Family Ownership and Returns on Investment

– Founders, Heirs, and External Managers

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Abstract

This paper investigates how family ownership, control, and management affect firms' investment performance. We use the identity of Chief Executive Officer (CEO) and Chairman of the Board (COB) to establish under what management the firm is: founder, descendant, or external management. The results show that founder management has no effect on investment performance in family firms, whereas descendant management has a negative impact on returns on investment. Having an externally hired manager significantly improves investment performance. The results also indicate that the separation of voting right from cash flow right has a negative impact on investment performance in both family and non-family firms, but the negative effect is larger in family firms.

Keywords: Ownership, Control, Management, Family Firms, Returns on Investments.

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Introduction

Many firms around the world are owned and controlled by families, by the founder directly, or by the founder's offspring. In fact, families control even very large listed firms. There is, however, a significant cross-country variation in the importance of family firms and how concentrated family ownership and control are (La Porta, Lopez-de-Silanes, & Shleifer, 1999). Some argue that family firms are efficient responses to institutional and market environments (Villalonga & Amit, 2006), while others argue that family control and ownership concentration are only substitutes for poor institutions regarding such things as investor protection (Burkart, Panunzi, & Shleifer, 2003). Across the world, family firms often resort to some sort of control-enhancing mechanism to ascertain control (Morck, Wolfenzon, & Bernard, 2005). One important aspect of family firms, which is the focus of this paper, is the transfer of control and ownership across generations. Does it matter for the returns on investment who manages the family firm?

This paper evaluates three governance aspects of the family firm: the effect of family ownership, control, and management. First, we examine whether there is a difference in investment performance between family and non-family firms. We then examine whether there are any differences in a firm's investment performance if the firm is managed by the founder, compared to when the firm is managed by a descendant of the founder, or alternatively by an external manager without family affiliation. Finally, we also study how the use of dual-class shares affects the returns on investments in family firms and non-family firms.

The study adds to the existing literature on family firms in a number of ways, foremost by examining the effects of family ownership, control, and management in a corporate governance setting characterized by a highly concentrated ownership structure and an extensive use of control instruments such as dual-class shares. In the analysis we use a unique panel of 246 Swedish listed firms, out of which 85 are family firms. The data covers a period of 15 years

(1990 to 2005). Previous studies on family ownership and control use either cross-sectional data or a much shorter time period. The study therefore adds to the more general literature on the effects and the development of best-practice corporate governance structures[3] as well as to the literature on family firms.

The study also contributes methodologically to previous research by using an alternative measure of firm performance – marginal q. Marginal q measures the return on investments relative to the cost of capital.[4] Marginal q has the advantage that it is unlikely to be endogenous to ownership, as might be the case with Tobin's q (Gugler et al., 2004b; Gugler & Yurtoglu, 2003; Mueller & Reardon, 1993). Furthermore, marginal q is appealing from a theoretical point of view since, in contrast to market-to-book measures of average q, it only measures the marginal return on capital, which is appropriate when apprising investment performance.[5]

The analysis shows that there are no significant differences between family firms and non-family firms. There are, however, significant differences between family firms and non-family firms in the use of dual-class shares. The descriptive statistics show that almost 80 percent of the sample firms apply a dual-class share structure compared to 54 percent of the non-family firms. The regression results indicate that dual-class shares have a negative and significant effect on firm investment performance; the effect is much higher in family firms than in non family firms.

The results show that a founder management has no abnormal effect on the firm's investment performance. When examining the effect of descendant managers in family firms, the results show a significantly negative relationship between descendant management and firms'

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[3] See, for example, Gugler, Mueller, & Yurtoglu, (2004b) for an overview of the literature.

[4] Marginal q is a measure of what Tobin, (1984) referred to as the functional efficiency of capital markets. We use the marginal q derived by Mueller & Reardon, (1993).

