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The Trade-Off Between Family Ownership and Growth

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Abstract

This paper use a large sample of non-listed Norwegian firms in order to compare differences in growth between family and non-family firms during the period 2000-2015. We use data from the Center for Corporate Governance Research (CCGR) to extract our dependent variable, sales growth, as well as several independent variables like size, industry, age, assets, ownership, employees, retention rate and cash rate. We have defined family firms as firms where one family has more than 50% ultimate ownership. The purpose is to observe if family ownership has an impact on a firm's sales growth. Results indicate that the degree of family ownership tend to be negatively correlated with sales growth.

1. Introduction

There is often a common misconception that family firms only represent a small part of the economy and that they do not grow anywhere. However, history has shown several examples of family firms that have grown independently without diluting their ownership, and become equally prosperous ventures. Family firms are not only the carpenter next door, the little mom-and-pop store at the corner of the street, or one of your family members consultancy firm.

Morck, Wolfenzon, and Yeung (2005) say that the economy in most of the world is heavily dominated by family ownership. Faccio, Lang and Young (2001) argue that families are probably the most common type of ownership in non-listed firms in every country. Moreover, Berzins and Bøhren (2013) found that family firms represent about two thirds of the firms in Norway and that Norwegian family firms accounts for a significant proportion of Norwegian economy by employees, revenue, and assets.

This thesis serves the purpose of investigating the link between family ownership and growth in Norwegian non-listed firms. The underlying reason for this master thesis is our belief that family firms grow slower than non-family firms, and that a higher degree of family ownership in a firm will have an additional negative impact on growth. We believe family owners are more risk-averse, hence, more cautious in their investment behaviour. This leads to lower bankruptcy risk, which in turn causes lower expectations for future growth. Our thesis serves the purpose of investigating the following hypothesis:

How does the degree of family ownership affect the sales growth of non-listed Norwegian firms?

Why is growth so important? The forthcoming exponential increase in the world's population will have a significant influence on economies all over the world and will cause a high demand for new jobs. There are two main reasons for a company to consider hiring more people: They have either recently experienced growth which challenges their capacity, or they expect to grow outside their current capacity in the near future. Hence, we expect growth to be an important factor of

interest in the near future and we emphasize growth in this thesis as a reason of this.

Family firms are particularly interesting because they are probably the most dominant firm type across the world. Furthermore, they have proved to be more sustainable than non-family firms. Today's firms, especially non-family, suffer from decreasing life cycles. A McKinsey-study from 2001 found that the average life cycle of companies listed on the S&P index has gone from 65 years to 10 years in the last half of the 19th century, compared to an average life cycle of 24 years for family firms (Foster & Kapland, 2001). This proves the importance of balancing the use of resources today at the same time as we create value for the future. Besides being more sustainable, family firms have also shown to be considerably more profitable, on average, compared to non-family firms (Berzins og Bøhren, 2013).

The wide consensus believes there are two underlying reasons for family firms' slow growth: Peculiar behavior and limited financing. From a socioeconomically point of view, it seems intuitively wise to implement policies that offer low-risk financing for family firms to help stimulate their growth. Family firms are seemingly more sustainable as well as more profitable; hence, one may anticipate greater long-term economic profit from spurring their growth.

How can it be that existing international literature almost exclusively focus on listed firms? The most obvious reason is availability of data. E.g. in the United States, neither accounting data, management data, nor ownership data are publicly available for non-listed firms. In contrast, corporate governance data availability in Norway is almost as good for non-listed firms as it is for listed firms. This gives potential for a type of research that is, at least today, hard to perform in other countries. This is what makes this area of research so interesting. On the other hand, one may believe that existing research on listed firms can be directly transferable to non-listed firms. However, there are some distinct differences between listed and non-listed firms that play an important role in differentiating the two. Bøhren and Berzins (2009) provide us with three distinctions. First, non-listed firms do not have the same liquidity as listed firms, and it does not exist a market for buying and selling equity or issuance of new equity. Secondly, non-

listed firms are less transparent, and it might be hard to find information. Lastly, minority owners in non-listed firms have lower juridical protection. In non-listed firms, shareholders that break certain threshold of ownership are not imposed to bid on existing shares, in contrast to listed firms.

We will try to smooth the skewness in the literature by focusing on non-listed firms rather than listed firms. Our main area of interest is growth, whereas the most renowned papers on family firms concerns listed firms, their ownership management and profitability (Anderson og Reeb, 2003; Villalonga og Amit, 2006; Maury, 2006). Hence, we will aim to provide the international literature new and up to date insight in Norwegian non-listed family firms. Where international research has had to use lower threshold when defining family firms and to get a satisfactory amount of data, our superior availability of data allows us to use much stricter thresholds and at the same time have an ample dataset. We will also contribute with, as far as the authors understand, new extensive research on the growth of non-listed Norwegian family firms. This information is important for policy makers such that they know if they should treat family firms and non-family firms in the same way or differently.

In this thesis, we examine empirically the relationship between family ownership and growth on a large panel of Norwegian non-listed firms. Family ownership is defined as the ultimate ownership of the largest equity holding family in the firm. We start by investigating family ownership on sales growth using a standard GLS panel regression. Then we discuss the reliability of the model, and incorporate other models to address potential omitted variables- and self-selection-issues. Finally, we perform several cohort studies in an attempt to compare “apples to apples”. These methodologies allow us to make more causal and intuitive interpretations of the results.

Results indicate that there exists a trade-off between family ownership and growth. We observe that family ownership has a negative impact on sales growth and that higher thresholds increase the negative impact. To control for endogeneity we implemented a fixed effects model, propensity score matching, and Heckman selection model. Lastly, in order to take into consideration the life cycles of firms we conducted several cohort studies. After these considerations the

results remain the same and we believe that our results are robust and confirms our initial hypothesis that family firms grow slower than non-family firms.

Our thesis will proceed with the following sections. Section 2 will go deeper in the existing literature concerning family ownership and growth. Section 3 considers the relation between family firms and risk. In section 4 the methodology is presented. We go on to describe our dataset, the filters we have added and the definitions of the different family firm types in section 5. In section 6 we introduce our control variables before presenting descriptive statistics in section 7. Section 8 presents our panel regression results as well as results from the fixed effects regression, Heckman selection model, propensity score matching, and cohort analysis. Finally, in section 9 we present our conclusion.

2. Literature Review

Earlier literature on family control can be divided into two categories: competitive advantages and private benefits of control (Villalonga & Amit, 2010). The first category covers the competitive advantages that come with family control, e.g. why this ownership structure is optimal and how it contributes to align interest among the biggest stakeholders in the company in a way that maximizes value for both family and non-family owners (Bertrand & Schoar, 2006). Under the second category it is argued that value is maximized only for the family at the expense of minority shareholders. This hypothesis leads to value maximization for the family only (Burkart, Panunzi, & Shleifer, 2003). The conclusion does not imply that minority shareholders are worse off than they would have been in a non-family firm, but that they are worse off than if they would have been in a firm in line with the competitive advantage categorization.

Morck, Wolfenzon, and Yeung (2005) says that the economy in most parts of the world is heavily dominated by family ownership, although they are much less common in the U.S. compared to the rest of the world. Faccio, Lang and Young (2001) argue that families are probably the most common type of ownership in non-listed firms in every country. Berzins and Bøhren (2009) find that Norwegian family firms represent a significant proportion of Norwegian economy in terms of quantity, employees, revenue and assets. They also find that, in Norway, whatever threshold used, family firms are the dominating firm type (Berzins & Bøhren,

2009). While international research has often used 10% or 20% as thresholds to be able to get sufficiently large number of observations, by using a threshold above 50%, Berzins and Bøhren documents a large selection of firms. They also find that the corporate governance of the individual family firm is characterized by an unusually tight relationship between ownership, board membership and daily management (Berzins & Bøhren, 2009).

