conclusion that family ownership might be the ideal ownership structure to balance the two agency problems that minority shareholders are exposed to (owner-manager conflicts on the one hand and minority shareholder expropriation by a controlling shareholder on the other hand).

My results further show that the performance depends on the role the family plays in the firm. The performance of family businesses is better only in firms where the founding-family is still active either in the executive or the supervisory board. The positive effect of family involvement is found to be strongest when the founder serves as CEO.

A possible interpretation of these findings is that families have a deeper relationship with their firms or might even feel themselves responsible for other shareholders as long as they serve as board members. If the family is just a large shareholder without board representation, family firms seem to face agency-problems similar to other companies with large blockholders. This applies in particular to family firms where control-enhancing mechanisms are employed.



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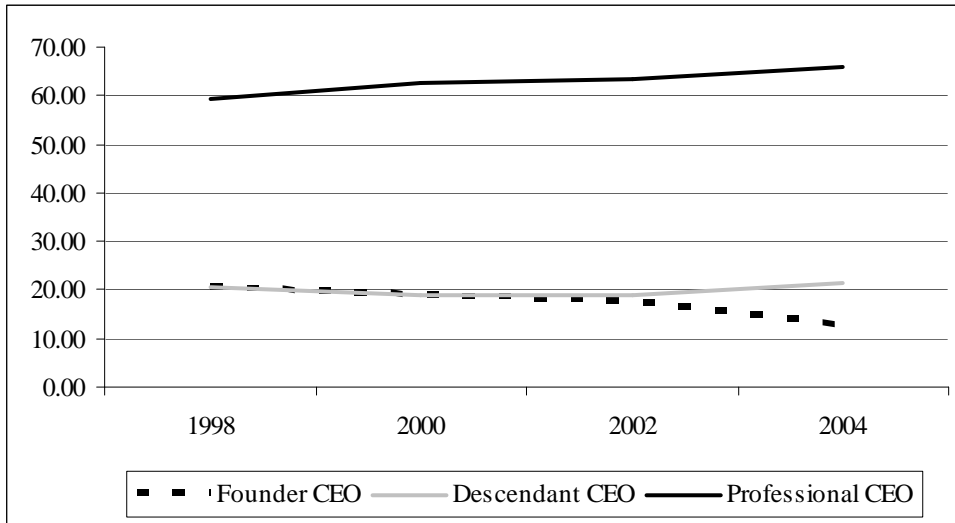
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**Figure 1**

**Distribution of CEO-types in Family Firms from 1998-2004**



**Table 1**  
**Ownership Stake of Families by Generation**

Average voting rights of families by generation based on ownership data in 1998.

Generation	Number of Firms	Average Family Ownership
Founder	39	61.97%
2nd Generation	20	65.36%
>2nd Generation	44	62.83%
Total	103	63.00%

**Table 2**  
**Number and Percentage of Family and Non-Family Firms by SIC code**

Number and Percentage of firms by two-digit SIC codes (n = 275). Family firms are defined as companies with a founding-family ownership of at least 25% or family members in either the executive or supervisory board.

SIC-Code	Industry Description	Family Firms	Non-Family Firms	Percentage Family Firms in Industry
13	Oil and gas extraction	0	1	0.00%
14	Non-metallic minerals, except fuels	0	2	0.00%
15	General building contractors	3	4	42.86%
16	Heavy construction contractors	0	3	0.00%
20	Food and kindred products	7	8	46.67%
22	Textile mill products	2	2	50.00%
23	Apparel and other textile products	3	3	50.00%
24	Lumber and wood products	2	1	66.67%
25	Furniture and fixtures	1	0	100.00%
26	Paper and allied products	3	5	37.50%
27	Printing and publishing	1	1	50.00%
28	Chemicals and allied products	8	10	44.44%
30	Rubber and miscellaneous plastic products	1	6	14.29%
31	Leather and leather products	0	1	0.00%
32	Stone, clay, glass, and concrete products	4	7	36.36%
33	Primary metal industries	2	2	50.00%
34	Fabricated metal products	1	6	14.29%
35	Industrial machinery and equipment	9	25	26.47%
36	Electrical and electronic equipment	8	7	53.33%
37	Transportation equipment	8	7	53.33%
38	Instruments and related products	1	1	50.00%
41	Local and interurban passenger transit	0	1	0.00%
45	Transportation by air	0	1	0.00%
47	Transportation services	0	2	0.00%
48	Communications	1	1	50.00%
49	Electric, gas, and sanitary services	0	16	0.00%
50	Wholesale trade--durable goods	5	8	38.46%
51	Wholesale trade--nondurable goods	6	7	46.15%
52	Building materials, hardware and gardening	3	0	100.00%
53	General merchandise stores	0	1	0.00%
54	Food stores	0	3	0.00%
55	Automotive dealers and gasoline service stations	0	2	0.00%
56	Apparel and accessory stores	1	1	50.00%
57	Furniture, home furnishings and equipment stores	0	1	0.00%
59	Miscellaneous retail	3	0	100.00%
61	Non-depository credit institutions	0	1	0.00%
62	Security, commodity brokers, and services	2	1	66.67%
64	Insurance agents, brokers, and service	1	0	100.00%
65	Real estate	8	16	33.33%
67	Holding and other investment offices	1	5	16.67%
70	Hotels, camps, and other lodging places	0	1	0.00%
73	Business services	3	0	100.00%
75	Automotive repair, services, and parking	1	0	100.00%
78	Motion pictures	1	0	100.00%
80	Health services	3	1	75.00%

