The Performance Premium of Family Firms: Evidence from Population Data

by*

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Abstract

We compare the return on assets of family firms and nonfamily firms using proprietary data for all Norwegian firms with limited liability in 2000–2015. The family firms we analyze are majority-controlled by persons related by blood or marriage and constitute two thirds of all firms in the economy. We find that the median performance premium for family firms is 1.8 percentage points, which persists across different subsamples of family firms, different definitions of a family firm, and across the business cycle. The premium relates positively to measures of investability, financial constraints, and the family's governance intensity. These results suggest that family control produces an organizational form where the economic benefits often exceed the costs.

May 31, 2018

Very preliminary. Please do not quote

Keywords: Corporate governance, family firms, population, representative sample, majority control, performance, return on assets,

JEL classification codes: G32; G34

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1. Introduction

Family firms are special because they are controlled by a tightly related group of people who may have different preferences than other owners have. The firm may also represent most of the family's wealth. This situation suggests that characteristics of the owner may be unusually important for how the family firm behaves and performs (Bennedsen, Perez-Gonzalez, and Wolfenzon, 2010). We analyze the economic performance of all family firms in Norway and compare it to the performance of all nonfamily firms in the economy over sixteen years. Our main findings are that a family firm premium exists, that the premium is economically large and very robust, and that the premium depends on observable characteristics of the firm and its controlling family.

The empirical literature on the relationship between the family's governance and the firm's performance lacks a clean conclusion. For instance, the estimated relationship between performance and family firm status is sometimes positive, sometimes negative, and sometimes insignificant. This ambiguity exists in both private and public family firms and across different countries (Miller et al., 2007; O'Boyle, Pollack, and Rutherford, 2012; Amit and Villalonga, 2014). There are at least three reasons for this ambiguity that our paper tries to avoid.

First, existing studies do not use a standard family firm definition, and some definitions may not capture the characteristics that make family firms unique in a governance sense. In fact, more than 90 different definitions exist (European Commission, 2009). We define a family firm as one that is majority-owned by individuals related by blood or marriage, regardless of whether these individuals have chosen to be directors and officers in the firm. This definition reflects both the sociology of these individuals and their option to choose participation intensity in governance. We will argue these are the two dimensions that jointly make family firms unique.

Second, most studies ignore the possibility that the family's governance of the firm is endogenous rather than exogenous relative to performance (Bennedsen, Perez-Gonzalez, and Wolfenzon, 2010). That is, governance may not just drive performance, but may also be driven by it. We reduce this source of biased estimates by using instruments that reflect demographic properties of the family that may matter directly for the family's governance of the firm, but matter only indirectly for the firm's performance through the family's governance.

The third potential reason for the inconsistent family firm premia is the lack of representative samples (Amit and Villalonga, 2014). This problem occurs because most family

firms are private, because high-quality economic data on private firms are seldom available, and because data on family relationships are particularly difficult to obtain. We address this problem using a sample of all active nonfinancial firms with limited liability in Norway during the period 2000–2015. This sample, which has about 86,000 family firms and nonfamily firms per year, shows that family firms account for 66% of all firms in the economy, 33% of employment, 22% of sales, and 13% of the assets. Accordingly, our sample represents all family firms in the economy, which constitute the dominant organizational form a large portion of aggregate economic activity.

Measuring performance as returns on assets (ROA) in real terms, we show that the median ROA is 1.8 percentage points higher in family firms than in nonfamily firms. The premium varies between 1 and 3 percentage points, and it survives when we account for the firm's size, age, risk, growth opportunities, liquidity, and industry.

We analyze whether this family firm premium is due to limited investability, share illiquidity, financial constraints, idiosyncratic risk, agency costs, family skills, and measurement errors, respectively. Regarding investability, new firms may be started by families with good business ideas. If the family can finance the firm alone, there is no reason to bring in other investors unless the new shares can be issued at a price that reflects the true value of the project. That is, if the family brings in other investors to get the project funded, the cost of information asymmetry forces the family to share the superprofit with others. This loss of wealth makes the family finance the project themselves whenever they can.

Consistently with this idea that families invest only if the firm is a good investment opportunity, we find that the family firm premium is larger in younger firms, which may face larger information asymmetry problems than older family firms do. We also find that family firms, and young family firms in particular, are less risky and have higher survival probability than nonfamily firms have.

Share illiquidity is the second potential source of the family firm premium. Because almost all family firms are nonlisted, it is costly to trade their equity and debt. Nevertheless, Moskowitz and Vissing-Jørgensen (2002) find no evidence of an illiquidity premium for nonlisted shares. We compare nonlisted family firm to nonlisted nonfamily firms, which both have illiquid shares, finding a positive family firm premium. This result suggests share illiquidity cannot explain the performance difference we observe.

The third source of the family firm premium is the firm's financial constraints. This effect is due to the fact that the family has limited wealth and faces costly adverse selection if equity is raised from outside investors. The financial constraints make the ROA of the marginal project higher than in comparable nonfamily firms with less serious financial constraints.

Our evidence supports the financial constraints idea, as the performance premium is higher in young family firms, which would have the hardest time to attract external financing due to information asymmetry. We also show that the premium is lower if the family is wealthier, both in absolute terms and relative to size of the firm and that of a firm in the same industry.

Idiosyncratic risk is the fourth source of the family firm premium. The family usually invests a large portion of its wealth in one firm, and family members may also work for the firm. Thus, family members may be heavily dependent on cashflow from the firm even in the first years of the firm's life. Moreover, because the family has concentrated investment, the family may require higher returns to compensate for the lack of diversification.

The evidence on risk is mixed. We find that higher volatility of sales and earnings is associated with lower, not higher, performance. Moreover, if the stake in the firm represents a larger share of the family's total assets, the premium is lower. New firms have positive earnings in their first years if they are family-controlled, but not otherwise. While the last result is consistent with the risk argument, the first two are not.

The fifth source of the family firm premium is low agency costs. Being a family firm means being controlled group of large owners who are unusually tightly knit, and who have strong incentives and to monitor management closely. In fact, it is the rule rather than the exception that a family member is also the chair and the CEO (Bøhren et al., 2018).

Evidence supporting the agency argument is the finding with higher family ownership perform better. We also find that family firms with family CEOs have higher profitability than other firms have. Thus, family participation in governance seems beneficial for firm performance. Moreover, we find that a controlling stake per se is not sufficient for good performance. When we consider firms with controlling shareholders, we find that controlling families are associated with better performance than controlling nonfamilies are. Therefore, if superior performance is the result of superior monitoring, it seems families are better monitors.

However, we also find that better performance starts at a family ownership level of 20%. Therefore, family control is not really necessary for good performance. Moreover, having

several owners in the family rather than just one is associated with slightly lower performance, perhaps because of coordination problems within the family.

The family firm premium may be due to superior skills in the family beyond the ability to monitor. At least in the founder's generation, the family may have better knowledge of the industry and the firm. Although skills are difficult to measure, we have some information on the family members' education and employment that may be used to measure skills. We do not find a large founder premium in our sample, but we plan to explore the issue further. However, we do find that performance is higher when the CEO belongs to the family. This relationship may reflect good business-related skills in the family.

Finally, the performance premium may be due to the way we measure performance. Some of the family firm's assets, such as unusually strong reputation and close customer relationships, are not captured by the book values on the balance sheet. Therefore, the ROA may overestimate true performance. Moreover, we find that family firms are less capital intensive than other firms, which may boost the ROA. While we are unable to account for immaterial assets, we control for capital intensity in our ROA regressions by the capital to labor ratio.

Our findings on the measurement problem of ROA are mixed. We do get a family firm premium when we control for capital intensity, suggesting that capital intensity cannot explain the family firm premium. However, larger family firms, which are more capital intensive, have a lower premium. Moreover, performance per employee is lower for family firms.

Some of these results may have policy implications. For instance, the finding that higher profitability is partially due to financial constraints is an argument for special support to family firms. In contrast, a finding that the premium is driven by self-selection or non-scalable business models would argue against special support.

The only similar paper we are aware of is Andersson et al. (2017), which uses Swedish data over five years covering all firms in the economy. They regress performance on a family firm dummy, firm size, and industry and year dummies, finding that family firms have higher performance than nonfamily firms have.

We plan to further explore the sources of the family firm premium. Given the breadth and depth of our data, we can provide a more intensive analysis of the sources of the family firm premium. Moreover, we plan to reduce possible endogeneity bias by using family demographics as instruments for the family's governance.