[5] Hayashi, (1982) shows that only under very restrictive assumptions will marginal q and average q equate. Firms need, for example, to operate in perfectly competitive markets, and their production and instalment functions must be homogeneous. These are very unrealistic assumptions which, if they do not hold, make market-to-book measures of Tobin's q inappropriate as performance measures. In addition, market-to-book measures have a number of measurement problems that are significantly reduced when using a marginal q approach. For a discussion of measurement problems associated with Tobin's q see Lewellen & Badrinath, (1997).

investment performance. The result confirms the study by Pérez-González, (2006). The value of marginal q equals 0.3, which implies over-investment, meaning that the manager does not act in the interest of the shareholders; rather he/she caters to his/her own interests at the expense of other shareholders. The proposed reason for this is that a descendant is often given the managerial position due to his/her relationship to the family and not explicitly due to his/her skills. The effects of an external manager as chief executive officer (CEO) and/or chairman of the board (COB) are then examined. The results show a positive and significant effect concerning external managers' effect on investment performance. These firms have, on average, a marginal q of 1.4, indicating under-investment. That is, the return on investment is higher than the cost of capital. In this case, the manager can improve firm value by investing in more projects with a positive net present value. To sum up, the results demonstrate that family control through dual-class shares has a negative effect on firm investment performance. External managers as successors are value-enhancing compared to descendants in family firms applying dual-class shares.

The rest of the paper is outlined as follows. The first section presents a theoretical framework and an overview of the previous literature, it also develops the hypotheses tested. The method section discusses the marginal q methodology and the data set used. The section thereafter discusses the descriptive statistics and the regression results. The last section summarizes and concludes the paper.

Family Firms and Corporate Governance

There is an extensive literature analysing family firms (see, among others, Andres, 2008; Astrachan & Shanker, 2003; Burkart et al., 2003; Hagelin, Holmén, & Pramborg, 2006; Miller, Le Breton-Miller, Lester, & Cannella Jr, 2007; Villalonga & Amit, 2006). In the literature there

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is no general consensus on how to define a family firm, rather several different definitions exist (Casillas & Acedo, 2007; La Porta et al., 1999). A recent research report on family business in Europe concluded that there exist over 90 different definitions of what a family firm actually is (Mandl, 2008). Most definitions have, however, in common that they relate to ownership, control, and management of the firm. For example, Villalonga and Amit, (2006), define a family firm as a firm that has the founder of the firm, a blood relative, or an in-law acting as a CEO or as a block-holder, whereas La Porta et al., (1999) use various levels of control (10 and 20 percent of voting rights) when defining family firms.

Astrachan and Shanker, (2003) set up three criteria for family firms. The first criterion refers to the ownership share that the founder family has in the firm (Anderson & Reeb, 2003a; Villalonga & Amit, 2006). The second criterion refers to whether the family has strategic control of the firm (Cronqvist & Nilsson, 2003). The third criterion takes into account the family's involvement in the management of the firm and intention to keep the firm within the family (Chrisman, Chua, & Litz, 2004).

In this paper, we distinguish between family firms and non-family firms. We define a firm as a family firm if the *controlling owner* is the founder, an heir, or a member of the founder family. Control is inferred at 20 per cent. With dispersed ownership structure, it can be assumed that less than 50 percent of the voting rights are sufficient to de facto control a firm (Claessens, Simeon, Fan, & Lang, 2002; La Porta et al., 1999; Morck et al., 2005). Further, we distinguish between three types of family firms, or more precisely, three management categories: founder, descendant, and external management. To determine type of management, we identify who holds the position as Chief Executive Officer (CEO) and who holds the position as Chairman of the Board (COB). Thus, we distinguish between the following three categories of management: (1) *founder CEO and/or COB*, (2) *descendant CEO and/or COB*, and (3) *externally hired CEO*

and/or COB. If, for example, the CEO is a descendant and the COB is the founder, the firm is coded as being managed by the founder. Likewise, if the COB is a descendant and the CEO is an external manager, the firm is coded as being managed by a descendant; only if both the CEO and the COB are external (non-family) is the firm treated as being under external management. The definition of founder-family control applied follows, among others, Anderson & Reeb, (2003a and b), Barontini & Caprio, (2006), and Villalonga & Amit, (2006).

Family Ownership and Control

There are several studies of how ownership affects a firm's financial performance specific to family ownership; many of these studies use, however, data on Anglo-Saxon firms. In general, the empirical literature seems to suggest that founding-family ownership and management has a positive impact on firm performance (Andres, 2008; Barontini & Caprio, 2006). For example, Anderson and Reeb, (2003a and b) show that US-based founder family firms perform better than non-family firms. The impact of ownership on firm performance is, however, non-linear. In another study, Anderson et al., (2003) show that the cost of debt is lower in founder family firms than in non-family firms and that founder family firms do not have lower risk in terms of capital and debt structure than non-founder family firms Anderson and Reeb, (2003b). Consequently, they conclude that family ownership is a beneficial organizational structure from which bond holders, management, and minority shareholders benefit. Villalonga & Amit, (2006) also show a positive effect of family ownership on firm performance. In line with the studies by Anderson and others they conclude that minority shareholders in family firms are better off than shareholders in non-family firms. The same patterns also seem to hold for Continental European firms (Andres, 2008; Barontini & Caprio, 2006).