**Table 3**  
**Summary Statistics for Family and Non-Family Firms**

Descriptive data for family and non-family firms. The sample comprises 275 companies listed on the Frankfurt Stock Exchange (official market) on December, 31 1998. Mean values are first calculated per company and then averaged across all sample firms. Family firms are defined as those where members of the founding-family hold at least 25% of the voting rights or (if less) a family member serves as either executive or supervisory board member. Leverage is defined as total debt divided by total assets. Return volatility is measured as the standard deviation of share price returns for the previous 60 months. Asterisks denote statistical significance at the 0.01(\*\*\*), 0.05(\*\*) and 0.10(\*)-level.

	Family Firms	Non-Family Firms	t-statistic
1 Number of firms	103	172	
2 Age [years]	82.27	92.13	3.77 ***
3 Total assets [Mio. Euro]	2,830	5,408	2.95 ***
4 Sales [Mio. Euro]	3,378	4,801	1.96 **
5 Employees	17,430	18,837	0.51
6 Leverage	43.00	40.21	- 2.25 **
7 Return Volatility	0.113	0.106	- 2.36 **
8 Employees' participation [%]	83.65	84.37	0.39
9 Preferred shares [%]	26.21	9.83	- 3.65 ***
10 Tobin's q	2.73	2.46	- 1.38
11 Return on assets (EBIT) [%]	7.85	5.68	- 3.00 ***
12 Return on assets (EBITDA) [%]	13.54	11.01	- 3.44 ***
13 Family ownership [%]	62.81	0.13	- 33.38 ***
14 Founder CEO [%]	18.37	0.00	- 15.54 ***
15 Descendant CEO [%]	19.65	0.00	- 16.20 ***
16 Professional CEO [%]	61.98	100.00	- 41.83 ***

**Table 4**  
**Firm Performance and Founding-Family Ownership**

This table contains results of random effects GLS regressions of performance measures on several firm characteristics. Return on assets is defined as EBITDA or EBIT divided by total assets. Tobin's q is measured as the ratio of the firm's market value to total assets. Family firm is a dummy variable that equals one if members of the founding-family hold at least 25% of the voting rights or (if less) a family member serves as either executive or supervisory board member. Founder equals one if the CEO is the founder of the firm and Descendant CEO equals one if the CEO is a founders' descendant. Professional CEO equals one if the CEO of a family firm is not a member of the family. Control-enhancing measures is a dummy variable that equals one if a family firm employs measures that dilute the one-share-one-vote principle. Employees' participation is a dummy variable that equals one if employees are supervisory board members. Return volatility is measured as the standard deviation of share price returns for the previous 60 months. All regressions include dummy variables for each year of the sample period and for two-digit SIC codes. The sample comprises 1,701 firm-year observations. T-Values (in parentheses) are based on the Huber-White sandwich estimator for variance. Asterisks denote statistical significance at the 0.01(\*\*\*), 0.05(\*\*) and 0.10(\*)-level.