We define the family firm in Section 2, provide summary statistics in Section 3, estimate the baseline model in Section 4, analyze the role of ownership concentration in Section 5, look at additional family and firm characteristics in Section 6, and consider the performance of start-up firms in Section 7. We summarize and conclude in Section 8.

2. Defining a family firm

We define a family firm as a firm where more than half the equity belongs to individuals related by blood or marriage. Definitions in the literature tend to use either lower control thresholds than 50%, looser sociological criteria than blood or marriage, or just governance positions held rather than ownership (Anderson and Reeb, 2003; Maury, 2006; Bennedsen et al., 2007; Amit and Villalonga, 2014).[1] We think our definition may better capture the governance dimension and the sociology dimension that jointly make family firms unique.

Regarding the governance dimension, control of the firm's decision-making is the fundamental right (Tirole, 2001). Because the shareholders elect the board, owners with a majority stake at the shareholder meeting can control every formal governance position without other shareholders' consent. Therefore, our definition requires that a group of owners holds more than half the voting rights. Such an owner can single-handedly choose participation intensity in the firm's governance, such as whether to be on the board, be the chair, or be the CEO. That is, the owner has the option to participate and can also choose the intensity of participation.

[1] For instance, a family firm in Maury (2006) is one where the largest owner has at least 10% of the equity and is either a true family, all personal shareholders as a group regardless of the relationship between them, or a private firm. This definition classifies too many firms as family firms from both a control perspective and a sociology perspective. Other definitions reflect only whether the family holds governance positions, regardless of whether the family is an owner (Anderson and Reeb, 2003; Villalonga and Amit, 2006; Bennedsen et al., 2007). Thus, such definitions ignore ownership altogether, using instead participation in governance as the only criterion. We think the important property of a family firm definition is that it reflects the family's option to take governance positions, not whether this option has actually been exercised. Hence, what matters is majority ownership, which produces the option to govern. This option will presumably be exercised whenever the family finds it optimal. A firm that is majority-owned by a family that holds neither a board seat nor the CEO position will not be a family firm under a definition that uses only governance positions. Conversely, a firm where the family owns nothing, but holds a board seat, will be classified as a family firm by such a definition. In contrast, our definition classifies the first firm as a family firm regardless of the family's participation in governance, but not the latter, despite the family's participation. What matters is the right to participate, not actual participation. That right is produced by ownership. Finally, definitions using governance positions rather than ownership are useless when studying why some controlling families participate more in governance than others (Bøhren et al., 2018). The reason is that a participation-based definition of the family firm depends on the family's choice of participation, which is the very decision the researcher wants to explain. Definitions using the option to participate rather than actual participation avoids this problem.

Regarding the sociology dimension, we consider only firms where the group of controlling owners consists of individuals who are a particularly coherent entity. We ensure this coherence by requiring that the group is tied together by blood or marriage up to the fourth degree of kinship.[2]

3. Summary statistics

Our database covers all limited liability firms in Norway over the 2000–2015 period. We exclude financials and firms with zero assets, employment, or sales. We group related firms in business groups and use consolidated data for just one entity in the group. This section shows summary statistics that relate performance to firm size, the business cycle, firm growth, and firm risk, respectively.

Table 1 shows that the mean and median returns on assets, equity, and capital invested are almost always higher in family firms. This result holds regardless of firm size, and the family premium is larger in small firms than in medium-sized and large. In the following, we discuss the performance premium using ROA, which is the most common performance measure in the family firm literature. Unlike the ROE, the ROA has the benefit of reflecting the returns to all capital providers, and it is less influenced by leverage. Unlike the ROIC, the ROA uses all capital in the firm and not just the capital invested in noncash assets financed with longterm debt.

The performance premium may vary across the business cycle. We explore this possibility by looking at the profitability of family firms and nonfamily firms in each sample year. Our time period is long enough to cover business cycle variations. We capture the end of the dot com bubble and the low oil prices in the early 2000s, the financial crisis around 2008, and the low oil prices and the slow economic growth in 2014–2015.

Figure 1 shows that the family firm premium is remarkably stable across the business cycle. The premium is larger for small firms than for other firms, while the relationship between performance and size in family firms is apparently concave, given the way we have split the firms into the three size groups

[2] https://sdsos.gov/elections-voting/assets/Kinship%20Chart.pdf). This definition means the family also includes members like great-great-grandparents, great-aunts and great-uncles, aunts and uncles, cousins, grand-nieces, and grand-nephews.

Table 1: Performance by firm type, 2000–2015

Panel A: Means

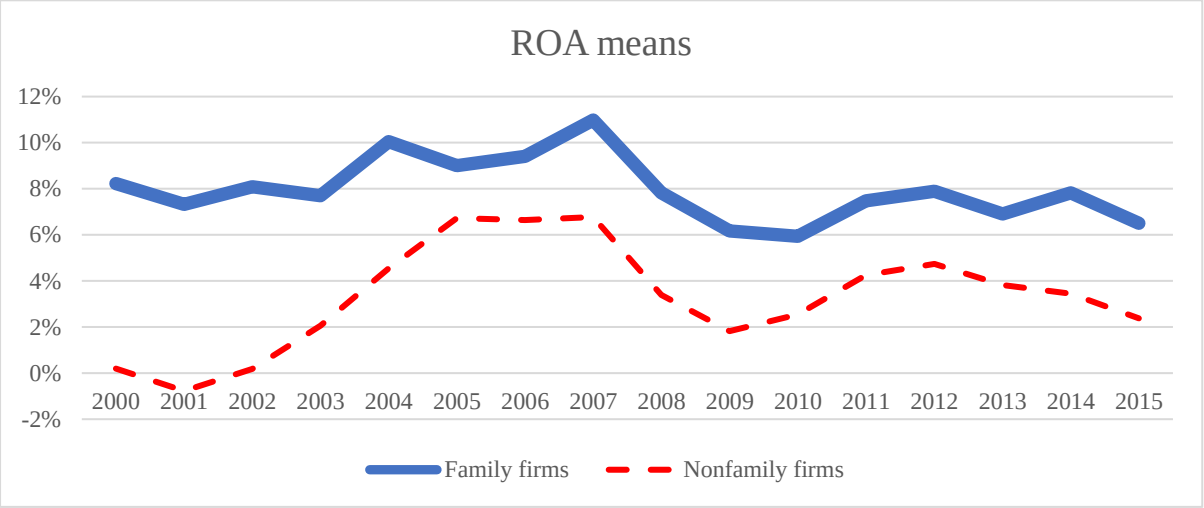
Performance measure	All firms	Nonfamily firms	Family firms	Large nonfamily firms	Large family firms	Medium nonfamily firms	Medium family firms	Small nonfamily firms	Small family firms
ROA	4.8%	1.8%	6.4%	4.1%	6.7%	6.1%	9.3%	-1.7%	5.2%
ROE	40.1%	39.5%	40.5%	17.9%	20.3%	42.5%	41.2%	38.7%	40.4%
ROIC	41.0%	40.1%	41.5%	18.7%	15.2%	44.2%	39.0%	38.7%	42.9%