Theoretically there are, however, both potential benefits and potential costs associated with family ownership and control. The potential benefits of family ownership are related to the fact that families as owners are considered to have strong economic incentives to closely monitor the management of the firm and hence to decrease costs associated with potential principal-agent conflicts (Andres, 2008; Villalonga & Amit, 2006). Controlling owners who hold large stakes in the firm can be assumed to have strong incentives to monitor the management of the firm and thereby lower managerial entrenchment as well as the free-riding problem associated with dispersed ownership. The level of motivation for monitoring the management is based on the controlling owners' proportion of the firm's cash flow rights. The more cash flow rights held by a shareholder, the stronger the incentive for monitoring the management of the firm (Shleifer & Vishny, 1986 1997). The incentives to both expropriate minority shareholders and monitor the management are stronger in family firms than with other types of controlling owners since the private benefits of control are concentrated to the family and not diluted among several different stakeholders as is the case with other controlling owners (Villalonga & Amit, 2006).

Many of the characteristics of families as owners are associated with their strong personal attachment to the firm. Andres (2008) lists a number of reasons why families could be considered as a special type of owners and why they have stronger incentives to monitor the management. For example, the family has in many cases invested a large part of personal wealth in the company and often has a relatively less diversified investment portfolio compared to other financial investors. That is, the family has a strong attachment to the firm, both financially and emotionally. Families are often also regarded to have a longer time horizon in their investment, a quality that affects firm reputation, contacts with suppliers and customers, and investment decisions. Hence, hypothesis one can be formulated accordingly:

Hypothesis 1. Family firms have a superior investment performance vis-à-vis non-family firms.

There are also costs associated with family ownership and control that might occur as a result of the controlling shareholders' extraction of private benefits from the firm. The cost of these private benefits is borne by the minority shareholders. With private benefits of control, the controlling shareholders can increase their utility and private wealth. Hence, controlling owners can get personal financial benefits and personal non-financial benefits from the management of the firm (Ehrhardt & Nowak, 2003). Controlling shareholders with a small portion of cash flow rights have larger incentives for expropriating minority shareholders if the legal minority protection is weak and the expected costs are low (La Porta et al., 1999). Previous research has shown that the use of control-enhancing mechanisms such as vote-differentiated shares is much more common in family firms than in non-family firms. Hence, one can assume that the effect is larger in family firms. Based on this discussion, we formulate hypothesis two:

Hypothesis 2. Separation of ownership and control due to vote-differentiated shares has a negative impact on investment performance.

Family management

According to our categorization, a family firm can be managed in three different ways: (1) by the founder of the firm (founder management), (2) by the founder's descendants (descendant management, defined as anyone with a family bond to the founder), and (3) by external managers (external management).

A founder is an entrepreneur who has three significant basic endowments that help a firm to grow and increase the likelihood of success: (1) entrepreneurial spirit, (2) human capital, and (3)

venture capital (Gompers, Ishii, & Metrick, 2004). The founder can be assumed to have distinct characteristics in terms of expertise and entrepreneurial abilities that positively affect the firm's investment performance (Villalonga & Amit, 2006). Anderson & Reeb (2003a) establish that when a family member (founder or descendant) serves as the CEO, the firm's performance is significantly enhanced, compared to when an external manager serves as the CEO. The market performance of a family firm with the founder as the CEO also appears to be higher than when a descendant serves as the CEO. Based on this reasoning, we formulate hypothesis three:

Hypothesis 3: Founder management has a positive impact on investment performance.

A founder's abilities are not automatically transferred to the descendants or heirs. A founder who resigns has three options of handing over the firm: (1) he/she can sell the firm on the capital market, (2) he/she can hire an external manager to run the firm, or (3) the founder can appoint a family member to take the managerial position (Burkart et al., 2003). It can be assumed that founders increase their own welfare when selling to outside investors if the family keeps the control. Further, by handing over the firm to the founder's successors, the family as controlling owner will be able to reduce the agency cost as described in the previous section. Pérez-González (2006) confirms the prediction of Burkart et al.'s model. He shows that family descendants holding a CEO position reduce firm performance. The return on assets decreased on average by 18 percent within three years, compared to the case when an external manager took over as CEO.