A large part of the existing corporate governance literature on family firms has dealt with listed firms. The reason for this is, in a high degree, due to the availability of data. Two of the most prominent papers concerning family firms are conducted using listed firms. Anderson and Reeb (2003) investigated the relationship between family ownership and performance for firms on the S&P 500 and found, surprisingly, that family firms outperform non-family firms. Furthermore, family firms where a member of the founder family played the role as CEO performed better than family firms with outside CEO. Villalonga and Amit (2006) used proxy data on the firms listed on the Fortune 500 during 1994-2000. They found that in order for family ownership to create value, the founder has to be either the CEO or the chairman of the board.

Family-owned and “traditional firms” may have an especially cautious approach to growth if they are interested in keeping the firm under tight control or if they are reluctant to integrate employees and managers from outside the family. They may also be very risk-averse because failure of the enterprise may end up ruining the family tradition (Coad, 2009). In this case, the difference in growth between family and non-family firms resides from different attitudes regarding growth. Behind a family business, there is a family, which often has large portion of their wealth invested in the firm’s capital, implying higher bankruptcy costs for the family. Moreover, families also receive a large portion of income from the firm through dividends and wages. Hence, this increases family investors risk exposure. The findings by Coad (2009) are in line with Nordal and Næs (2010), who studied the relationship between bankruptcy risk and expected growth in Norwegian non-listed firms for the period 1988-2007. They found that firms who takes on high risk also tends to have higher expected growth. However, family firms are more exposed to risk and will hence try to reduce bankruptcy risk in the firm and thereby decrease the expected future growth.

Earlier research often concerns the relationship between family ownership and performance. However, growth is usually included in studies as a control variable. Sraer and Thesmar studied the performance and behavior of family firms listed on the French stock exchange between 1994 and 2004. They found that all types of family firms grew, on average, much faster than non-family firms. Family firms managed by the founder had an average sales growth of 16%, which is 9 percentage points above the average non-family firm. Also, Family firms managed by an outside CEO had 3 percentage points higher growth than non-family firms. Furthermore, they concluded that family firms largely outperformed non-family firms with respect to both performance and growth (Sraer & Thesmar, 2007).

Based on data from 2000 to 2009, Magnussen and Sundelius (2011) investigated differences in growth in non-listed firms. They defined a family firm as a firm in which the largest family, in terms of ownership, own more than 50% of the firm. Indeed, they found that family firms grow differently than non-family firms and argued that some of the difference comes from the link between ownership and control.

The three studies conducted by Anaïs Hamelin in 2007, 2009 and 2013 on French SMEs indicate that growth in sales are negatively correlated with the degree of family control. One of the papers indicated that family firms grow slower because they deliberately choose to adopt conservative growth strategies rather than as a result of limited financing options. This could imply a possible self-selection issue (Hamelin, 2009, 2013; Hamelin & Trojman, 2007). In family firms, capital is concentrated in the hands of the family. Therefore, refusing outside equity capital that would dilute the family ownership is an obvious characteristic of family firms (Ang et al., 1995; Dunn & Hughes, 1995; Gallo & Vilaseca, 1996). This might impose a financial constraint on family firms, which could result in missing out on growth opportunities due to limited financing. Hence, they face the trade-off between independence and outside equity.

Jensen and Meckling (1976) is a commonly cited article discussing agency problems in a financial setting. Agency conflicts between owners (principal) and

management (agent) was labeled agency problem 1 (A1). Examples of such conflicts can be if the manager prioritizes an expensive company car or publicity through extreme growth when the owners, on the other side, would rather prefer him to focus on the firm's profitability. The magnitude of this problem is negatively correlated with the amount of incentives and power that the owners hold. Hence, A1 is less prevalent when you have high ownership concentration and/or high management ownership (Berzins & Bøhren, 2013).

Agency problem 2 (A2) is defined as the conflict between the majority owners and the minority owners. It occurs when majority owners who control the firm exploit minority owners by extracting private benefits. An example of A2 can be when majority owners sell their own personal assets to the firm for a price above market value or buy assets for a price lower than market value. This inefficient use of resources is at the expense of investing in growth opportunities. Several papers have discussed the exploitation of minority shareholders, such as Grossman and Hart (1980) amongst others.

3. Family Firms and Risk

It is common that family owners are board members as well as being employed in the company. This means that their personal income come from the same place that they are likely to have a large proportion of their fortune. In addition, family firms are usually non-listed meaning their shares have low liquidity. Taking all this into account, it is clear that many family owners are poorly diversified. Hence, they carry great economic risk that they could have reduced by scattering their equity across several firms or investing in other derivatives. However, family firms have often deliberately chosen not to do this. Instead, their strategy is to reduce risk through distinctive investments and financing (Berzins & Bøhren, 2013). Hamelin (2009) suggests two strategies in order to reduce bankruptcy risk. The author recommends using internal funds either to pay down debt, or to be stored in order to cover periods with low liquidity. Additionally, having stable income combined with low fixed costs will reduce operational risk. Svalland and Vangstein (2011) compared level of total risk in family and non-family firms, and they concluded that family firms tend to operate at lower total risk. In total risk you account for both systematic and unsystematic risk, however, the unsystematic risk is not relevant for diversified owners, such as most non-family members in a

family firm. A diversified owner will have stakes in several firms and hence do not care about total risk in each stake. Therefore, actions aimed at reducing the unsystematic risk have negative value for well-diversified minority shareholders (Bøhren & Michalsen, 2012).

4. Methodology

In this thesis we will use panel data, i.e. data for n different entities observed at T different time periods. The firms do not need to have observations for the whole time period but every firm needs to have coherent observations. This leaves us with an unbalanced dataset. With panel data we will get a more accurate inference of the model parameters compared to cross-sectional data. It allows us to test more complicated behavioral hypotheses, uncover dynamic relationships, and controlling for omitted variables.

4.1 Panel Regression

Our first model is a random effects generalized least squares panel regression. In this model, the firm-individual effects are a random variable that is not correlated with the explanatory variables, and the variance of the firm-individual effects is assumed constant. The same approach was used by Hamelin (2009, 2013). The model is as following:

$$Growth_{i,t} = \beta_0 + \beta_1 Family_{i,t} + \sum_{n=1}^N \beta_n Controls_{n,i,t} + \varepsilon_{i,t}$$

where Growth is our variable of interest; Family is the dummy variable indicating family status of firm i ; Controls is the control variables for firm i as discussed under the control variables section; ε is the error term.

4.2 Endogeneity

Endogeneity is argued to be the most important and persuasive issue confronting studies in empirical corporate finance. It leads to biased and inconsistent parameter estimates and can be defined as a correlation between the explanatory variables and the error term in a regression (Roberts & Whited, 2013). In broader

sense, an endogeneity problem arises when there is *something* that is related to your dependent variable that is also related to your explanatory variable, and you do not have that *something* in your model.

For an OLS regression to produce consistent estimates of the parameters, certain assumptions must hold. In practice, endogeneity leads to a violation of the first OLS assumption. The first assumption holds if an error term is uncorrelated with the explanatory variables (Stock & Watson, 2014, p. 170). Hence, assumption #1 should be the focus of most research designs within empirical corporate finance. However, this condition is empirically not testable because one cannot observe the error term. As a result, there is no way to statistically ensure that an endogeneity problem has been solved.

4.2.1 Fixed Effects

The broad term endogeneity suggests that there are several sources of endogeneity issues, which can have quite different solutions. One source is omitted variables in the regression. In this case, the solution is simply to include those variables, but in some cases these might be unobservable. We will deal with this by performing a fixed effects model that will capture time invariant missing variables (Stock & Watson, 2014, p. 403-404).

Any time-invariant characteristic that cannot be observed in the data, such as employees' level of education, could contribute to the presence of a fixed effect. Assuming that these characteristics are fixed over time, we can control for them by including firm fixed effects. Hence, the fixed effects regression is a method for controlling for omitted variables when these omitted variables vary across entities but do not change over time.