	Return on Assets (EBITDA)		Return on Assets (EBIT)		Tobin's q	
	(1)	(2)	(3)	(4)	(5)	(6)
Family Firm	0.043 (3.09)***		0.045 (3.54)***		0.618 (1.70)*	
Founder CEO		0.065 (2.03)**		0.069 (2.13)**		3.186 (3.02)***
Descendant CEO		0.039 (2.71)***		0.040 (3.11)***		0.031 (0.04)
Professional CEO		0.040 (3.02)***		0.042 (3.56)***		0.341 (0.70)
Control-enhancing mechanisms	- 0.021 (-1.78)*	- 0.020 (-1.76)*	- 0.025 (-2.27)**	- 0.024 (-2.28)**	- 0.427 (-0.75)	- 0.355 (-0.65)
Employees' participation	- 0.020 (-0.93)	- 0.020 (-0.96)	- 0.023 (-1.13)	- 0.024 (-1.17)	0.221 (0.39)	0.145 (0.26)
Ln (firm age)	- 0.007 (-1.50)	- 0.006 (-1.27)	- 0.006 (-1.48)	- 0.004 (-1.15)	- 0.197 (-0.85)	- 0.032 (-0.14)
Ln (total assets)	0.006 (1.89)*	0.006 (1.98)**	0.007 (2.40)**	0.007 (2.49)**	- 0.141 (-1.40)	- 0.097 (-1.01)
Dividends/Book value of equity	- 0.002 (-0.58)	- 0.002 (-0.55)	- 0.002 (-0.42)	- 0.001 (-0.38)	0.282 (1.24)	0.291 (1.31)
Total debt/Total assets	- 0.261 (-6.35)***	- 0.260 (-6.29)***	- 0.250 (-6.58)***	- 0.249 (-6.52)***	- 1.740 (-1.79)*	- 1.643 (-1.72)*
Return volatility	- 0.000 (-0.90)	- 0.000 (-1.03)	- 0.000 (-0.58)	- 0.000 (-0.70)	0.001 (0.99)	0.001 (0.87)
Intercept	0.162 (3.62)***	0.146 (2.99)***	0.094 (2.37)**	0.077 (1.76)*	5.992 (4.03)***	4.112 (2.86)***
R-squared	0.204	0.205	0.185	0.187	0.309	0.315
Wald $\chi^2$	369.73	378.06	351.73	357.44	285.66	277.29
p ( $\chi^2$ )	0.000	0.000	0.000	0.000	0.000	0.000

**Table 5**  
**Firm Performance and Fractional Founding-Family Ownership**

This table contains results of random effects GLS regressions of performance measures on several firm characteristics. Return on assets is defined as EBITDA or EBIT divided by total assets. Tobin's q is measured as the ratio of the firm's market value to total assets. Family ownership is defined as fractional voting share ownership of the founding-family. Family insider ownership is the family's fractional equity holding if either the founder or a descendant is member of the executive board. Control-enhancing measures is a dummy variable that equals one if a family firm employs measures that dilute the one-share-one-vote principle. Employees' participation is a dummy variable that equals one if employees are supervisory board members. Return volatility is measured as the standard deviation of share price returns for the previous 60 months. All regressions include dummy variables for each year of the sample period and for two-digit SIC codes. The sample comprises 1,701 firm-year observations. T-Values (in parentheses) are based on the Huber-White sandwich estimator for variance. Asterisks denote statistical significance at the 0.01(\*\*\*), 0.05(\*\*) and 0.10(\*)-level.