Villalonga and Amit (2006) made a similar study using Fortune 500 firms. They show that family control increases firm performance but only when the founder serves as the CEO and/or COB, whereas a descendant CEO has a negative effect on firm value. That is, the result

shows that if the appointed manager from the family has no or little experience in the area, and is only elected because of his/her family relationship, the firm value will be negatively affected. In addition, there is a great deal of anecdotal evidence that controlling owners in their third or fourth generation do more damage than they contribute to the success of the firm (Landes, 2006). This discussion forms the fourth hypothesis:

Hypothesis 4: Descendant management has a negative impact on investment performance.

As mentioned, appointing a family member to a managerial position can be costly if the family member does not have the right skills and thereby makes inferior investment decisions. Therefore, in many cases, an external manager with the proper knowledge and business know-how can be expected to have greater ability to manage the firm than family descendants (Pérez-González, 2006). The fifth hypothesis is formulated accordingly:

Hypothesis 5: External management in a family firm has a positive impact on investment performance.

Method

Tobin's q is one of the most commonly applied measures of firm performance. It measures the average return on capital relative to the firm's cost of capital. A Tobin's q above one implies that the average return on capital is higher than the cost of capital. As with other accounting measures, Tobin's q suffers from some crucial drawbacks, of which the most serious is that it confuses average and marginal returns on investment. It also fails to account properly for firm-specific costs of capital and risk.

Marginal q

In this study, we use marginal q (q_m) as a performance measure. Marginal q measures the change in the market value of a firm due to the change in assets (investment) that caused it. Mueller & Reardon (1993) derive marginal q acknowledging the fact that market value investments are the discounted present value of future cash flows created by the investments.[6] The estimation method allows each firm a firm-specific depreciation rate. Hence, q_m is a more accurate measure to use when evaluating firm performance, since it is the return on the marginal investment rather than the average that shows whether the firm is over- or under-investing relative to its cost of capital. The interpretation is straightforward; a q_m equal to one implies that firm value is maximized, a q_m less than one implies over-investment, i.e., the marginal return is lower than the cost of capital, and a q_m above one implies under-investment, the marginal return on investment is higher than the firm's cost of capital. To estimate marginal q we use the following equation:

$$\frac{M_t - M_{t-1}}{M_{t-1}} = -\delta + q_m \frac{I_t}{M_{t-1}} + \frac{\mu_t}{M_{t-1}} \tag{1}$$

M_t, is the total market value of the firm, i.e., defined as market value of equity plus total debt, $-\delta$ is the depreciation rate,[7] I_t is the investment, and q_m is the estimated marginal q. Equation (1) assumes an efficient capital market in the sense that future cash flows are unbiased estimates. From this it follows that as t grows larger, the term μ_t/M_{t-1} approaches zero.

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[6] See Appendix for a derivation of marginal q from Tobin's average q.

[7] More technically, δ should be interpreted as the *systematic change in market value* of the capital stock in place (K_{t-1}). In normal cases this can be thought of as the depreciation rate; however, under certain circumstances δ can be positive due to re-evaluation of the market value (Bjuggren, Eklund, & Wiberg, 2007).

Note that the depreciation rate is estimated as the intercept, and as such, no assumptions regarding the speed of asset decay are necessary. Further, since we use fixed-effects estimations, the depreciation rate is allowed to vary across time and firms.

To estimate the effect of management, ownership, and control we interact the dummy variables with I_t/M_{t-1} from equation (1), which yields the functional form: $Y = \alpha + \beta_1 X + \beta_2 Z$, and the estimated model is of the form:

$$\frac{M_t - M_{t-1}}{M_{t-1}} = -\delta + \beta_1 \frac{I_t}{M_{t-1}} + \beta_2 Z_1 \frac{I_t}{M_{t-1}} + ... + \beta_{i+1} Z_i \frac{I_t}{M_{t-1}} + \varepsilon_i \qquad (2)$$

where the Zs represent the explanatory variables. The sum of the marginal effect in equation (2) corresponds to marginal q:

$$q_m = \beta_1 + \beta_2 Z_1 + ... + \beta_{i+1} Z_i \qquad (3)$$

Data

The data for the empirical investigation consists of an unbalanced panel of 256 Swedish listed firms during the period 1990-2005. Out of these, 85 firms were classified as family firms according to our definition (family ownership inferred at 20 percent or more of the voting rights). All firms in the sample are Swedish-domiciled listed companies on the Stockholm Stock Exchange and on the Nordic Growth Market (NGM). To be included, each firm needs to provide data for a minimum of four consecutive years. The whole sample contains 1518 firm-year observations representing 246 firms over a 15-year period (85 family firms with 497 firm-year observations). Table 1 presents the variables used.