4.2.2 Self-Selection

An additional source of endogeneity is self-selection. In chapter 2 of the book *Handbook of Corporate Finance* (Eckbo, 2007), Li and Prabhala says “corporate finance decisions are not made at random, but are usually deliberate decisions by firms or their managers to self-select into their preferred choices”. Simply adding more variables will not get rid of this problem. Instead, to address the self-

selection issue we will use Heckman and propensity score matching methods (Eckbo, 2007) in order to estimate the probability of selecting the treatment, which in our case is being a family firm.

In self-selection models, the central issue is that unobserved attributes that lead firms to self-select could explain variation in outcomes. Unlike in ordinary least squares regression, Heckman selection model and propensity score matching addresses the issue of self-selection bias and allows for a decomposition of treatment effects on outcomes. In our case, being a family firm can be seen as a kind of “treatment” that we would like to measure the effect of. We observe data on individual level where we study growth rate outcomes for both family and non-family firms. To truly measure the effect being a family firm has on growth rates, we must compare the growth rate each individual firm would likely have if it were not a family firm. The problem is that this scenario is unobservable.

If firms with more favorable growth characteristics also are the ones choosing to be non-family firms, it is likely that that these firms would have grown faster than the firms choosing to be family firms irrespective of the firm type. This is the essence of the self-selection problem.

4.3. Cohort Studies

In order to compare “apples to apples”, we will investigate firms with common characteristics over the time-span 2010-2015. This allows us to take a more thorough look into the life cycle of family firms and see patterns more clearly rather than working across all firms blindly without considering their natural cycles. We performed a study where we looked solely at firms which were 2 years old in 2010 and followed them over the following 5 years. The period 2010-2015 were chosen because it maximized number of observations.

5. Data

We will use data from the Center of Corporate Governance Research (CCGR) database. The dataset includes every firm with limited liability registered in Norway. It covers accounting- and general firm information in the period 1994-2017 and governance data from 2000-2017 (Berzins, Bøhren, & Rydland, 2008).

Relevant data will be extracted from year 2000-2015 because governance data (CEO identity and ownership structure) is essential for the purpose of this thesis. The dataset is large, in which we will apply several filters in order to produce a relevant sample which only includes firms of interest. In order to account for time-value of money, all numbers reported in Norwegian Kroner are adjusted for inflation.

5.1. Filters

We will filter our data in the following way:

1. Remove non-limited liability firms
2. Remove subsidiaries
3. Remove listed firms
4. Remove financial and real-estate firms
5. Remove firms with missing values
6. Remove firms with inconsistent accounting
7. Remove firms without employees
8. Remove firms without fixed or current assets less than or equal to zero
9. Remove firms with yearly revenue less than or equal to zero
10. Remove firms with average revenue less than 1 million NOK
11. Remove firms with observations from one year only
12. Remove firms if they have gaps in their reported data

Our paper focuses on firms with limited liability. Hence, we start by deleting non-limited liability firms. Filter 2 continues to remove all firms that are a subsidiary of a parent firm. Filter 3 removes all listed firms, as they have cheaper, broader and more liquid financing sources than non-listed firms, which affect investment opportunities and growth (Berzins & Böhren, 2009). Furthermore, we use filter 4 to sort out all financial and real estate firms as they follow unique accounting regulations and therefore unfit for comparisons. We use filter 5-6 in order to be left with a dataset without missing ownership data or accounting data. Filter 7-9 remove firms who either do not meet our activity requirements during the period or firms who extremely small measured by their average revenue. Inactive firms will bring irrelevant data into our analysis, e.g. contribute to a lower average growth rate. To allow for a firm to have fluctuating revenues we keep firms with average revenue above 1 million NOK during its operating years. By including

only firms with two or more operating years we make sure every “changing” variables has minimum one observation. Finally, we have removed firms if they have gaps in its reporting. If a company reports numbers in year one, and then they do not report numbers in year two, but in year three they report numbers again, then it is defined as a gap in their reporting. Thus, after removing firms with gaps, we are left with an unbalanced dataset without gaps, as desired.

5.2. Family Firm

In our paper, a family needs to own more than 50% of a firm's equity in order to be classified as a family firm. Our dataset tells us the ultimate percentage owned by the largest family; hence, we will use this variable to create a dummy variable with a threshold above 50%.

5.3. Degree of Family Ownership

There are a significant amount of family firms where the family has supermajority or even as much as 100% ownership of the firm. This variation in family ownership is linked to the extent of agency problems. The majority owner's incentives to extract private benefits are highest when it owns just above 50% compared to a situation where it is a supermajority or the only owner of the firm. The degree of the largest ultimate family ownership also affects the likelihood of having a family CEO or not. It is reasonable to believe that the difficulty of imposing a family CEO is negatively correlated with the degree of ownership. This is because the minority shareholders would probably like to prevent the majority owner from taking even more control by also having the CEO role, which has great power over investment- and purchase decisions. At the same time, the majority owner will be more interested in having the CEO position inside the family when their share of ownership decreases, which is consistent with the above argument concerning private benefits extraction.

As the degree of family ownership is of such importance, we will distinguish by creating dummies for three different intensities of family control:

- **Supermajority:** When a family owns more or equal to 66.67% of the firm's shares. I.e., has the right to change the bylaws in the firm.
- **Pure family:** The family controls 100% of the firm.

When looking at descriptive statistics, we will also divide pure family firms into those who consist of only one person (Entrepreneurial) and those with more than one family member (Not entrepreneurial). The reason for this is that we believe entrepreneurial family firms differ from other types of family firms. Being the sole owner of a company implies that you are responsible for all the risk exposure of the company, in which this firm type might have a larger variance in growth rates. In addition, when one person owns 100% of the equity in the company, it is reasonable to believe that this gives him possibility to misallocate resources. Misallocation results in sub-optimal utilization of resources and thereby reduces growth.

6. Control Variables

In order to isolate the influence of family control on a firm's growth it is necessary to introduce control variables to control for these factors.

Villalonga and Amit (2006) find that the distribution of family firms across industries is not uniform. In order to control for this in our regression analysis, we create 21 dummy variables, one for each industry. The industries are identified according to the NACE Rev. regulations from 2007. We believe the size of the firm affects the growth rate. Evans (1987) found similar results. Growth rate tends to decrease as firm size increase. Consequently, size is a common control variable in studies concerning growth. In order for the size parameter to be independent of both capital structure and sector, we use the natural logarithm of sales as measurement instead of total assets.

The age of a firm is the number of years since the creation of the firm. Villalonga and Amit (2006) find that non-family firms are, on average, older than family firms. There is reason to believe that as firms get older, employees become settled and established habits and routines become hard to change. This could have a negative impact on growth. The distribution of age is believed to be exponential. Hence, we will also include the squared value of age.

Our proxy for financial constraints will be the debt ratio. We believe debt overhang problems are more likely to occur in family firms, in which a firm has what is deemed an excess debt burden. Consequently, this disqualifies them from

taking on additional debt to finance future positive NPV projects. This type of liquidity problems might turn family firms towards more short-termed projects. Hence, we believe debt ratio to have a negative effect on growth. The share of debt in the capital structure is calculated by total debt over total assets. As we do not have any data for total debt, we will instead calculate debt ratio as 1 minus the equity ratio ($1 - \text{Equity} / \text{Total assets}$).

In which county a firm operates might affect its growth differently. Hence we need to control for this because regional differences in GDP growth might facilitate for different growth rates. We will also separate the firms and see which county the firm belongs to. The business cycle may have an effect on firm growth. To control for year-specific changes and events we will include year-dummies for each year.

For a firm which is 100% owned by one family, financing options of new investments become limited. We believe that as the debt ratio reaches its limit, retained earnings become an important source for further growth. In order to standardize this, we will create retention rate calculated as retained earnings divided by net income. The same procedure is followed to standardize cash. We define the cash rate as cash divided by total assets. Additionally, we will include the investment ratio, defined as total fixed assets adding back depreciation minus last year's total fixed assets before dividing by total fixed assets.