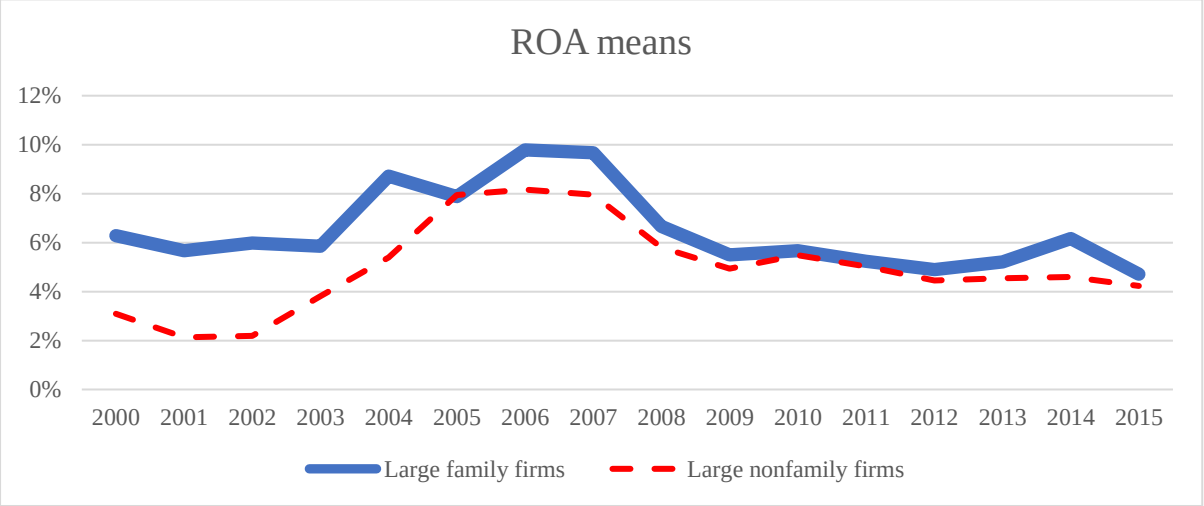
Panel B: Medians

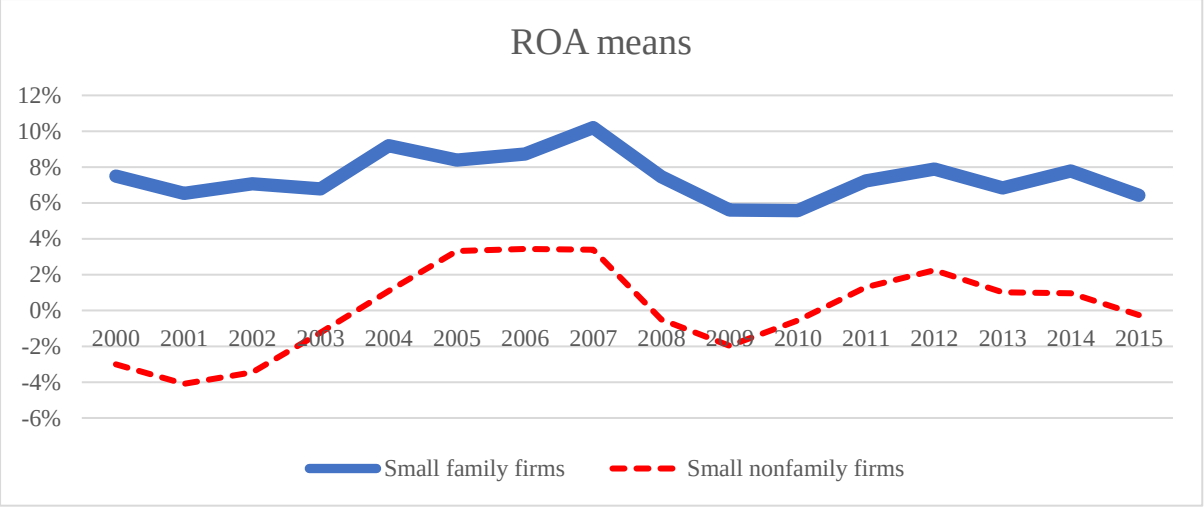
ROA	6.7%	5.3%	7.4%	4.1%	5.7%	6.6%	8.0%	4.1%	7.1%
ROE	22.4%	20.8%	23.2%	10.5%	13.0%	22.7%	23.8%	20.8%	23.1%
ROIC	16.9%	15.6%	17.5%	9.2%	10.0%	17.8%	15.9%	14.7%	18.5%
Number of observations	1,383,618	471,731	911,887	17,987	6,083	197,896	261,473	255,848	644,331
Number of firms	238,715	131,184	163,925	3,034	1,005	44,133	42,147	84,015	120,771

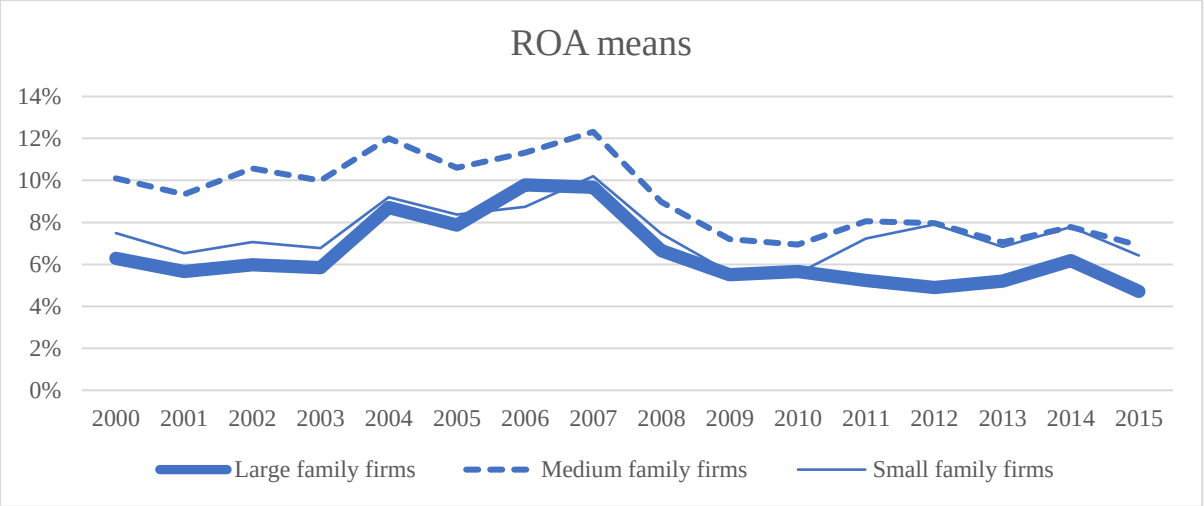
This table shows the mean and median profitability in all Norwegian firms with limited liability in 2000–2015. The population is all Norwegian firms with limited liability in 2000–2015. The sample excludes financial firms and firms with no sales, employees, or assets. "Family firms" are majority-owned by individuals related by blood or marriage up to the fourth degree of kinship. Ownership is measured as the sum of the shareholder's direct and indirect equity holdings in the firm, and the family is counted as one owner. "Nonfamily firms" are all other firms. "Large" has sales above NOK 100 mill. and more than 100 employees, while "Small" has sales below NOK 10 mill. and less than 10 employees; the remaining firms are "Medium". Amounts are in 2015 NOK, and 1 USD = 8.07 NOK. "ROA" is operating earnings divided by assets, "ROIC" is operating earnings divided by assets net of cash and current debt, and "ROE" is net earnings divided by the book value of equity. ROA, ROE and ROIC are all in real terms and are winsorized at 2.5% and 97.5%.

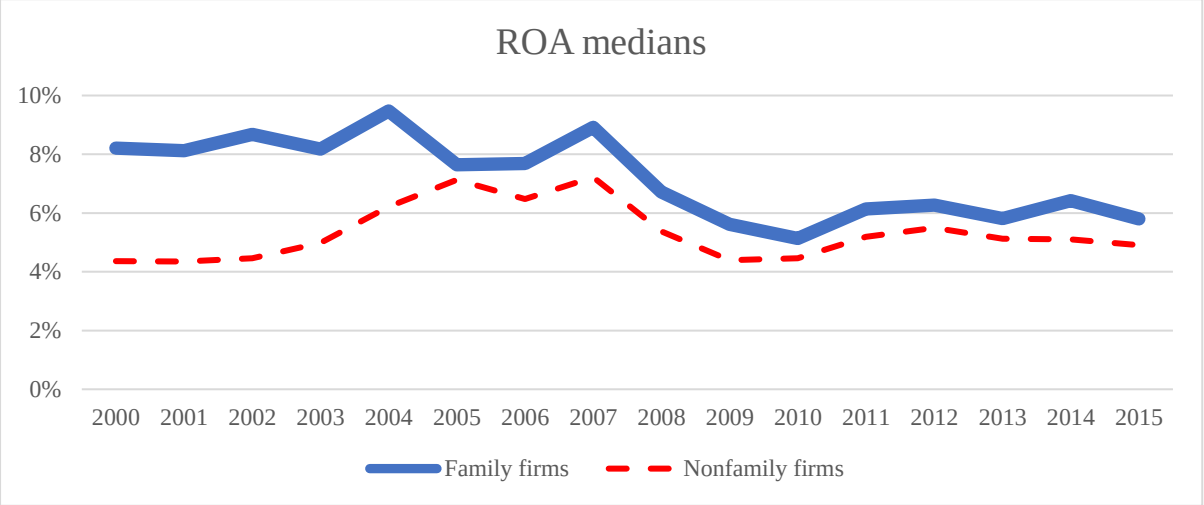
Figure 1: Performance by firm type over time