Table 1. Variables and Definitions

Variables	Definition
Family Firm	Dummy variable indicating family ownership; equals 1 if the controlling owner is the founder, an heir, or a member of the founder family firm, and 0 otherwise. Family control is inferred at 20 percent.
Founder Management	Founder dummy variable; equals 1 if the founder is the CEO or COB, 0 otherwise[a].
Descendant Management	Descendent dummy variable; equals 1 if a descendent of the founder is the CEO or COB, and 0 otherwise[a].
External Management	External manager dummy variable; equals 1 if a non-family member of the founder is the CEO or COB, 0 otherwise[a].
Capital	Share of capital/cash flow rights controlled by the firm's single largest shareholder, in percent.
Votes	Share of votes controlled by the firm's single largest shareholder, in percent.
Vote diff.	Vote differentiation dummy; equals 1 if the firm has a vote-differentiated share structure and 0 otherwise.
Vote excess	Voting rights minus cash flow rights for the largest owner of the firm.
M_t	Total market value calculated as market value of equity plus total debt.
I_t	Investment[b]: I = *after tax profits* (G378) + *Depreciation* (G399) – *Dividends* (G425) + *ΔDebt* (G135 and G132) + *ΔEquity* (G679 and G670) + *R&D* (G625) + *ADV* (approximated by G612), where *ΔDebt* and *ΔEquity* are funds raised by new debt and equity issues.
Δ Market value	Change in total market value between periods *t-1* and *t*. $(M_t - M_{t-1})/M_{t-1}$
Investment intensity	Investments in period *t* divided by total market value in period *t-1*. (I_t/M_{t-1})
Sales	Sales/turnover (G608).

Notes: a) CEO refers to Chief Executive Officer and COB to Chairman of the Board. b) Compustat Global item numbers are within parentheses.

The financial data were collected from Standard & Poor's Compustat Global Database. The data have been adjusted for inflation (base year 1989). To reduce the weight of outliers we exclude one percent of the observations.[8] Data on management, ownership, and control were

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[8] We use the absolute deviation between change in total market value and investment: $(M_t - M_{t-1})/M_{t-1}$ and I_t/M_{t-1}. We exclude one percent of the observations (15 obs.). In effect this removes observations that contain large errors.

obtained from the SIS Ownership Data Corporation databases: *SIS Board and Auditor* and *SIS Owners and Power in Sweden's Listed Companies*. Information on founders was collected from each firm's annual reports and websites. In the cases where the information was not available, the firms were personally contacted to guarantee correct information.

Results

Sweden is dominated by firms with highly concentrated ownership structures with a strong presence of family ownership. Many of the larger companies on the Stockholm Stock Exchange are controlled by a family (Agnblad, Berglöf, Högfeldt, & Svancar, 2001; Högfeldt, 2005).

Descriptive Statistics

Table 2 presents the summary statistics with respect to family and non-family firms. Due to our narrow definition of what constitutes a family firm only 30 percent of the sample firms are classified as family firms. The first group, non-family firms, contains 1021 observations. In this group, the largest owner on average controls 30 percent of the voting rights and 23 percent of the cash flow rights. That is, on average, excess votes equal 7 percent among these firms.

Approximately 54 percent of the non-family firm group has a vote-differentiated share structure. The average firm has a mean annual increase of its market value of 15 percent. The high value is due to the very good performance of some firms, as shown by the median value, which equals 6 percent. The average investment intensity is 22 percent.