We will also look at two popular performance measures; return on equity (RoE) and return on assets (RoA). RoE is calculated by dividing earnings by total book value of equity, while the latter is EBITDA divided by book value of assets. We will also control if the number of employees has an effect on growth.

7. Descriptive Statistics

We will start of by looking at descriptive statistics on our filtered dataset. This will give us an overview of the data. A univariate analysis will reveal central tendency and distribution of the most important variables, but first we will take a look at the distribution of the different types of firms in our data. Our 405,989 observations originate from 64,435 unique firms. 72% of the observations in our filtered dataset reside from different types of family firms. This is quite similar to

the figures presented by Berzins and Bøhren (2013) where they found that 71,930 out of 110,519 active firms in Norway, or about 65%, are family firms. The difference between the numbers lies mainly in our different revenue filters. To be included in our data a firm has to have average revenue equal to or above 1 million NOK over their operating years, whereas a company only needs to generate revenue above zero to be included in Berzins and Behrens's paper.

Table 1: Presence of Family Firms

	All firms	Non-family firms	Family firms			
			Pure family		CEO from family	
			Yes	No	Yes	No
Fraction (Non-weighted)	1	0.28	0.54	0.18	0.63	0.09
Fraction (Assets weighted)	1	0.39	0.41	0.20	0.52	0.09
Fraction (Empl. weighted)	1	0.34	0.46	0.20	0.56	0.1
Total observations	405 989	112 259	218 795	74 935	257 258	36 472
Unique firms	64 435					

In table 1 we have first differentiated family firms by degree of ownership before looking at whether the CEO is from the family or not. We see that 54% of the observations come from pure family firms. CEO from the family is present in as much as 63% of the data which could imply that approx. 9 out of 10¹ family firms choose to employ a CEO from the family. In comparison, Sraer and Thesmar (2007), who looked at firms listed on the French stock market, reported that 55% of all the firms in their sample were family controlled (implying approx. 8 out of 10 family firms²).

When we look at line 2 and 3 in the table we can see that family firms are relatively small in terms of size, both when considering assets as well as employees. Fraction of family firms falls from 72% down to 61% and 66% when looking at assets and employees respectively.

7.1. Differences Between Family Firms and Non-Family Firms

In this analysis we would like to investigate the systematic differences between firm types. Unlike previously in table 1, we now also split the pure family firms

¹ $0.63/0.72 = 0.87$. An important condition for this result is that the respective fraction of observations closely resembles the fraction of unique firms in our data set. This is hard to measure because we allow family status of a firm to change over our sample period.

² $(0,31+0,24)/0,71 = 0,77$

into two: those who are owned by one person only are called “Entrepreneurial”, while those pure family firms where there are several family members involved are called “Not entrepreneurial”.

Table 2A. Characteristics of All Firms

		All firms	Non-family	Family firms				
				Pure Family		No	CEO from Family	
				Entrepreneurial	Not entrepreneurial		Yes	No
Total Assets (in millions)	(1)	5.1	7.1	3.4	4.7	5.6	4.2	5.1
	(2)	4.2	5.6	3.0	4.1	4.7	3.6	4.2
	(3)	2.4	2.8	1.9	2.5	2.7	2.2	2.3
Total Sales (in millions)	(1)	10.5	13.9	8.1	9.2	11.3	9.0	10.7
	(2)	9.1	11.5	7.2	8.3	10.0	8.1	9.2
	(3)	4.9	6.4	3.8	4.9	5.9	4.5	4.9
RoA	(1)	6.7	5.6	7.4	7.3	6.4	7.3	5.7
	(2)	7.8	6.9	8.3	8.1	7.7	8.3	6.9
	(3)	8.5	8.1	9.0	8.3	8.3	8.7	8.2
RoE	(1)	45.2	46.4	48.4	41.0	41.2	44.9	43.3
	(2)	44.0	46.0	44.6	40.5	43.7	43.1	44.3
	(3)	29.0	29.6	30.8	26.4	27.4	28.7	29.5
Sales Growth	(1)	35.8	28.5	58.7	12.6	26.0	40.4	25.3
	(2)	8.1	12.3	6.9	5.3	7.3	6.6	6.4
	(3)	2.5	4.2	1.9	1.7	2.5	2.0	1.5
Debt Ratio	(1)	79.4	80.5	78.9	77.5	80.7	78.4	83.1
	(2)	76.3	77.2	75.7	75.1	76.9	75.4	79.3
	(3)	76.4	76.6	76.2	76.4	76.6	76.0	78.6
Employment	(1)	7.1	8.8	6	6.67	7.8	6.3	7.6
	(2)	-	-	-	-	-	-	-
	(3)	4	5	4	4	5	4	5
Age	(1)	10.1	9.4	9.1	11.3	11.9	10.3	10.8
	(2)	-	-	-	-	-	-	-
	(3)	7	7	7	9	9	8	9

(1): Mean, (2): Trimmed Mean(1%), (3): Median
All NOK values are adjusted for inflation

Looking at the trimmed mean numbers we can see that family firms grow, on average, much slower than non-family firms. Pure family firms with more than one owner have the lowest growth rate with 5.3%, whilst the family firms with minority shareholders have the highest growth rate amongst family firms with 7.3%. The latter is expected because it is the type of family firm that most closely resembles non-family firms in terms of degree of family ownership. Meanwhile, if we were only to look at the raw mean we observe that entrepreneurial family firms and firms where CEO is from family clearly has the highest growth rates, which indicates that a few firms with very high growth rates raises the mean. The median growth rates are consistently lower than both raw- and trimmed means indicating a positively skewed distribution of growth rates.

On the other hand, looking at accounting profitability, the relationship between family- and non-family firms is reversed and shows that family firms consistently

have equal or higher profitability. That family firms have higher profitability than non-family firms is consistent with existing literature. The concentration of ownership should have positive effect on performance as it minimize the probability of agency conflicts and hence reduce managers' opportunistic behavior (Jensen & Meckling, 1976).

Family firms with CEO from family and entrepreneurial family firms have the highest profitability. Both having an average return on assets of 8.3%. This is in line with our earlier expectations that a CEO from the family might be prioritizing profitability over growth. Opposite of sales growth, the median return on assets are consistently higher than both raw- and trimmed means indicating a negatively skewed profitability distribution.

All types of family firms except the entrepreneurial ones are, on average, older than non-family firms. The reason for this might be that they have a more long-term perspective and take decisions while bearing next generation in the back of their mind, which should results in lower bankruptcy risk and longer life span. As both total assets and total sales, on average, are higher for non-family firms than for family firms, we can say that non-family firms in general are bigger than family firms. With that in mind we find it meaningful to divide our full sample into two subsamples: small- and large firms.

In this subsample we define a small firm as a firm with average revenue within or equal to the first quartile and a large firm as firms with average revenue above or equal to the 95 percentile.

From table 2B (Appendix D) we can see a similar pattern as in table 2A, but all small firm types has lower accounting profitability. Surprisingly, non-family firms have, on average, negative return on assets of -0.3%. Hence, for small firms the gap between family firms and non-family firms regarding profitability is more prominent than for firms of all sizes (Appendix A, figure 1 and Appendix B, figure 1).

Whilst non-family firms are less profitable than family firms when we look at firms of all sizes, we can see from table 2C (Appendix E) that this is not the case

for large firms. With an average return on assets of 10.1%, non-family firms are more profitable than any other type of family firm. Actually, family firms were more profitable up until 2004, however, since then the opposite has been the case. The average gap in profitability for large firms since 2004 has been approximately 2 percentage points, although the gap in 2015 is the smallest since 2004, with approximately 0.5 percentage points (Appendix C, figure 1).

When looking at firms of all sizes, non-family firms grew faster than family firms. In addition, we see that the tendency is the same, if not even stronger, in both the small and large subsample. Surprisingly, it seems that sales growth is somewhat independent of size regarding small- and large non-family firms, with sales growth rates of 14.2% and 13.6%, respectively (Appendix D and E). These results are similar to what Øyvind Bøhren laid out in his presentation “Family Matters: Et dypdykk i norske familiebedrifter”. He says that firms’ sales growth seems independent of firm size, which is consistent with our findings on non-family firms (Bøhren, 2018).