	Return on Assets (EBITDA)		Return on Assets (EBIT)		Tobin's q	
	(1)	(2)	(3)	(4)	(5)	(6)
Family Ownership	0.089 (1.96)**		0.099 (2.22)**		3.154 (1.66)*	
Family Insider Ownership		0.152 (1.86)*		0.167 (2.12)**		3.659 (1.48)
Family Ownership <sup>2</sup>	-0.016 (-0.34)		-0.026 (-0.57)		-3.205 (-1.68)*	
Family Insider Ownership <sup>2</sup>		-0.108 (-1.34)		-0.126 (-1.63)		-4.296 (-1.54)
Control-enhancing mechanisms	-0.032 (-2.43)**	-0.022 (-1.08)	-0.035 (-2.88)***	-0.022 (-1.16)	-0.322 (-0.60)	-0.520 (-0.77)
Employees' participation	-0.020 (-0.95)	-0.027 (-1.05)	-0.024 (-1.17)	-0.029 (-1.15)	0.213 (0.38)	-0.443 (-0.88)
Ln (firm age)	-0.008 (-1.68)*	-0.011 (-1.81)*	-0.007 (-1.69)*	-0.009 (-1.94)*	-0.195 (-0.84)	-0.405 (-1.26)
Ln (total assets)	0.007 (2.15)**	0.007 (1.93)*	0.008 (2.69)***	0.008 (2.22)**	-0.142 (-1.40)	-0.118 (-1.02)
Dividends/Book value of equity	-0.002 (-0.60)	-0.028 (-4.33)***	-0.002 (-0.44)	-0.028 (-4.08)***	0.281 (1.25)	1.631 (3.78)***
Total debt/Total assets	-0.257 (-6.27)***	-0.256 (-5.18)***	-0.246 (-6.50)***	-0.238 (-5.28)	-1.844 (-1.91)*	-2.038 (-1.70)*
Return volatility	-0.000 (-0.86)	-0.000 (-1.23)	-0.000 (-0.55)	-0.000 (-0.80)	0.001 (0.98)	0.000 (0.37)
Intercept	-0.054 (-0.76)	0.166 (2.05)**	0.002 (0.06)	-0.011 (-0.16)	4.353 (2.29)**	5.811 (2.76)***
R-squared	0.205	0.220	0.188	0.190	0.310	0.382
Wald $\chi^2$	374.32	413.05	352.15	372.80	286.07	282.63
p ( $\chi^2$ )	0.000	0.000	0.000	0.000	0.000	0.000



**Table 6**  
**Blockholder Types and Firm Performance**

This table contains results of random effects GLS regressions of performance measures on different blockholder types. Return on assets is defined as EBITDA or EBIT divided by total assets. Tobin's q is measured as the ratio of the firm's market value to total assets. Family firm is a dummy variable that equals one if members of the founding-family hold at least 25% of the voting rights or (if less) a family member serves as either executive or supervisory board member. The different blockholder variables are dummies that equal one if the respective shareholder type holds voting rights of 25% or more. Control-enhancing measures is a dummy variable that equals one if a family firm employs measures that dilute the one-share-one-vote principle. Employees' participation is a dummy variable that equals one if employees are supervisory board members. Return volatility is measured as the standard deviation of share price returns for the previous 60 months. All regressions include dummy variables for each year of the sample period and for two-digit SIC codes. T-Values (in parentheses) are based on the Huber-White sandwich estimator for variance. The sample comprises 1,701 firm-year observations. Asterisks denote statistical significance at the 0.01(\*\*\*) , 0.05(\*\*) and 0.10(\*)-level.

	Return on Assets (EBITDA)		Return on Assets (EBIT)		Tobin's q	
	(1)	(2)	(3)	(4)	(5)	(6)
Family blockholder	0.033 (1.98)**		0.032 (2.04)**		0.970 (2.36)**	
Family representation		0.035 (2.48)**		0.034 (2.54)**		0.874 (2.04)**
No family representation		0.020 (0.87)		0.014 (0.67)		0.716 (2.52)**
Government blockholder	- 0.074 (-3.02)***	- 0.075 (-3.07)***	- 0.082 (-3.86)***	- 0.084 (-3.94)***	1.288 (1.83)*	1.342 (1.31)
Financial blockholder	- 0.025 (-1.30)	- 0.025 (-1.29)	- 0.032 (-2.01)**	- 0.032 (-1.99)**	0.044 (0.07)	0.032 (0.04)
Strategic blockholder	- 0.019 (-1.27)	- 0.019 (-1.28)	- 0.023 (-1.73)*	- 0.024 (-1.76)*	0.845 (1.87)*	0.858 (1.97)**
Individual blockholder	0.002 (0.04)	0.002 (0.04)	- 0.008 (-0.19)	- 0.007 (-0.18)	0.038 (0.04)	0.020 (0.02)
Other blockholder	- 0.013 (-0.58)	- 0.012 (-0.54)	- 0.008 (-0.39)	- 0.007 (-0.33)	0.677 (1.22)	0.629 (0.56)
Control-enhancing mechanisms	- 0.023 (-1.90)*	- 0.021 (-1.78)*	- 0.027 (-2.50)**	- 0.025 (-2.33)**	- 0.416 (-0.72)	- 0.520 (-1.25)
Employees' participation	- 0.020 (-0.92)	- 0.020 (-0.91)	- 0.023 (-1.10)	- 0.022 (-1.09)	0.223 (0.39)	0.215 (0.44)
Ln (firm age)	- 0.009 (-1.78)*	- 0.009 (-1.83)*	- 0.008 (-1.87)*	- 0.008 (-1.98)**	- 0.178 (-0.75)	- 0.160 (-0.89)
Ln (total assets)	0.007 (2.19)**	0.007 (2.23)**	0.008 (2.73)***	0.008 (2.82)***	- 0.140 (-1.33)	- 0.153 (-1.48)
Dividends/Book value of equity	- 0.002 (-0.60)	- 0.002 (-0.61)	- 0.002 (-0.45)	- 0.002 (-0.46)	0.284 (1.26)	0.284 (3.97)***
Total debt/Total assets	- 0.267 (-6.54)***	- 0.269 (-6.51)***	- 0.256 (-6.83)***	- 0.259 (-6.84)***	- 1.506 (-1.56)	- 1.393 (-1.96)**
Return volatility	- 0.000 (-0.99)	- 0.000 (-1.04)	- 0.000 (-0.67)	- 0.000 (-0.76)	0.001 (1.01)	0.001 (2.22)**
Intercept	0.169 (3.17)***	0.169 (3.18)***	0.105 (2.23)**	0.105 (2.24)**	5.150 (3.04)***	5.151 (2.70)***
R-squared	0.210	0.211	0.195	0.197	0.311	0.310
Wald $\chi^2$	383.83	384.38	373.63	373.25	286.95	285.43
p ( $\chi^2$ )	0.000	0.000	0.000	0.000	0.000	0.000