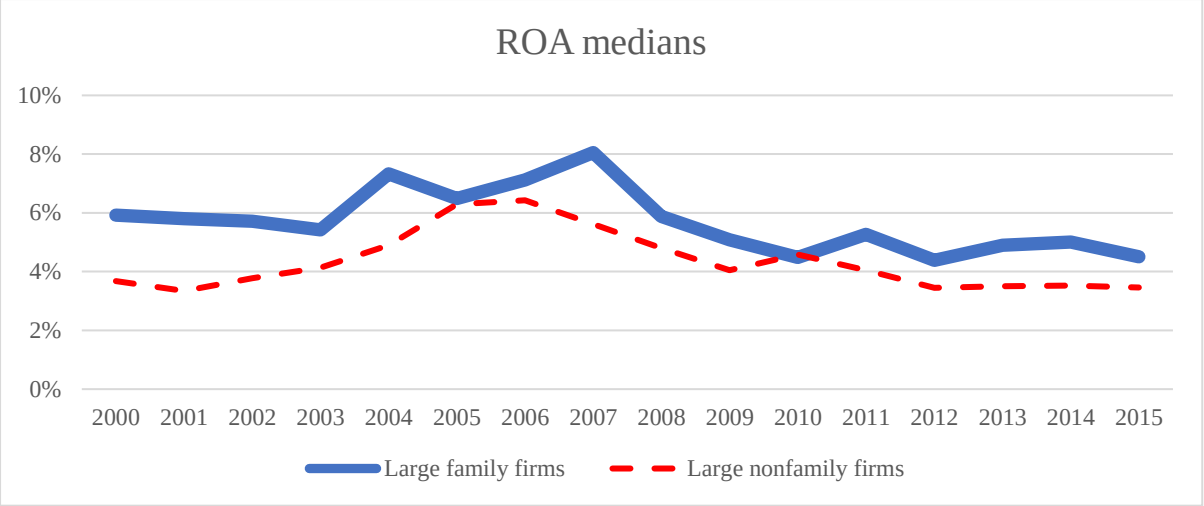





ROA means
12%
10%
8%
6%
4%
2%
0%
-2%
-4%
-6%
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Small family firms
Small nonfamily firms


ROA means
14%
12%
10%
8%
6%
4%
2%
0%
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Large family firms
Medium family firms
Small family firms


ROA medians
10%
8%
6%
4%
2%
0%
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Family firms
Nonfamily firms



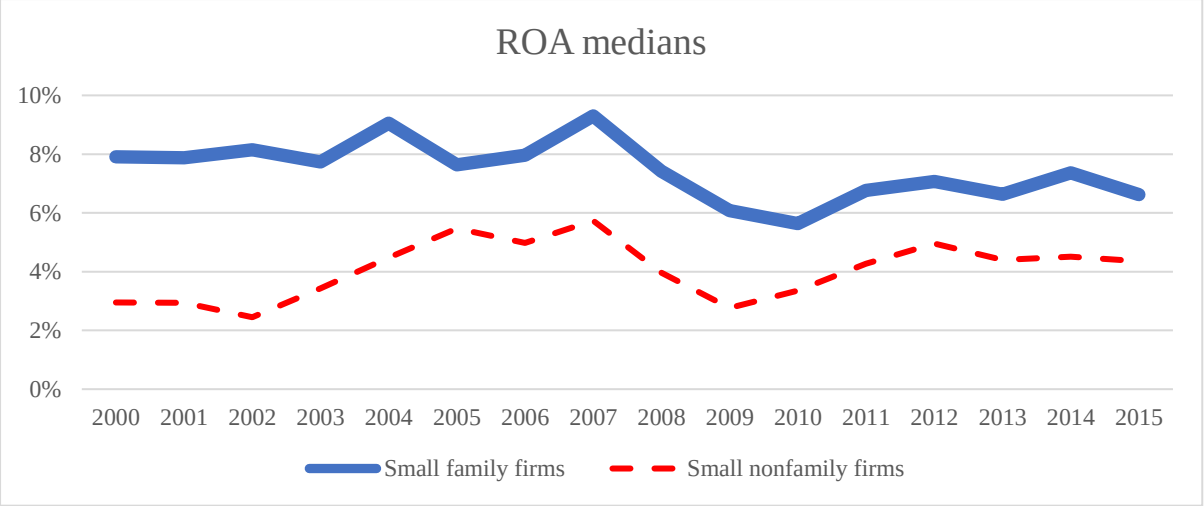


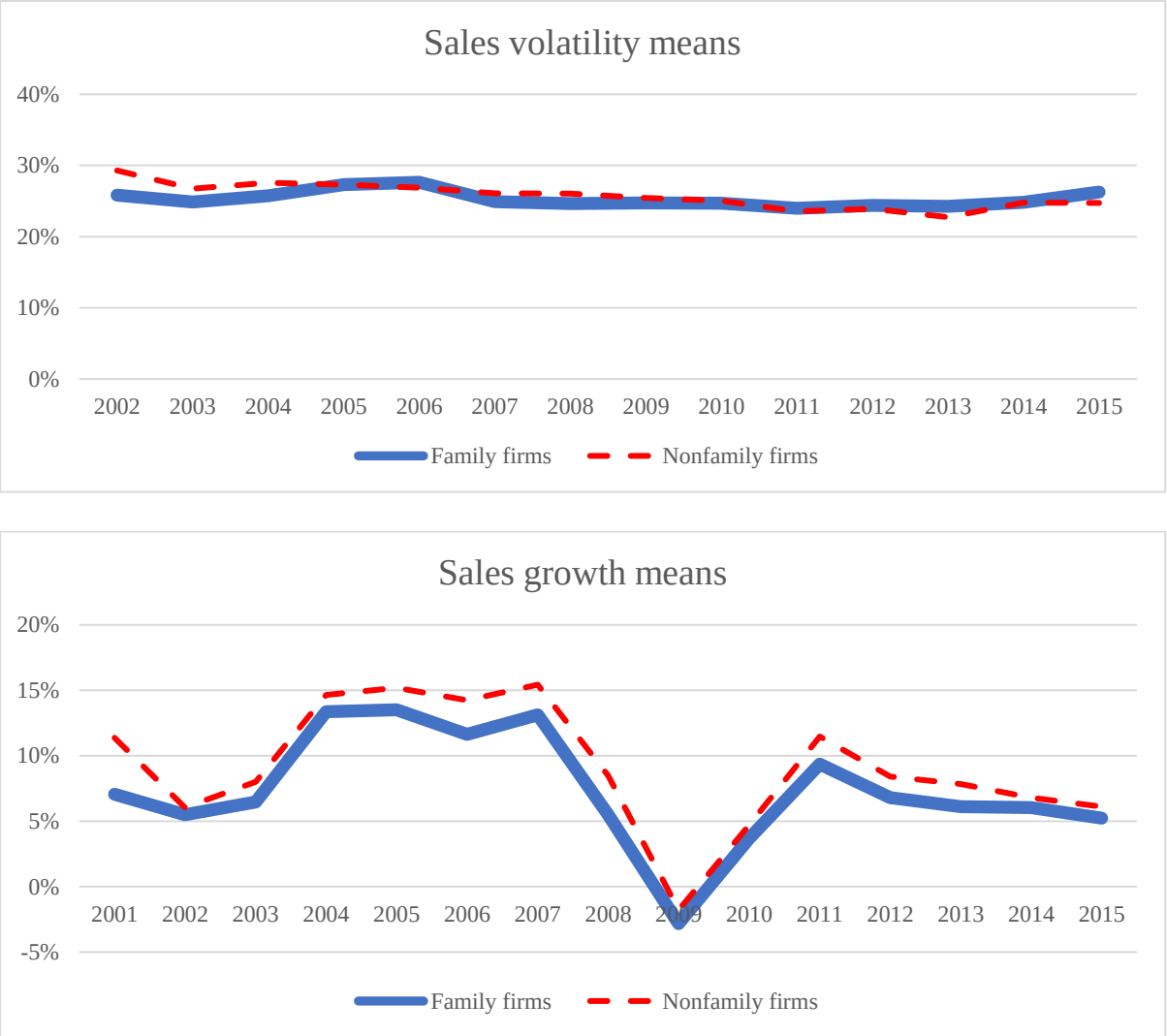
Figure 2 shows that risk as measured by sales volatility is very similar in family firms and nonfamily firms. Thus, there is no evidence at the aggregate level that the family firm premium reflects compensation for higher risk.

As shown by Figure 2, family firms have lower average growth, and the difference is stable across the business cycle. Thus, the higher profitability of family firms may come at the expense of lower growth. The reason may be that family firms are more financially constrained, such that the need of outside financing to support high growth may force family firms to become nonfamily firms. It could also be that the comparative advantage of family firms is in monitoring small teams in small firms, which is not compatible with fast growth.