Table 2. Descriptive statistics, non-family firms

Variables	Mean	Median	Std.	Min.	Max.	Obs.
Capital (%)	22.69	19.90	14.23	1.2	81.60	1021
Votes (%)	30.04	26.60	17.79	1.0	89.90	1021
Vote diff. (%)	54.00	1	50.00	0.00	1.00	1021
Excess vote (%)	7.36	0	12.46	-30.00	49.10	1021
Market value (MSEK)	7 993.00	930.89	26 628.28	4.20	429 901.90	1021
ΔMarket value (%)	15.00	6.00	59.00	-93.00	330	1021
Investment intensity (%)	22.00	18.00	33.00	-124	259	1021
Sales (MSEK)	6 259.83	958.46	13 487.74	0	104 936.30	1021

We then turn to descriptive statistics for family firms (Table 3). The average family firm has a largest owner who controls almost 50 percent of the voting rights and 31 percent of the cash flow rights. Further, excess votes are higher; on average the largest owner has an excess vote of 17 percent. Almost 80 percent of the family firms have a vote-differentiated share structure. Some interesting features appear when comparing family-controlled firms with non-family controlled firms. For example, the ownership structure is much more concentrated in family firms. On average, the largest owner in a family firm has a substantially greater ownership stake than the largest owner in non-family firms. The largest owner in family firms controls on average 48 percent of the voting rights, the corresponding value in non-family firms is about 30 percent. In terms of cash flow rights, the largest owner in family firms controls on average 24.1 percent, in non-family firms the largest owner only controls on average 22 percent of the cash flow rights. Hence, the difference in excess votes is about 10 percent. The findings are consistent with previous studies, such as that of Bjuggren and Palmberg (2009).

Table 3. Descriptive statistics, family firms

Variables	Mean	Median	Std.	Min.	Max.	Obs.
Founder management	35.00	0	0.48	0	1	497
Descendant management	29.00	0	0.45	0	1	497
External management	36.00	0	0.48	0	1	497
Capital (%)	31.32	29.00	15.68	0.70	74.10	497
Votes (%)	47.80	46.40	19.42	5.00	93.70	497
Vote differentiation	78.00	1.00	41.00	0	1	497
Excess vote (%)	16.48	18.50	13.43	-12.90	44.40	497
Market value (MSEK)	2 742.23	455.64	8 083.46	7.36	76 417.63	497
Δ Market value (%)	17.00	8.00	55.00	-97.00	436	497
Investment intensity (%)	24.00	18.00	39.00	-86.00	328	497
Sales (MSEK)	1 806.58	562.24	4 370.43	0.00	34 516.36	497

Note: The variable *Family firm* is a dummy variable taking the value 1 if the firm is a family firm and zero otherwise. Variables one to three are dummy variables taking the value 1 if the CEO or COB is (1) the founder of the firm, (2) a descendent of the founder, or (3) an external manager with no family connection, and 0 otherwise.

Furthermore, family firms tend to be smaller in terms of market value than non-family firms. This can also be seen from the size of investments. Non-family firms invest on average SEK1,977 million a year whereas family firms invest SEK490 million. Appendix 1, Table A1 provides a correlation matrix of the investigated variables.

Regression Results

We use a panel data methodology to estimate the effects of family ownership, control, and management on returns on investment. More specifically, a fixed-effects model with time and firm effects is applied. A fixed-effect model is theoretically appropriate in this case, since we investigate the same firms over time; the choice of model is also supported by the Hausman test. Table 4 presents the results of the estimated marginal q for family and non-family firms. The estimated marginal q for family and non-family firms is 1.042 and 0.948, respectively. The

values indicate that Swedish listed firms on average have made efficient investments (Table 4). The result suggests that it is not possible to reject hypothesis 1, that family firms have a superior investment performance over non-family firms. Compared to findings in earlier research on Sweden, the estimated average marginal q is, however, somewhat higher. For a similar set of Swedish firms, but for a shorter period, Bjuggren et al. (2007) find a marginal q of 0.89. In an international comparison study, Gugler et al. (2004a) estimate the marginal q for Swedish firms at 0.65.

Models 1 and 2 also test hypothesis 2, that dual-class shares drive a wedge between ownership and control. The variable excess votes have a significant and negative sign in both types of firms. The negative effect of dual-class shares is particularly pronounced in family firms. As shown in the descriptive statistics (Tables 2 and 3), the controlling owner in family firms has on average excess votes of 16.48 percent, compared to only 7.36 percent in non-family firms. The result is also in line with previous research. In a recent study, Bjuggren et al., (2010) demonstrate that dual-class shares have a significant negative effect on firm investment performance. Cronqvist & Nilsson (2003) and Villalonga & Amit (2006) investigate family ownership and control. Both these studies find a negative and significant effect of dual-class shares.