**Table 7**  
**2SLS Regressions of Family Ownership and Firm Performance**

This table contains results of 2SLS instrumental variable regressions of return on assets (ROA) on different family firm variables. Return on assets is defined as EBITDA divided by total assets. Tobin's q is measured as the ratio of the firm's market value to total assets. Family firm is a dummy variable that equals one if members of the founding-family hold at least 25% of the voting rights or (if less) a family member serves as either executive or supervisory board member. Family Ownership is the family's fractional equity share. Founder CEO equals one if the CEO is the founder of the firm and Descendant CEO equals one if the CEO is a founders' descendant. Professional CEO equals one if the CEO of a family firm is not a member of the family. (No) Family representation is a dummy variable that equals 1 if the family is (not) active in the firm. All regressions contain the set of control variables as defined in equation (1). The regressions comprise 1,441 firm-year observations. Asterisks denote statistical significance at the 0.01(\*\*\*) and 0.05(\*\*)-level.

	Return on Assets (EBITDA)				
	(1)	(2)	(3)	(4)	(5)
Family Firm	0.046 (5.03)***				
Family Ownership Stake		0.066 (4.47)***			
Founder CEO			0.070 (3.57)***		
Descendant CEO			0.036 (2.34) **		
Professional CEO			0.046 (4.40)***		
Family Blockholder				0.032 (2.78)***	
Family Representation					0.051 (5.39)***
No Family Representation					0.015 (0.83)
R-squared	0.188	0.197	0.188	0.189	0.188
Wu-Hausman p ( $\chi^2$ )	0.229	0.801	0.488	1.000	0.982

## Appendix

**Table A1**  
**Pooled OLS regressions of Blockholder Types and Firm Performance**

This table contains results of pooled OLS regressions of performance measures on different blockholder types. Return on assets is defined as EBITDA divided by total assets. Tobin's q is measured as the ratio of the firm's market value to total assets. Family firm is a dummy variable that equals one if members of the founding-family hold at least 25% of the voting rights or (if less) a family member serves as either executive or supervisory board member. The different blockholder variables are dummies that equal one if the respective shareholder type holds voting rights of 25% or more. Control-enhancing measures is a dummy variable that equals one if a family firm employs measures that dilute the one-share-one-vote principle. Employees' participation is a dummy variable that equals one if employees are supervisory board members. Return volatility is measured as the standard deviation of share price returns for the previous 60 months. The regressions include dummy variables for each year of the sample period and for two-digit SIC codes. The sample comprises 1,701 firm-year observations. T-Values (in parentheses) are based on the Huber-White sandwich estimator for variance. Asterisks denote statistical significance at the 0.01(\*\*\*), 0.05(\*\*) and 0.10(\*)-level.