As expected, we find that family firms are smaller than nonfamily firms are (not reported in Figure 2). For instance, the median family firm is about 60% the size of the median

nonfamily firm, employing 3 people and selling for NOK 3.7 mill. Therefore, controlling for size is important when explaining the family firm premium.

Figure 2: Risk and growth in family firms and nonfamily firms over time



Summarizing, this section shows that the mean and median family firm premium is large and persists across different types of family firms and across the business cycle. Family firms have lower average growth the nonfamily firms have, while average risk is very similar.

4. The baseline regression

We examine the family firm premium in a multivariate setup, controlling for firm characteristics such as firm age, size (as measured by sales), risk (as measured by the

coefficient of variation of sales over the past three years), growth opportunities (as measured by sales over assets), asset liquidity (as measured by cash to total assets), and capital intensity (as measured by assets per employee), and for fixed industry and year effects.

The results are presented in Table 2. The estimates show that the family firm premium survives and is similar in magnitude to what we found in Table 1. The premium is higher when the CEO is a family member, reflecting the situation where the controlling family is intensively involved in governance.

Performance is higher the larger the firm, the smaller the risk, the higher the capital intensity, the lower the growth, the more liquid the firm, and the lower the leverage.

Table 2: The basic performance regression

Dependent variable: Return on assets (ROA)

	1		2		3		4		5		6	
Independent variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
Family firm	0.012	*<.0001*	0.047	*<.0001*	0.007	*<.0001*	0.039	*<.0001*	0.005	*0.0003*	0.037	*<.0001*
Family firm with family CEO	0.015	*<.0001*			0.013	*<.0001*			0.013	*<.0001*		
Age	-0.011	*<.0001*	-0.012	*<.0001*	-0.012	*<.0001*	-0.014	*<.0001*	-0.014	*<.0001*	-0.016	*<.0001*
Size	0.032	*<.0001*	0.028	*<.0001*	0.025	*<.0001*	0.022	*<.0001*	0.026	*<.0001*	0.023	*<.0001*
Risk	-0.070	*<.0001*	-0.080	*<.0001*	-0.063	*<.0001*	-0.073	*<.0001*	-0.061	*<.0001*	-0.071	*<.0001*
Assets per employee	0.020	*<.0001*	0.020	*<.0001*	0.027	*<.0001*	0.027	*<.0001*	0.021	*<.0001*	0.020	*<.0001*
Growth opportunities	-0.012	*<.0001*	-0.012	*<.0001*								
Previous growth					-0.003	*<.0001*	-0.002	*<.0001*	-0.002	*<.0001*	-0.001	*<.0001*
Cash to assets	0.200	*<.0001*	0.191	*<.0001*	0.182	*<.0001*	0.175	*<.0001*	0.111	*<.0001*	0.092	*<.0001*
Leverage									-0.027	*<.0001*	-0.032	*<.0001*
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
R^2	0.1273		0.1218		0.1174		0.1112		0.1257		0.1221	
Number of observations	840,340		965,484		578,648		668,255		576,386		664,609	
Number of firms	143,403		159,861		101,946		113,466		101,748		113,074	

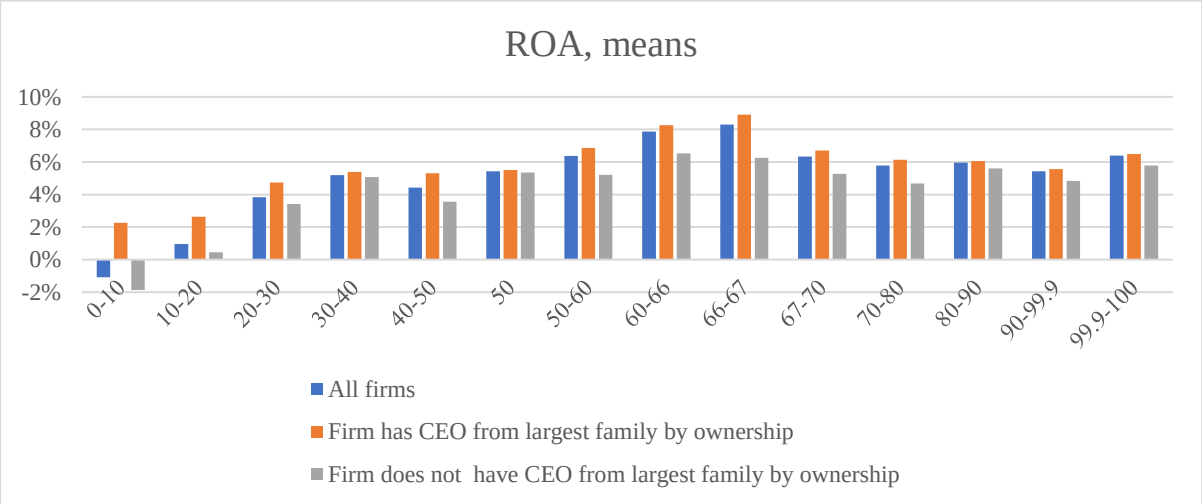
This table shows the results of regressing firm performance on firm characteristics. The population is all Norwegian firms with limited liability in 2000–2015. The sample excludes financial firms and firms with no sales, employees, or assets. "Family firm" is a firm that is are majority-owned by individuals related by blood or marriage up to the fourth degree of kinship. Ownership is measured as the sum of the owner's direct and indirect equity holdings in the firm, and the family is counted as one owner. "Family firm with family CEO" is a dummy variable equal to 1 if the controlling family in the firm also has the CEO position. "ROA" is operating earnings divided by assets, winsorized at the 2.5% and 97.5% tails. "Age" is the log of the number of years since the firm was founded. "Size" is the log of the firm's sales in million 2015 NOK. "Risk" is the coefficient of variation of the firm's sales over the previous three years. "Growth opportunities" is the ratio of sales to assets, while "Previous growth" is the percentage increase in sales over the past three years. "Leverage" is the ratio of liabilities less cash to total assets less cash.

5. Performance and ownership concentration

Family firms have concentrated ownership by definition, as we require that the family's ultimate equity stake is at least 50%. This threshold is higher than what is common in the literature, but corresponds to the average ownership concentration of nonlisted firms in our sample. Thus, although all family firms have high ownership concentration, performance may still depend on the cross-sectional variation of ownership concentration in the family firms.

Figure 3 shows the relationship between performance and ownership concentration as measured by the equity stake of the firm's largest family by ownership. The figure shows that performance is unusually low if the family owns less than 20%, which means the ownership structure is dispersed or dominated by a nonfamily owner. There is a positive association between performance and family majority control, although the effect if moderate according to the medians. Finally, the figure reflects a consistently positive relationship between performance and having a family CEO, regardless of the family's ownership stake.

Figure 3: Performance by ownership concentration



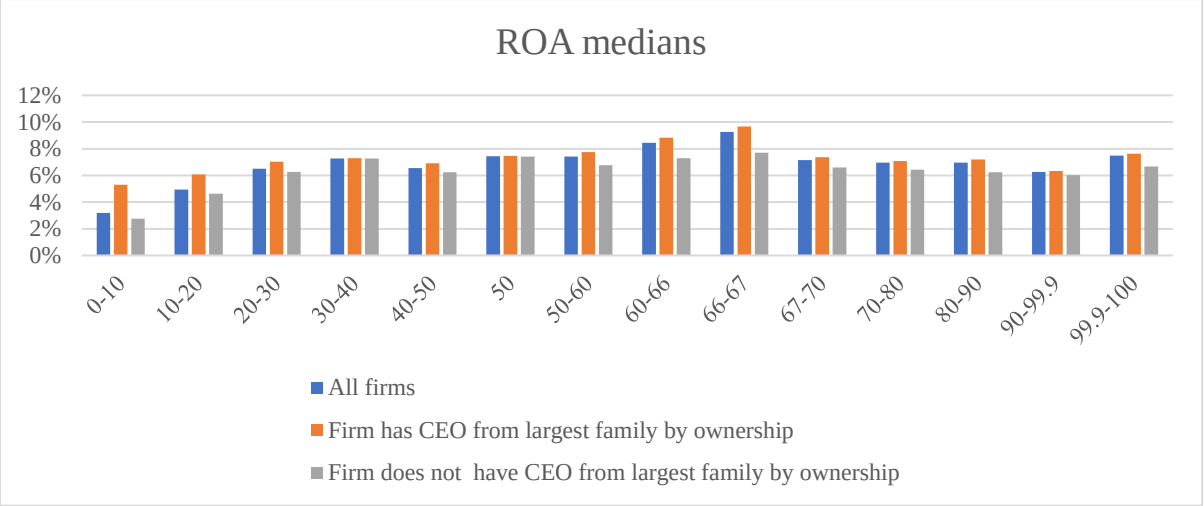


Figure 3 also shows that performance is sensitive to not just the 50% control threshold, but also to the 2/3 threshold. While a 50% owner can singlehandedly make most decisions at the shareholder meeting, owning two thirds of the equity ensures that the owner can change the corporate charter without the remaining shareholders' approval.