Looking more closely at family firms’ sales growth, we see that large firms grow slightly faster than small firms. This contradicts the theory that claims family firms prioritize profitability over growth after reaching a certain size. On the other hand, this supports our internal funding hypothesis of investments, which is that family firms are financial constrained and are required to build up retained earnings to enhance growth. Additionally, we find it interesting that it seems family firms’ sales growth, under the financial crisis, is less negatively affected than non-family firms. From 2007-2009 the growth of large non-family firms fell from just above 25% in 2007 down to almost -1% in 2009. On the other hand, large family firms fell from about 12% in 2007 down to just below 3% in 2009 (Appendix C, figure 2). One reason that might help explain families’ ability to handle negative shortcomings better than non-family firms is their long-term focus and desire to keep the firm in the family for generations.

However, the problem with the univariate approach is that firm types in cross tabulations may be a proxy for other variables. This could be, for instance, size and age. We know that family firms in general are smaller than non-family firms. Both size proxies (sales and assets) reveal that there is heterogeneity between

family firms. For example, family firms which are not pure and family firms where the CEO is not from the family is the ones that most closely resemble non-family firms.

8. Results

8.1. Panel Regression

Table 3 reports eight regressions, gradually incorporating the control variables and the degree of family ownership. Looking at the first regression which only considers the family dummy, we have a negatively significantly coefficient of -4.89 on the 1%-level. When we include the rest of our control variables, including industry-, county-, and year dummies the significance level is the same, but the coefficient has changed to -2.73. After controlling for the relevant variables, the output indicate that family firms underperform relative to non-family firms in regards to sales growth, by approximately 2.73 percentage points. Regression 7 and 8 has the same variables as regression 6, but also include the different intensities of family control; supermajority and pure family. The coefficient of the family dummy is still significant on the 1%-level in both regressions. However, both the supermajority- and pure family dummies have negative significant coefficient on the 1%-level. Hence, being a family firm has a certain negative influence on sales growth, but being either a supermajority family firm or a pure family firm has an additional negative influence on sales growth. The supermajority- and pure family dummy coefficients of -1.09 and -1.50 respectively, indicate that higher degree of family ownership influence sales growth negatively.

All the other variables, with exception of retention rate displays coefficients with a significance level of 1% across all regressions. As we anticipated, the size, age, and debt ratio variable have a consistent negative influence on sales growth going from -4.72 to -3.28, -1.20 to -0.45, and -0.01 to -0.01, respectively. Coherent with our intuitive expectation, RoA has a positively significantly influence on sales growth with a coefficient going from 0.18 in regression 1 to 0.19 in regression 6. The BNP variable fell from 0.39 in regression 5 to 0.07 in regression 6, 7, and 8. This can be explained almost exclusively by the inclusion of year dummies.

Our results are consistent with the findings of Hamelin (2007), a study on French SMEs. The author finds that the more the family controls the firm, the less the firm is prone to sustain a larger growth rate, even if they have internal funds available to sustain a higher growth. In order to explain these results the author points at family firms' peculiar behavior, which we will, to some extent, investigate further in this thesis.

Table 3: Regressions

This panel table shows the relationship between sales growth and family. Sales growth, measured as percentage change in sales revenue, is the dependent variable. The variables Size, Investments, Retention Rate, Cash Rate, and Debt Ratio are lagged one year. ***, ** and * represent significance level of 1%, 5% and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family	-4.89***	-5.15***	-3.26***	-3.14***	-3.12***	-2.73***	-1.82***	-1.71***
Supermajority							-1.09***	
Pure Family								-1.50***
<i>Control variables</i>								
RoA		0.18***	0.20***	0.19***	0.19***	0.19***	0.19***	0.19***
Size		-4.72***	-3.27***	-3.39***	-3.40***	-3.28***	-3.29***	-3.31***
Age		-1.20***	-0.48***	-0.46***	-0.46***	-0.45***	-0.45***	-0.46***
Age sq.		0.01***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***
BNP		0.41***	0.39***	0.39***	0.39***	0.07***	0.07***	0.07***
Investments			0.00***	0.00***	0.00***	0.00***	0.00***	0.00***
Retention Rate			-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Cash Rate			-0.13***	-0.13***	-0.13***	-0.12***	-0.12***	-0.12***
Debt Ratio			-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
Employees			0.25***	0.26***	0.26***	0.27***	0.27***	0.26***
Industry controls	No	No	No	Yes	Yes	Yes	Yes	Yes
County controls	No	No	No	No	Yes	Yes	Yes	Yes
Year controls	No	No	No	No	No	Yes	Yes	Yes
R-sq	0.0031	0.0469	0.0495	0.0541	0.0543	0.0643	0.0643	0.0645
Wald Chi2 p-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Observations	338 138	338 138	275 209	275 209	275 209	275 209	275 209	275 209

8.2. Fixed Effects

In table 4 we see the output from our fixed effects regression, using the same variables as in table 3, regression 6. When interpreting the results of a fixed effects regression one need to be careful. Through running this type of regression we only look at variables that change over time. I.e., the model will estimate the effect of changing between being a family firm and non-family firm. The estimated effect on growth of changing from family to non-family is -1.5 percentage points, significant on all levels. In order to test which of the fixed effects model and the random effects model that is most suitable, we performed a Hausman test. The test seeks to see if there is correlation between the errors and the explanatory variables. In other words, the null hypothesis says that there is no correlation between the two. Taking the large size of our sample under consideration, it is no surprise that the Hausman test indicates that fixed effects is

more appropriate than random effects. Magnussen and Sundelius (2011) also find the fixed effects model to be the best fit to their data.

Our results seem robust, but there are still factors that might bias our result and make statistical inference less viable. Even though our original sample is big, the number of observations regarding changes in being a family firm or not only accounts for a small part of the original sample.

Table 4: Fixed- and random effects

This panel table shows the relationship between sales growth and firm type. Sales growth, measured as percentage change in sales revenue, is the dependent variable. The variables Size, Investments, Retention Rate, Cash Rate, and Debt Ratio are lagged one year. ***, **, and * represent significance level of 1%, 5%, and 10%, respectively.

	Fixed	Random	Difference
Family	-1.50***	-2.87***	1.37
BNP	0.05***	0.07***	-0.02
Size	-13.68***	-3.17***	-10.51
Investments	0.00***	0.00***	0.00
Retention rate	0.00	0.00	0.00
Cash rate	-0.16***	-0.13***	-0.03
RoA	0.20***	0.19***	0.01
Debt ratio	-0.03***	-0.01***	-0.02
Age	-0.56	-0.47***	-0.09
Age^2	0.00***	0.00***	0.00
Employees	0.53***	0.26***	0.27
Year controls	Yes	Yes	

*Hausman test:
P-Value = 0.0000*

8.3. Self-Selection

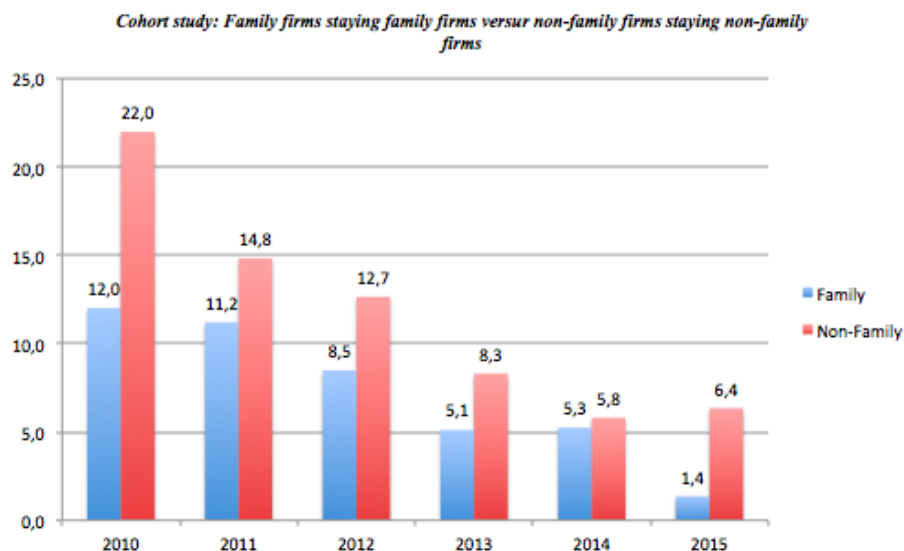
To investigate the selection issue we estimated a Heckman selection model. In this model we used size, investments, cash rate, RoA, debt ratio, age and employees as both independent and selection variables. From appendix F we can see that the lambda is positive and significant, meaning that the error terms in the auxiliary and main regression are positively correlated. It looks like, once controlled for the observable characteristics, the results indicate that family firms self-select towards

higher growth. Hence, the selection problem will indeed bias the estimated effect of family status on growth in models that ignores this problem.