	Return on Assets (EBITDA)		Tobin's q	
	(1)	(2)	(3)	(4)
Family blockholder	0.035 (3.22) ***		0.333 (1.73) *	
Family representation		0.038 (3.41) ***		0.329 (1.14)
No family representation		0.014 (0.91)		0.369 (0.61)
Government blockholder	- 0.070 (-4.35) ***	- 0.072 (-4.50) ***	0.695 (1.40)	0.699 (1.39)
Financial blockholder	- 0.022 (-1.87) *	- 0.022 (-1.85) *	- 0.296 (-0.89)	- 0.296 (-0.89)
Strategic blockholder	- 0.013 (-1.43)	- 0.138 (-1.50)	0.457 (1.88) *	0.458 (1.89) *
Individual blockholder	- 0.001 (-0.02)	0.001 (0.00)	- 0.208 (-0.38)	- 0.209 (-0.38)
Other blockholder	- 0.006 (-0.35)	- 0.004 (-0.26)	0.383 (1.18)	0.381 (1.17)
Control-enhancing mechanisms	- 0.029 (-3.31) ***	- 0.026 (-3.03) ***	- 0.172 (-0.55)	- 0.176 (-0.59)
Employees' participation	0.001 (0.04)	0.001 (0.06)	0.170 (0.36)	0.170 (0.36)
Ln (firm age)	- 0.007 (-2.18) **	- 0.008 (-2.34) **	- 0.122 (-0.88)	- 0.121 (-0.86)
Ln (total assets)	0.005 (2.42) **	0.005 (2.60) ***	- 0.059 (-1.01)	0.060 (-0.95)
Dividends/Book value of equity	- 0.001 (-0.18)	- 0.001 (-0.21)	0.338 (1.31)	- 0.338 (1.31)
Total debt/Total assets	- 0.210 (-7.48) ***	- 0.214 (-7.51) ***	- 2.544 (-3.38) ***	- 2.539 (-3.27) ***
Return volatility	0.000 (0.04)	- 0.000 (-0.11)	- 0.001 (1.96) **	0.001 (1.94) *
Intercept	0.142 (4.54) ***	0.142 (4.57) ***	4.867 (4.96) ***	4.186 (4.96) ***
Adjusted R <sup>2</sup>	0.216	0.218	0.320	0.320
F-Statistic	12.39	12.11	9.64	9.06
P(F-Statistic)	0.000	0.000	0.000	0.000

**Table A2**  
**Firm Performance and Founding-Family Ownership**

This table contains results of random effects GLS regressions of performance measures on several firm characteristics and blockholder types. Return on equity is defined as EBITDA divided by total equity. Family firm is a dummy variable that equals one if members of the founding-family hold at least 25% of the voting rights or (if less) a family member serves as either executive or supervisory board member. Founder equals one if the CEO is the founder of the firm and Descendant CEO equals one if the CEO is a founders' descendant. Professional CEO equals one if the CEO of a family firm is not a member of the family. The different blockholder variables are dummies that equal one if the respective shareholder type holds voting rights of 25% or more. Control-enhancing measures is a dummy variable that equals one if a family firm employs measures that dilute the one-share-one-vote principle. Employees' participation is a dummy variable that equals one if employees are supervisory board members. Return volatility is measured as the standard deviation of share price returns for the previous 60 months. All regressions include dummy variables for each year of the sample period and for two-digit SIC codes. The sample comprises 1,701 firm-year observations. Asterisks denote statistical significance at the 0.01(\*\*\*), 0.05(\*\*) and 0.10(\*)-level.

	Return on Equity			
	(1)	(2)	(3)	(4)
Family Firm (blockholder)	0.068 (3.40)***		0.043 (1.79) *	
Family representation				0.045 (1.84)*
No family representation				0.028 (0.71)
Founder CEO		0.096 (2.36)**		
Descendant CEO		0.070 (2.19)**		
Professional CEO		0.062 (2.80)***		
Government blockholder			- 0.097 (- 1.76)*	- 0.098 (- 1.79)*
Financial blockholder			- 0.037 (- 0.97)	- 0.037 (- 0.97)
Strategic blockholder			- 0.021 (- 0.91)	- 0.022 (- 0.93)
Individual blockholder			- 0.174 (- 3.57)***	- 0.174 (- 3.56)***
Other blockholder			0.006 (0.12)	0.008 (0.14)
Control-enhancing mechanisms	- 0.047 (- 1.89)*	- 0.045 (- 1.80)*	- 0.046 (- 1.84)*	- 0.044 (- 1.74)*
Employees' participation	0.017 (0.58)	0.015 (0.52)	0.016 (0.55)	0.017 (0.56)
Ln (firm age)	- 0.009 (- 0.94)	- 0.007 (- 0.75)	- 0.010 (- 1.11)	- 0.011 (- 1.15)
Ln (total assets)	0.012 (2.31)***	0.013 (2.41)**	0.011 (1.94)*	0.011 (1.98)**
Dividends/Book value of equity	- 0.003 (- 0.54)	- 0.003 (- 0.48)	- 0.004 (- 0.58)	- 0.004 (- 0.59)
Total debt/Total assets	- 0.227 (- 5.07)***	- 0.229 (- 5.08)***	- 0.216 (- 4.74)***	- 0.219 (- 4.76)***
Return volatility	- 0.000 (- 0.59)	- 0.000 (- 0.64)	0.000 (0.22)	0.000 (0.17)
Intercept	0.022 (0.19)	0.005 (0.05)	0.070 (0.60)	0.069 (0.58)
R-squared	0.091	0.092	0.101	0.102
Wald $\chi^2$	139.08	139.64	155.89	156.03
p ( $\chi^2$ )	0.000	0.000	0.000	0.000