The 2/3 threshold also has a tax-related implication in our sample. Prior to 2006, dividends were not taxed. However, if an owner controlling more than 2/3 of the firm's shares worked for the firm, the owner's dividends from the firm were taxed as salary income in order to avoid the switch from salaries to dividends. This tax system created incentives for owners of profitable firms to adjust the ownership structure such that the family's equity stake was just below 2/3. The tax significance of the 2/3 threshold disappeared after 2006.

We find that this tax effect on ownership structure is important, as family owners adjust their ownership to avoid dividend taxation (not reported). What is more surprising is that, after this tax incentive disappeared, the tendency persists for the controlling family to own slightly below the 2/3 threshold. We plan to analyze further this apparent reluctance to acquire super majority.

We define family firms as firms where the majority owner is a family. Therefore, it is not obvious whether the performance premium we observe is due to ownership by a family or just to having a controlling owner. Model I of Table 3 shows regression results when we only consider firms with a controlling owner, whether family or nonfamily. The estimates show that firms controlled by families have higher performance than firms controlled by other investors. Accordingly, our family firm results are not just driven by having a controlling owner, but also by the fact that the controlling owner is of a special type.

Along the same line, model II tests whether the control threshold of 50% matters for performance. Specifically, we consider firms where the largest family by ownership has an equity stake between 40% and 60%. The estimates show that stakes above 50% (family control) are associated with higher performance than are stakes below 50%, particularly if the controlling family also has the CEO.[3]

The relationship between performance and the largest family's stake in Figure 3 suggests that performance increases markedly around the 20% threshold. In Model III we redefine family firms as firms where the family has more than 20% of the equity. This is the typical threshold used in the literature. Consistently with the impression from Figure 3, the estimates show a quite large increase in performance around the 20% threshold.

More than half of our sample firms are single-owner firms (mostly single-family). These firms may be different because they are not exposed to conflicts between controlling and noncontrolling shareholder. Model IV addresses this issue by including a dummy variable for whether the firm has only one owner, which may still be a family with many owning members. The estimates show that while single-owner firms are associated with lower performance in general, single-owner family firms are doing better than other family firms.

Summarizing this section, we find that family-controlled firms are more profitable than are firms controlled by other investors. This finding of a positive family firm premium is insensitive to a series of robustness tests. The evidence suggests that families have special governance skills. That is, family control brings more valuable governance resources than other controlling owners bring. The 50% control threshold matters for performance, but the positive relationship between performance and family ownership starts already at the 20% threshold. This finding suggests that, although control matters for performance, having a family as a reasonably large shareholder may be more important than having a family with formal control at the shareholder meeting. Finally, single-owner family firms outperform multiple-owner family firms, suggesting that minority shareholders per se is not value-creating for family firms.

[3] It is also more likely to observe a family CEO if the family owns more than 50%.

Table 3: Family firm performance using alternative definitions of the family firm

Dependent variable: Return on assets (ROA)

	I				II				III				IV	
Independent variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
Family firm	0.063	*<.0001*	0.100	*<.0001*	0.004	*0.2387*	0.015	*<.0001*	0.080	*<.0001*	0.085	*<.0001*	0.033	*<.0001*
Family firm with family CEO	0.016	*<.0001*			0.017	*<.0001*			0.015	*<.0001*				
Family firm, single-owner													0.070	*<.0001*
Single-owner firm													-0.060	*<.0001*
Age	-0.013	*<.0001*	-0.011	*<.0001*	-0.008	*<.0001*	-0.008	*<.0001*	-0.010	*<.0001*	-0.009	*<.0001*	-0.011	*<.0001*
Size	0.033	*<.0001*	0.030	*<.0001*	0.033	*<.0001*	0.032	*<.0001*	0.032	*<.0001*	0.029	*<.0001*	0.030	*<.0001*
Risk	-0.059	*<.0001*	-0.064	*<.0001*	-0.075	*<.0001*	-0.076	*<.0001*	-0.069	*<.0001*	-0.074	*<.0001*	-0.078	*<.0001*
Assets per employee	0.022	*<.0001*	0.022	*<.0001*	0.020	*<.0001*	0.020	*<.0001*	0.021	*<.0001*	0.021	*<.0001*	0.021	*<.0001*
Growth opportunities	-0.012	*<.0001*	-0.011	*<.0001*	-0.010	*<.0001*	-0.010	*<.0001*	-0.012	*<.0001*	-0.012	*<.0001*	-0.012	*<.0001*
Cash to assets	0.192	*<.0001*	0.190	*<.0001*	0.239	*<.0001*	0.239	*<.0001*	0.201	*<.0001*	0.194	*<.0001*	0.191	*<.0001*
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
R^2	0.1313		0.1242		0.1389		0.1382		0.1313		0.1298		0.1242	
Number of observations	641,140		707,377		48,146		48,146		840,340		965,484		965,484	
Number of firms	115,377		124,174		14,982		14,982		143,404		159,862		159,862	

The table shows the results of regressing firm performance on firm characteristics, using alternative definitions of family firms and nonfamily firms. The population is all Norwegian firms with limited liability in 2000–2015. The sample excludes financial firms and firms with no sales, employees, or assets. "Family firms" are majority-owned by individuals related by blood or marriage up to the fourth degree of kinship. Ownership is measured as the sum of the owner's direct and indirect equity holdings in the firm, and the family is counted as one owner. "Family firms with family CEO" is a dummy variable equal to 1 if the controlling family in the firm also has the CEO position. "ROA" is operating earnings divided by assets, winsorized at 2.5% and 97.5%. "Age" is the log of the number of years since the firm was founded. "Size" is the log of the firm's sales in million 2015 NOK. "Risk" is the coefficient of variation of the firm's sales over the previous three years. "Growth opportunities" is the ratio of sales to assets. "Assets per employee" is the log of the ratio between the firm's total assets and its number of employees. "Single-Owner" firms have one one shareholder, which may be a family with several owning members. Model I only includes firms where an owner (family or nonfamily) controls more than 50% of the shares. Model II includes firms where the largest family by ownership has either between 40% and 50% (nonfamily firm) or between 50% and 60% (family firm). Model III defines family firms as firms where a family owns more than 20% of the equity. Model IV distinguishes between firms with and without more than one owner.

6. Performance and family characteristics

As we argued in Section 1, characteristics of the owner may be particularly important for the behavior and performance of family firms. We explore this relationship in Table 4.

The estimates show performance is slightly lower in family firms where several family members are owners than in firms with just one owning family member. A possible reason is that coordination and conflict resolution are more difficult when several family members own, such that governance quality suffers. Conversely, profitability is higher if the family has the CEO position, and also if the family CEO is the majority owner. The reason may be because coordination is not an issue in such cases.

Younger family CEOs are associated with slightly lower firm performance than older CEOs, but the economic significance is small. Family firms with more minority owners have slightly lower performance. The reason may be that having more investors increases agency problems between them, or that having a firm with more investors reduces the financial constraints and hence the ROA of the marginal project.

Table 5 further explores the idea that the ROA premium we observe may be associated with financial constraints. We interact the dummy for family firms with measures of the family's available wealth which is available to finance additional positive NPV projects. If the family is strongly financially constrained, then it will have little funding available to support the firm and only very profitable projects will get financed. This will create a negative relationship between family wealth and the firm's ROA. The measures we include are the rank of the family among all controlling families in terms of wealth, the family's total wealth relative to the mean total assets of firms in the same industry and year, the total family wealth in real terms, the family wealth outside the stake in the firm, and the ratio between the family's most liquid assets (its bank savings) and the firm's equity[4]. A higher value of all those measures indicates that the family has additional funding available if the firm has positive NPV projects, without the need to raise capital from outside.

[4] The family's total wealth is the total value of the family's assets from the family's tax return. It includes cash, bank accounts, listed and nonlisted securities, including shares in private firms, real estate, other physical assets. To capture the total wealth available to the family, we include all members of the extended family, whether involved in the firm as shareholders, board members or managers or not.

We find that the coefficients on all measures are negative and significant. This suggests that having more capital available relaxes financial constraints and allows marginal projects to be financed.