Table 4. Family and Non-Family Firms

Dependent variable: $(M_t-M_{t-1})/M_{t-1}$	Model 1 Non-family firms	Model 2 Family firms
I_t/M_{t-1}	1.065***	1.278***
	(15.21)	(11.74)
I_t/M_{t-1} * Excess votes	-0.003***	-0.019***
	(-3.24)	(-3.63)
Constant	-0.08***	-0.06**
	(-3.61)	(-1.97)
R-sq: overall	0.124	0.200
F-value	117.08	94.08
Observations	1021	497
No. of firms	172	85
Marginal q (mean)	1.042	0.948

Notes: *, **, *** denote significance at the 10 percent, 5 percent and 1 percent level, respectively. T-statistics in parentheses, robust standard errors are used. The regression is a fixed-effect estimation with time and group effects. Marginal q is evaluated at the mean value of the explanatory variables, see equation (3). Marginal q (mean) is a calculated value using the average values of excess votes from Table 2 and Table 3. Marginal q for non-family firms: 1.065-(0.003*7.36) = 1.042, and marginal q for family firms: 1.278-(0.019*16.48).

Table five presents the regression results for founder (model 4), descendant (model 5), and external management in family firms (model 6). The regression estimate of the dummy variable controlling for founder management is insignificant, which implies that family firms that are managed by the founder perform in the same way as the average Swedish listed firm. The finding rejects hypothesis 3, which states that family founding management has a positive impact on firm investment performance. Model 5 reports that the I_t/M_{t-1}*descendant parameter is negative and significant. That is, a descendant management in a family firm has a negative effect on the firm's investment performance. These firms have an average marginal q of 0.4, indicating heavy over-investment. The result supports hypothesis 4. Descendant-managed family firms are in general badly managed and invest in projects associated with a negative net present value. A marginal q less than one indicates bad corporate governance, which in turn has a negative effect on the returns on investment.

Confirming hypothesis 5, that external management enhances firm investment performance, model 6 shows that an external management has a positive and significant impact on the investment performance in founding-family firms. These firms have an average marginal q equal to 1.273 indicating under-investment. That is, there is room for further investments in order to maximize firm value.

Table 5. Founder, Descendant, or External Management in Family Firms

Dependent variable: $(M_t - M_{t-1})/M_{t-1}$	Model 3	Model 4	Model 5	Model 6
I_t/M_{t-1}	0.992*** (13.04)	0.997*** (10.82)	1.142*** (14.20)	0.840*** (9.51)
I_t/M_{t-1}*Founder management		-0.013 (-0.11)		
I_t/M_{t-1}*Descendant management			-0.805*** (-4.81)	
I_t/M_{t-1}*External management				0.433*** (3.28)
Constant	- 0.066** (-2.34)	-0.066** (-2.33)	-0.058** (-2.12)	-0.067** (-2.42)
R-square overall	0.174	0.174	0.191	0.198
F-value	169.67	84.79	101.10	92.38
Observations	497	497	497	497
No. of firms	85	85	85	85
Marginal q (mean)	0.992	0.984	0.337	1.273

*. **. *** denote significance at the 10 percent, 5 percent, and 1 percent level, respectively. Standard errors are used in calculating t-statistics (in parentheses). The regression is a fixed-effect estimation with time and industry effects. Marginal q is evaluated with coefficient weights equal to one.

To sum up, the results show no effect of founder management in family firms, whereas descendant-managed firms are associated with over-investments. External managers in family firms are associated with signs of under-investments, meaning that the return on investments made by the firms is significantly higher than the firms' cost of capital. Although further investigation concerning the role of control instruments such as dual-class shares is needed, the

results of this study support the view that control instruments drastically alter the incentives of controlling owners and managers.

The result regarding founder, descendant and external management differ somewhat compared to previous research. In line with studies using Anglo-Saxon data, Barontini and Caprio, (2006) find a positive impact of founder CEOs for continental European firm performance, where firm performance is measured in terms of Tobin's q or as return on assets. When performing the analysis country by country, the only results available for Sweden are when the controlling family owner acts as the CEO of the firm, which has a positive effect on firm performance (Barontini and Caprio, 2006). The results regarding descendant and external management are in line with the by Villalonga and Amit (2006 a-b).

Conclusions

There are a large number of studies investigating how family ownership, control, and management affect the performance of firms. Few studies, however, have been made on data relevant to the continental European corporate governance model, characterized by concentrated ownership and extensive use of control instruments such as dual-class shares.