**Table A3**  
**Firm Performance and Founding-Family Ownership using a balanced sample of 184**  
**companies (1,288 firm-year observations)**

This table contains results of random effects GLS regressions of Return on Assets (EBITDA) on several firm characteristics and blockholder types. Family firm is a dummy variable that equals one if members of the founding-family hold at least 25% of the voting rights or (if less) a family member serves as either executive or supervisory board member. Founder equals one if the CEO is the founder of the firm and Descendant CEO equals one if the CEO is a founders' descendant. Professional CEO equals one if the CEO of a family firm is not a member of the family. The different blockholder variables are dummies that equal one if the respective shareholder type holds voting rights of 25% or more. Control-enhancing measures is a dummy variable that equals one if a family firm employs measures that dilute the one-share-one-vote principle. Employees' participation is a dummy variable that equals one if employees are supervisory board members. Return volatility is measured as the standard deviation of share price returns for the previous 60 months. All regressions include dummy variables for each year of the sample period and for two-digit SIC codes. Asterisks denote statistical significance at the 0.01(\*\*\*), 0.05(\*\*) and 0.10(\*)-level.

	Return on Assets (EBITDA)			
	(1)	(2)	(3)	(4)
Family Firm (blockholder)	0.036 (3.43)***		0.030 (2.72)***	
Family representation				0.033 (2.81)***
No family representation				0.019 (0.97)
Founder CEO		0.058 (2.95)***		
Descendant CEO		0.036 (2.21)**		
Professional CEO		0.033 (2.91)***		
Government blockholder			- 0.062 (- 2.13)**	- 0.063 (- 2.15)**
Financial blockholder			- 0.022 (- 1.19)	- 0.022 (- 1.19)
Strategic blockholder			- 0.017 (- 0.98)	- 0.018 (- 1.00)
Individual blockholder			0.021 (0.79)	- 0.021 (0.78)
Other blockholder			- 0.016 (- 1.33)	- 0.016 (- 1.37)
Control-enhancing mechanisms	- 0.023 (- 1.96)**	- 0.023 (- 1.98)**	- 0.024 (- 2.15)**	- 0.024 (- 2.05)**
Employees' participation	- 0.039 (-2.91)***	- 0.040 (- 2.97)***	- 0.035 (- 2.56)***	- 0.035 (- 2.55) **
Ln (firm age)	- 0.001 (- 0.27)	- 0.000 (- 0.06)	- 0.003 (- 0.51)	- 0.003 (- 0.53)
Ln (total assets)	0.087 (3.25)***	0.009 (3.39)***	0.009 (3.45)***	0.009 (3.50)***
Dividends/Book value of equity	0.004 (5.96)***	0.004 (5.98)***	0.004 (5.93)***	0.004 (5.91)***
Total debt/Total assets	- 0.179 (- 8.34)***	- 0.178 (- 8.23)***	- 0.183 (- 8.53)***	- 0.185 (- 8.57)***
Return volatility	- 0.000 (- 0.27)	- 0.000 (- 0.44)	- 0.000 (- 0.33)	- 0.000 (- 0.40)
Intercept	0.077 (1.54)	0.060 (1.16)	0.077 (1.53)	0.078 (1.54)
R-squared	0.152	0.153	0.161	0.162
Wald $\chi^2$	181.24	182.90	190.29	190.77
p ( $\chi^2$ )	0.000	0.000	0.000	0.000