Furthermore, we conducted a propensity score matching analysis. We matched our observations using a logit model on the variables size, investments, cash rate, RoA, debt ratio, age, and employees as we believe these are factors influencing both participation (family firm status) and outcome (growth). In our full sample of 338,105 observations, this resulted in an average treatment effect (ATE) of -2.95, significant on all levels. By only looking at large firms (16,864 obs.) we discover that the magnitude of the negative ATE is mainly driven by small firms as the ATE for large firms is reduced to -2.65*** versus -3.88*** for small firms (81,438 obs.).

8.4. Cohort Studies

First and foremost, we are interested in looking at firms who stay either family or non-family throughout the period. We find that the non-family firms grew constantly at a higher rate, but the gap diminished in 2014. We also observe a natural decreasing growth rate for both types of firm as they mature (Appendix I). Growth rates started out at 12% and 22% for family and non-family firms respectively, while decreasing to 1.4% and 6.4% in 2015. To look for statistical significance we performed a difference in means test. The difference in sales growth for non-family and family firms was, on average, 4.44 percentage points, significant on the 1%-level (Appendix G).



8.4.1. Change from Family to Non-Family

Does the results above imply that if you are a family firm that wants to grow faster you should become a non-family firm? To investigate this, we created a new cohort with 372 observations looking at family firms, which at some point during the time-period, changed firm type to non-family. Given the fact that we look at firms who start out as a family firm before changing somewhere between 2010 and 2015, the observations containing family firms will be from the start of the cohort period, while observations of non-family firms will be from the latter years. The average growth rate of family firms is 0.66 percentage points higher than non-family firms (Appendix H). At first glance, this seems surprising, but can be explained. On average, the observations of family firms come about two years earlier than non-family firms. This implies that they become a non-family firm later in their life cycle, which is a period where all firms in the cohort study has lower growth (Appendix I).

The intuitive explanation of family firms deciding to transition into a non-family firm can be that high-growth family firms are more likely to change to non-family firms in order to be able to finance further growth. To investigate this further, we compared the 35 firms who became non-family firm in 2012 to the ones who stayed family firm during the whole cohort period. We found that the firms who did make the change that year had a substantially higher average growth (16.65%) the year prior to the change compared to those who did not change (11.21%) (Appendix J). This strengthens our intuition that it is the fast growing firms who make the change. As a result, the non-family category gets their average growth rate partly inflated by these fast growing firms who used to be family firms. In addition, we found that the growth rate of the firms who changed in 2012 fell by almost 10 percentage points from 2011 to 2013 (Appendix J), but this again could partly be a result of the fact that we are at a later stage in the life cycle. In 2013, the growth rate for non-family (6.78%) is still above the rate of those who stayed a family firm throughout the period (5.11%), indicating that they are able to sustain a slightly higher growth rate. For the following years our results are a bit ambiguous, but this might be a result of few observations, which limits the strength of the results.

8.4.2. *Change from Non-Family to Family*

Furthermore, we would like to look at firms going the opposite way; from non-family to family. Thus, we can further investigate the trade-off between family ownership and growth. As expected, we see lower growth rates after changing to family firm. Before changing from non-family to family, the firms had an average growth rate of approximately 11% versus 5% after becoming family firm (Appendix K). However, the magnitude of the gap is partly caused by the life cycle effect.

9. Conclusion

In this paper, we investigated the link between family ownership and growth in Norwegian non-listed firms. We first performed a GLS regression with several different specifications. Moving forward, we wanted to explore potential self-selection problems by implementing fixed effects, Heckman and PSM models. Finally, we conducted different cohort studies in order to compare firms at the same stage in their life cycle. Our results indicate family firms tend to have statistically significantly lower sales growth compared to non-family firms. Further, by distinguishing between family firms, family firms with supermajority and pure family firms, we found that negative relationship is more pronounced as the degree of family ownership increases. All our approaches lead to similar results, which makes us confident in our conclusion that family firms grow slower than non-family firms.

These results are important for policy makers. Now, policy makers are aware that family firms grow differently from non-family firms. This can prove to be valuable knowledge when implementing regulations, policies, or other measures aimed towards stimulating growth. However, policy makers need to know more about the behavioral differences in family- and non-family firms in order to implement accurate measures. Hence, further research is needed to find out *why* family firms grow differently.