We investigate three management structures related to family ownership; founder management, descendant management, and external management. We use the identity of the CEO and COB to show under what type of management the family firm is. To assess performance, we use a measure of Tobin's marginal q, which solves many of the problems associated with conventional performance measures such as market-to-book measures of Tobin's average q. Marginal q measures the returns on investment relative to the cost of capital.

The results for founder-managed family firms showed no significant positive relation with the investment performance of the firms. Previous research has found a positive relationship

between the founder and firm performance measured as Tobin's q or return on assets. Second, we examine the effect of a descendant manager in family firms. The results show a negative link between descendants as managers and the investment performance of firms. Our findings corroborate the study by Pérez-González (2006). The value of marginal q implies over-investments, i.e., investments with returns below the cost of capital. The results indicate that a descendant is often given the managerial position due to his/her bond to the family and not explicitly due to his/her skills. Lastly, we examine the effects on performance of external managers without family affiliation. The results show a positive and significant effect of external managers on the investment performance of family firms.

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Appendix

Derivation of marginal q from Tobin's q

Marginal q can be derived from the net present value rule of investments as in the original paper by Mueller and Reardon (1993). Alternatively, marginal q can be derived from Tobin's q, where Tobin's average q, *qa*, is defined as the market value, M_t, divided by the replacement cost of the firm capital at time t, K_t:

$$M_t / K_t = q_{a,t} \tag{a}$$

This measures the average return on the capital relative to the cost of capital. If *qa* is above one, this implies that the firm should invest further. However, for adjustments of the capital stock, the marginal return on capital is more relevant. Marginal q measures the marginal return on capital, i.e., investments. Marginal q, *qm*, can be derived from Tobin's average q. The marginal return on capital is then:

$$q_m = \frac{\Delta M_t}{\Delta K_t} = \frac{M_t - M_{t-1} - \delta M_{t-1}}{K_t - K_{t-1}} \tag{b}$$

where $-\delta$ is the depreciation rate. The market value in period t can be written as:

$$M_t = M_{t-1} + PV_t - \delta M_{t-1} + \mu_t \tag{c}$$

where PV_t is the present value of the cash flows that investments in period t, I_t, generate, and μ_t is a standard error term. The net present value rule of investments stipulates that investments should be made up to the point where $PV_t = I_t$. This implies that $PV_t/I_t = 1$, which can be rewritten as $PVt/It = q_m$. By dividing both sides of equation (c) with M_{t-1} and rearranging it, we get the empirically testable equation (1). Equation (1) assumes that the capital market is efficient in the sense that future cash flows are unbiased estimates. As t grows larger, the term μ_t /M_{t-1} will approach 0. For more details on the derivation, properties, and estimation techniques of marginal q, see Mueller & Reardon (1993) and Gugler & Yurtoglu (2003).

Table A1   Correlation Matrix

Variables	Family firm	Founder	Descendant	External	Capital	Votes	Vote diff.	Excess votes	Market value	$(M_t-M_{t-1})/M_{t-1}$	I_t/M_{t-1}	Sales
Family firm	1											
Founder	0.52*	1										
Descendant	0.46*	-0.12*	1									
External	0.52*	-0.13*	-0.12*	1								
Capital	0.27*	0.13*	0.17*	0.10*	1							
Votes	0.41*	0.18*	0.27*	0.17*	0.74*	1						
Vote diff.	0.23*	0.13*	0.14*	0.08*	0.03	0.42*	1					
Excess votes	0.32*	0.13*	0.21*	0.14*	-0.02	0.65*	0.60*	1				
Market value	-0.11*	-0.08*	-0.003	-0.08*	-0.01	0.07*	0.04	0.11*	1			
$(M_t-M_{t-1})/M_{t-1}$	0.02	-0.01	0.006	0.03	0003	-0.02	-0.05	-0.04	0.04	1		
I_t/M_{t-1}	0.03	0.01	-0.01	0.04	0.05	0.06*	0.02	0.03	-0.01	0.37*	1	
Sales	-0.18*	-0.12*	-0.06*	-0.09*	-0.06*	0.02	0.07*	0.10*	0.77*	-0.03	0.02	1
Debt	-0.19*	-0.10*	-0.08*	-0.10*	-0.08*	0.004	0.08*	0.10*	0.61*	0.09	0.004	0.83*

* indicates significant correlation at 5 percent.