Table 6 looks at additional factors that may influence the premium. For instance, if the family has a really good project, the incentive to share it with outside investors may be low. The more profitable the firm, the higher the family's stake in the firm should be. We have already seen that firms where the family owns 100% of the equity tend to perform better. The first regression in Table 6 finds that there is a significant, although economically small, positive relationship between the family's stake and the ROA premium, controlling for firm characteristics as well as the family's personal liquidity. If the family controls several firms, that may indicate a family with more entrepreneurial experience, which may increase firm performance. However, we find that the number of firms controlled by the family is associated with a lower premium[5]. Alternatively, if the controlling stake is associated with a larger extended family, there may be a wider pool of skills and experience available to the firm. We find that the total number of adult family members – whether directly involved in the firm or not – is positively associated with family firm performance. The result also holds when controlling for the total wealth of the extended family, which measures the financial capital available to the family. Finally, we also find that if the family's stake in the firm represents a larger proportion of the family's wealth, the premium is higher. The explanation may be that the firm has to be a really good investment opportunity to compensate for the lack of diversification.

Summarizing, there is a slightly negative association between performance and controlling families with many owners, firm with more minority owners, and younger family CEOs. The controlling family's participation in governance correlates positively and strongly with firm performance. These results suggest, once more, that family governance is beneficial. Moreover, the effect is stronger the less conflict potential there is within the family and between the family and other owners. On a bleaker note, higher family wealth is associated with a lower premium, perhaps suggesting that financial constraints are important and profitable projects are financed first. A larger number of family members, perhaps representing more human capital easily accessible to the firm, is associated with a higher premium.

[5] A family controlling several firms may also be a less financially constrained family. Model C in the table shows that the relationship holds even controlling for family wealth, however.

Table 4: Family firm performance and family characteristics

Dependent variable: Return on assets (ROA)

	A		B		C
Independent variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**
Family firm	0.027	*<.0001*	0.011	*<.0001*	0.010
Family firm with family CEO			0.005	*<.0001*	0.022
Family firm with family CEO*CEO age					0.000
Family firm with family CEO*CEO has majority			0.014	*<.0001*	
Family firm with multiple family owners	-0.010	*<.0001*			
Family firm*Number of minority owners					
Age	-0.009	*<.0001*	-0.009	*<.0001*	-0.005
Size	0.031	*<.0001*	0.031	*<.0001*	0.031
Risk	-0.073	*<.0001*	-0.072	*<.0001*	-0.072
Assets per employee	0.020	*<.0001*	0.020	*<.0001*	0.020
Growth opportunities	-0.012	*<.0001*	-0.012	*<.0001*	-0.012
Cash to assets	0.195	*<.0001*	0.195	*<.0001*	0.195
Year fixed effects	Yes		Yes		Yes
Industry fixed effects	Yes		Yes		Yes
R^2	0.1299		0.1305		0.1302
Number of observations	840,397		840,397		840,397
Number of firms	143,410		143,410		143,410

This table shows the results of regressing firm performance on firm characteristics. The population is all Norwegian firms with limited liabilit financial firms and firms with no sales, employees, or assets. "Family firm" is a firms that is majority-owned by individuals related by blood kinship. Ownership is measured as the sum of the owner's direct and indirect equity holdings in the firm, and the family is counted as one owne dummy variable equal to 1 if the controlling family in the firm also has the CEO position. "ROA" is operating earnings divided by assets in r 97.5% tails. "Age" is the log of the number of years since the firm was founded. "Size" is the log of the firm's sales in million 2015 NOK. "Ris firm's sales over the previous three years. "Growth opportunities" is the ratio of sales to assets.

Table 5: Family firm performance and family financing capacity

Dependent variable: Return on assets (ROA)

	A		B		C		D		
Independent variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**C**
Intercept	0,019	*<.0001*	0,018	*<.0001*	0,017	*<.0001*	0,049	*<.0001*	
Family firm	0,035	*<.0001*	0,025	*<.0001*	0,026	*<.0001*	0,021	*<.0001*	
Controlling family rank by wealth	-0,003	*<.0001*							
Controlling family relative wealth			-0,002	*<.0001*					
Total controlling family wealth					-0,063	*<.0001*			
Controlling family assets outside the firm							-0,043	*<.0001*	
Controlling family relative liquid assets									
Age	-0,012	*<.0001*	-0,010	*<.0001*	-0,010	*<.0001*	-0,016	*<.0001*	
Size	0,031	*<.0001*	0,032	*<.0001*	0,032	*<.0001*	0,024	*<.0001*	
Risk	-0,068	*<.0001*	-0,072	*<.0001*	-0,071	*<.0001*	-0,037	*<.0001*	
Assets per employee	0,019	*<.0001*	0,021	*<.0001*	0,021	*<.0001*	0,014	*<.0001*	
Growth	-0,013	*<.0001*	-0,013	*<.0001*	-0,012	*<.0001*	-0,002	*<.0001*	
Cash to assets	0,179	*<.0001*	0,196	*<.0001*	0,196	*<.0001*	0,152	*<.0001*	
Year fixed effects	Yes		Yes		Yes		Yes		
Industry fixed effects	Yes		Yes		Yes		Yes		
R^2	0,1234		0,134		0,1346		0,1096		
Number of observations	420 605		802 782		802 769		682 429		
Number of firms	100 894		137 850		137 847		123 297		

This table shows the results of regressing firm performance on firm characteristics. The population is all Norwegian fi
liability in 2000–2015. The sample excludes financial firms and firms with no sales, employees, or assets. "Family firm
by individuals related by blood or marriage up to the fourth degree of kinship. Ownership is measured as the sum of th
indirect equity holdings in the firm, and the family is counted as one owner. "Controlling family rank by wealth" is the
among all controlling families in a given year in terms of total (gross) assets. "Total controlling family wealth" is the f
assets in billion 2015 NOK. "Controlling family relative wealth" is the ratio of the family's gross assets to the mean to
same industry and year. "Controlling family assets outside the firm" is the total gross wealth of the family excluding th
in the firm. "Controlling family relative liquid assets" is the ratio between the family's bank deposits and the firm's equ
operating earnings divided by assets, winsorized at 2.5% and 97.5%. "Age" is the log of the number of years since the
"Size" is the log of the firm's sales in million 2015 NOK. "Risk" is the coefficient of variation of the firm's sales over t
"Growth" is sales to assets.

Table 6: Family firm performance and family characteristics

Dependent variable: Return on assets (ROA)

	A		B		C		D		E
Independent variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**
Intercept	0,042	*<.0001*	0,023	*<.0001*	0,023	*<.0001*	0,017	*<.0001*	0,016
Family firm	0,021	*<.0001*	0,028	*<.0001*	0,027	*<.0001*	0,022	*<.0001*	0,023
Share of controlling family	0,010	*<.0001*							
Controlling family relative liquid assets	-0,009	*<.0001*							
Number of family investments			-0,005	*<.0001*	-0,004	*<.0001*			
Total controlling family wealth					-0,046	*<.0001*			-0,063
Number of family members							0,001	*<.0001*	0,002
Share of firm in family wealth									
Age	-0,014	*<.0001*	-0,010	*<.0001*	-0,010	*<.0001*	-0,010	*<.0001*	-0,010
Size	0,022	*<.0001*	0,034	*<.0001*	0,034	*<.0001*	0,032	*<.0001*	0,032
Risk	-0,039	*<.0001*	-0,064	*<.0001*	-0,063	*<.0001*	-0,072	*<.0001*	-0,071
Assets per employee	0,014	*<.0001*	0,023	*<.0001*	0,023	*<.0001*	0,021	*<.0001*	0,021
Growth	-0,001	*<.0001*	-0,013	*<.0001*	-0,013	*<.0001*	-0,012	*<.0001*	-0,012
Cash to assets	0,166	*<.0001*	0,194	*<.0001*	0,194	*<.0001*	0,196	*<.0001*	0,197
Year fixed effects	Yes		Yes		Yes		Yes		Yes
Industry fixed effects	Yes		Yes		Yes		Yes		Yes
R^2	0,1179		0,1399		0,1404		0,1335		0,1346
Number of observations	430 409		723 084		721 252		805 298		802 769
Number of firms	96 690		132 027		131 732		138 148		137 847

This table shows the results of regressing firm performance on firm characteristics. The population is all Norwegian fi
2000–2015. The sample excludes financial firms and firms with no sales, employees, or assets. "Family firms" are maj
related by blood or marriage up to the fourth degree of kinship. Ownership is measured as the sum of the owner's direc
the firm, and the family is counted as one owner. "Share of controlling family" is the ultimate ownership share of the c
firm. "Controlling family relative liquid assets" is the ratio between the family's bank deposits and the firm's equity. "N
the number of firms in which the family has controlling stakes. "Total controlling family wealth" is the family's total g
"Number of family members" is the total number of adult members of the extended family, whether involved in the fir
family wealth" is the ratio between the value of the family's stake in the firm and the family's gross wealth. "ROA" is c
assets, winsorized at 2.5% and 97.5%. "Age" is the log of the number of years since the firm was founded. "Size" is th
2015 NOK. "Risk" is the coefficient of variation of the firm's sales over the previous three years. "Growth" is sales to

7. Young firms and cohort effects

Family firms are to a very large extent equity-financed by the controlling family. Moreover, the investment normally represents most of the family's wealth. As we argued in Section 1, this situation may imply that families self-select into projects with higher performance and lower growth than other owners do. The effect of this self-selection should be stronger for young firms, as the firm per se is a new project. That is, family firms may be set up in the expectation of high and stable performance, while nonfamily firms may be able to support higher growth after several initial years with low performance and also a lower long-term performance.