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11. Appendices

Appendix A – All firms

Figure A1

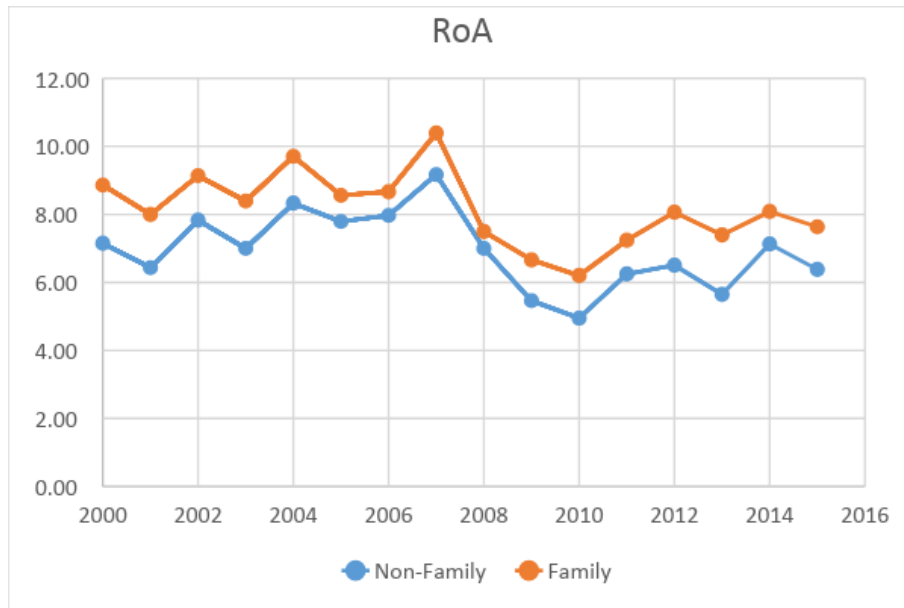


Figure A2

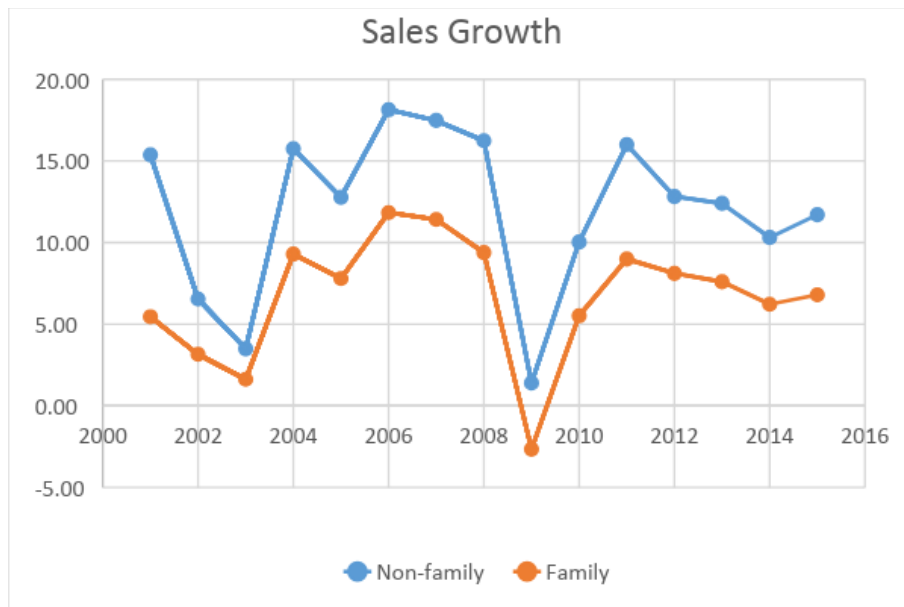


Figure A3

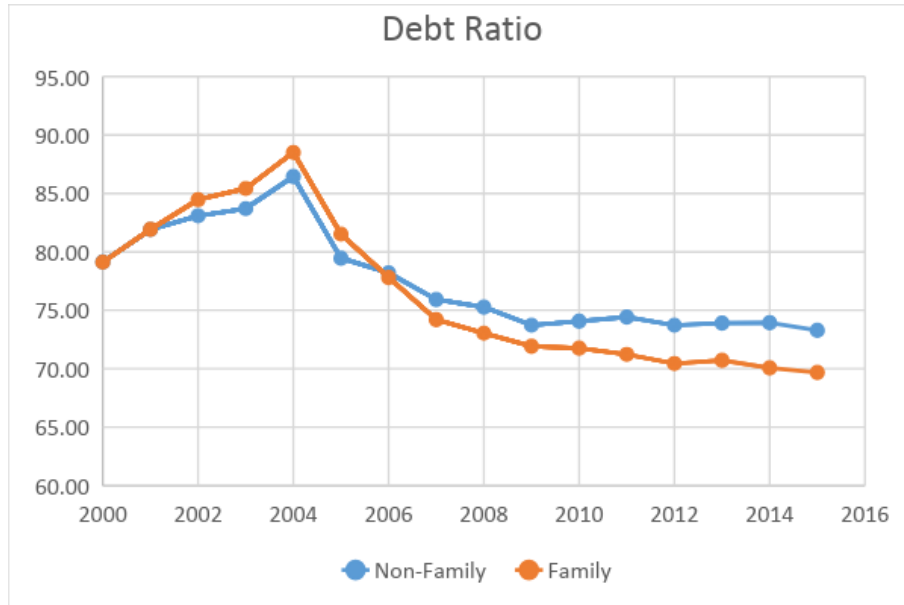


Figure A4

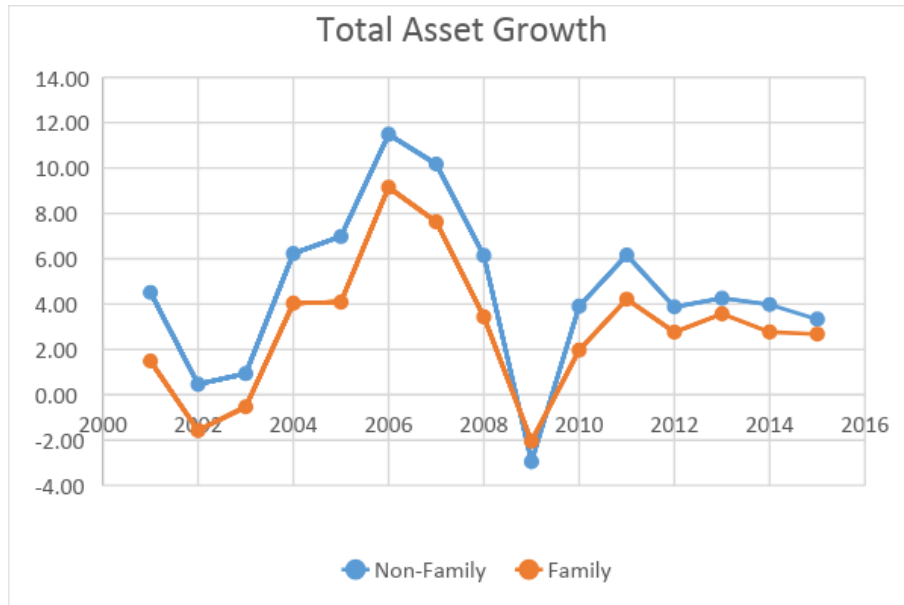


Figure A5



Appendix B – Small firms

Figure 1B