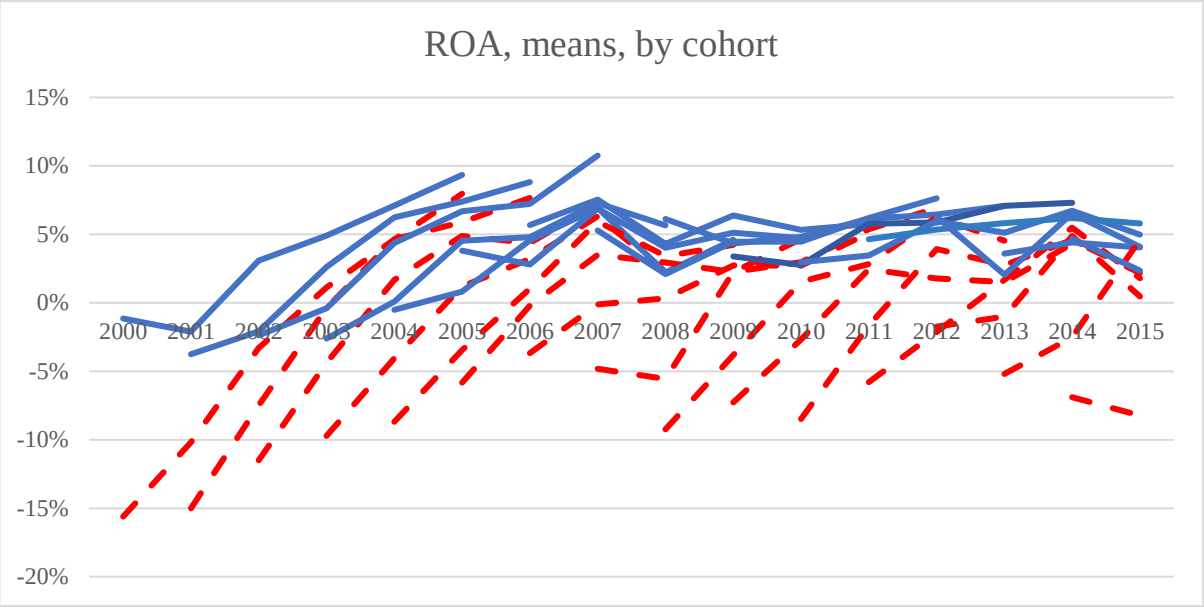
We find support for this idea in the data. Every year in our sample period we single out newly established family firms and nonfamily firms and follow them over the first five years of their life. We measure the ROA and sales growth in each of the five years. Figure 4 shows the mean ROA and growth for each cohort. Family firms and nonfamily firms are represented by the solid lines and the dashed lines, respectively.

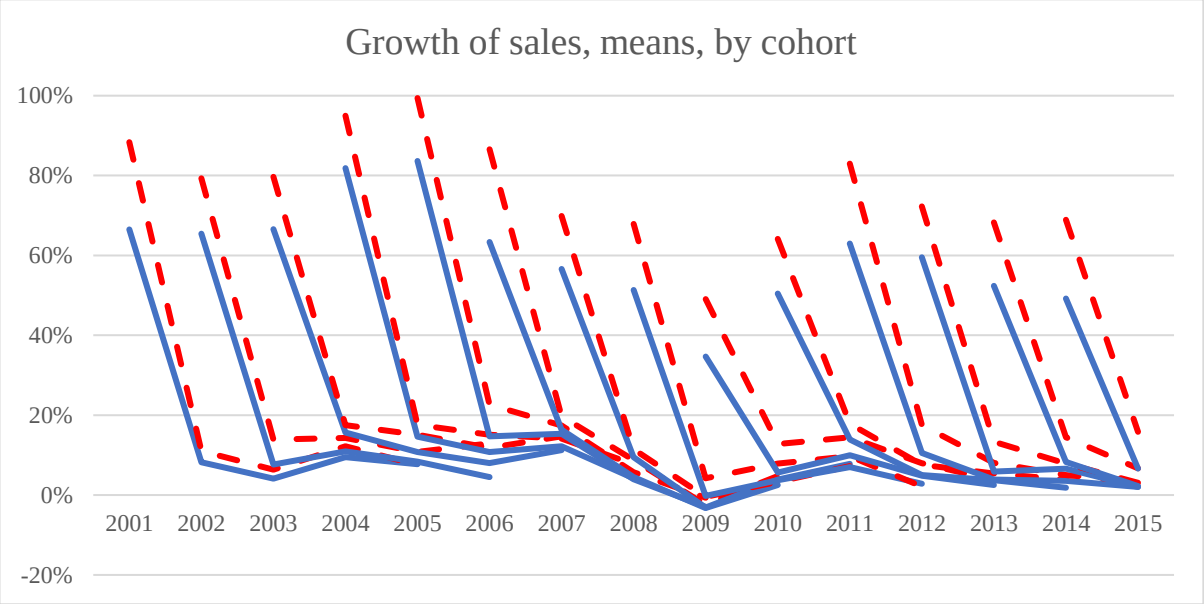
Figure 4 shows that family firms on average are either profitable from their first year or become profitable very soon. Profitability remains relatively high thereafter. In contrast, the average nonfamily firm starts out with several years of negative earnings, converging to a profitability level after five years slightly below that of family firms.

Not surprisingly, growth is fastest in the first years of the firm's life for both firm types. Growth is higher in nonfamily than in family firms in the first year as well as in the following years. Looking across cohorts, Figure 4 also suggests that the difference between family firms and nonfamily firm persists across the business cycle.

Summarizing this section, we find that young family firms become profitable at an earlier age and grow less than young nonfamily firms do. These findings are independent of the business cycle. This evidence is consistent with the idea that family firms are founded with the expectation of relatively high and stable profitability, while nonfamily firms can support low initial performance followed by higher growth.

Figure 4: Performance by ownership concentration before and after a tax reform based on ownership concentration





8. Summary and conclusions

We find that the performance premium of family firms relative to nonfamily firms is 1–3 percentage points, measuring performance by return on assets in real terms. The premium persists across different types of family firms, across several business cycles, and when we control for firm age, size, risk, growth opportunities, asset liquidity, capital intensity, industry, and the family's participation intensity in governance.

This evidence suggests that family owners often bring more valuable governance resources than other owners do. Although we find that majority control matters for performance, having a family among the large shareholders may be more important than having a family with majority control at the shareholder meeting. Also, single-owner family firms outperform multiple-owner family firms, suggesting that minority shareholders per se are not value-creating in family firms. Moreover, the premium is higher when the CEO is a family member, suggesting that active involvement by the controlling family is beneficial for performance.

We also find that more wealth available to the family is associated with a lower premium. This may indicate that more profitable projects are financed first, and that financial constraints may also be an issue. The relative size of the stake in the firm in the family's total assets is associated with a higher premium, perhaps as a compensation for the lack of diversification.

Young family firms become profitable at an earlier age and grow less than young nonfamily firms do. This evidence is consistent with the idea that family firms are founded with the expectation of relatively high and stable profitability, while nonfamily firms can support low initial performance followed by higher growth.

Overall, this evidence suggests that the family firm premium may due to investability, financial constraints, governance skills, and measurement error. The next step in our project is to quantify more clearly the relative importance of each source of the premium. When making these tests, we will use instrumental variables to account for the reverse causation that happens when the family uses the firm's performance to self-select into ownership and governance.

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