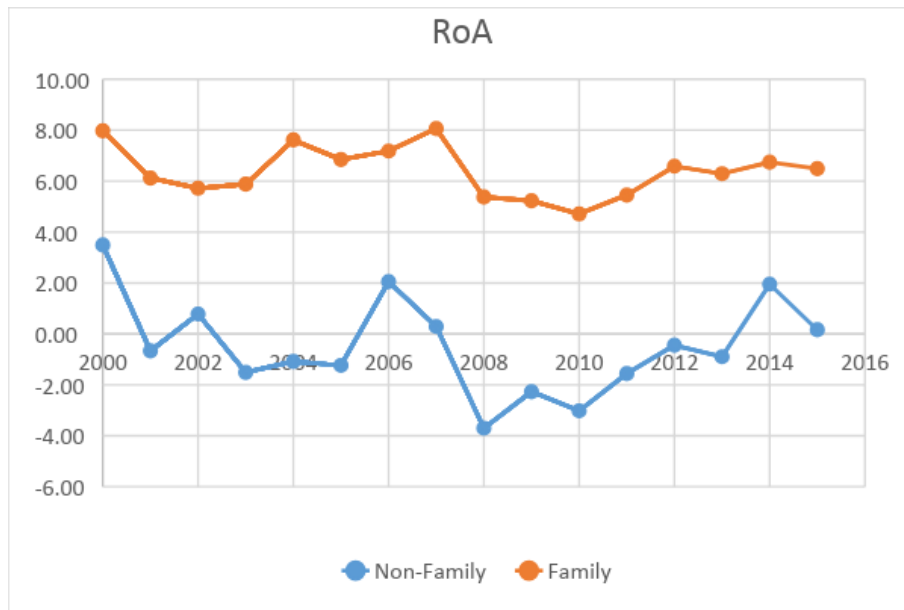


Figure 2B

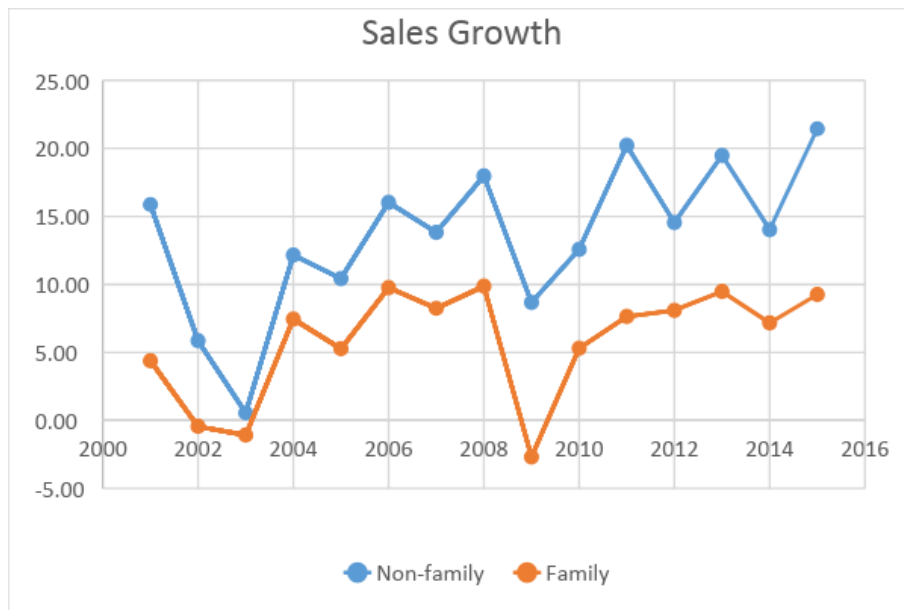


Figure 3B

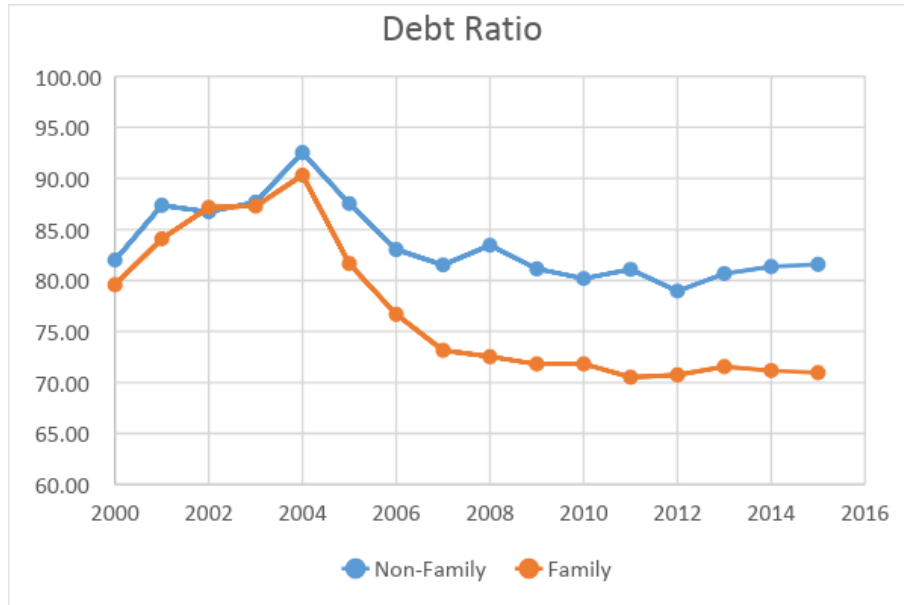


Figure 4B

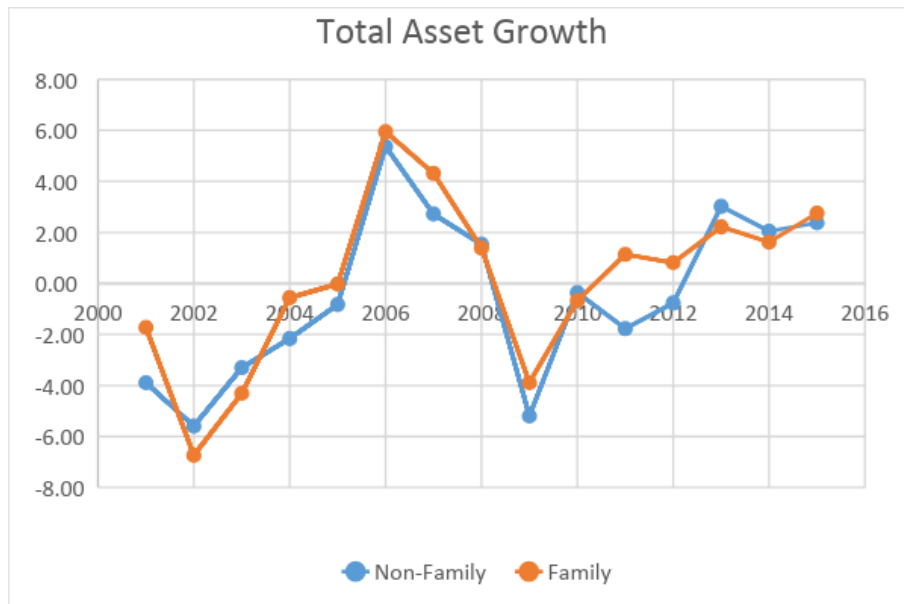
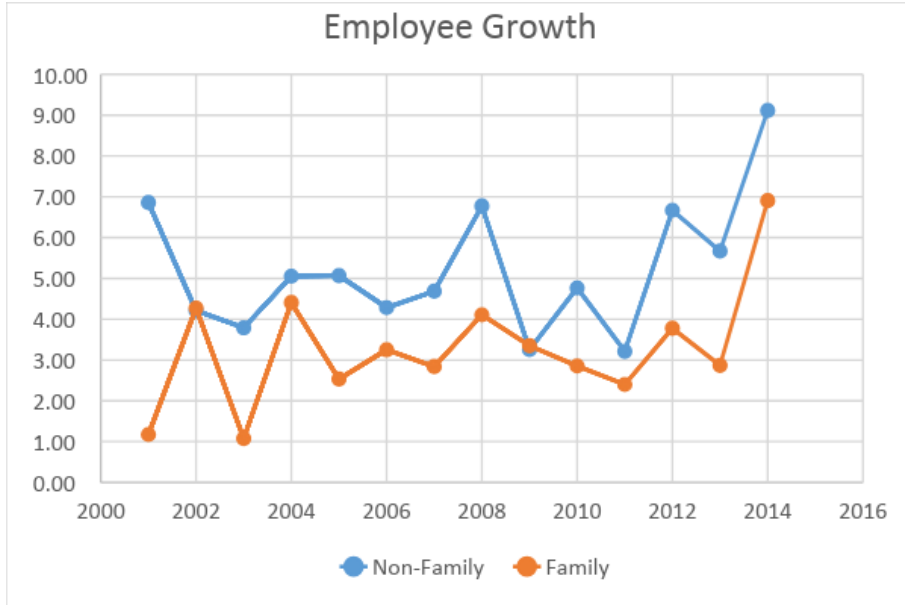


Figure 5B



Appendix C – Large firm

Figure 1C

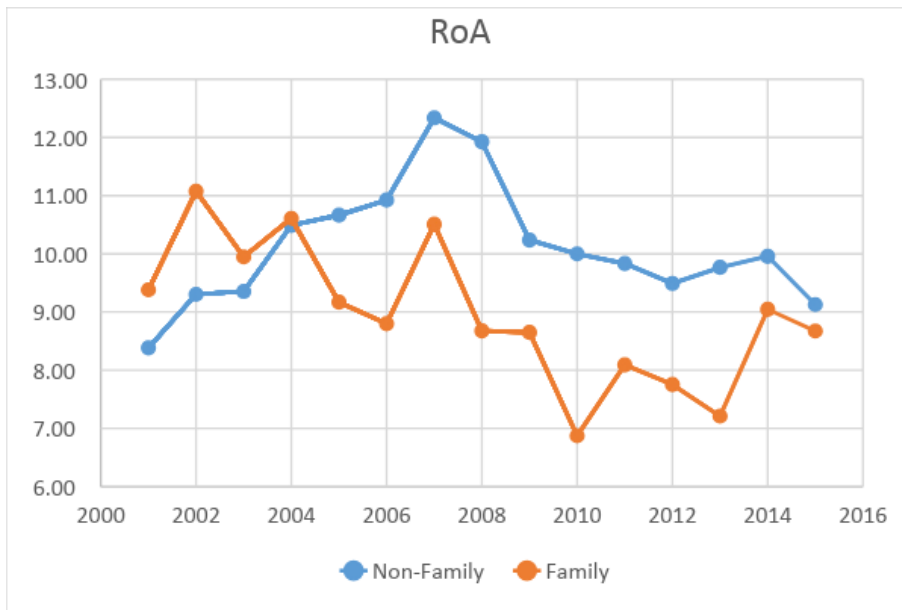


Figure 2C

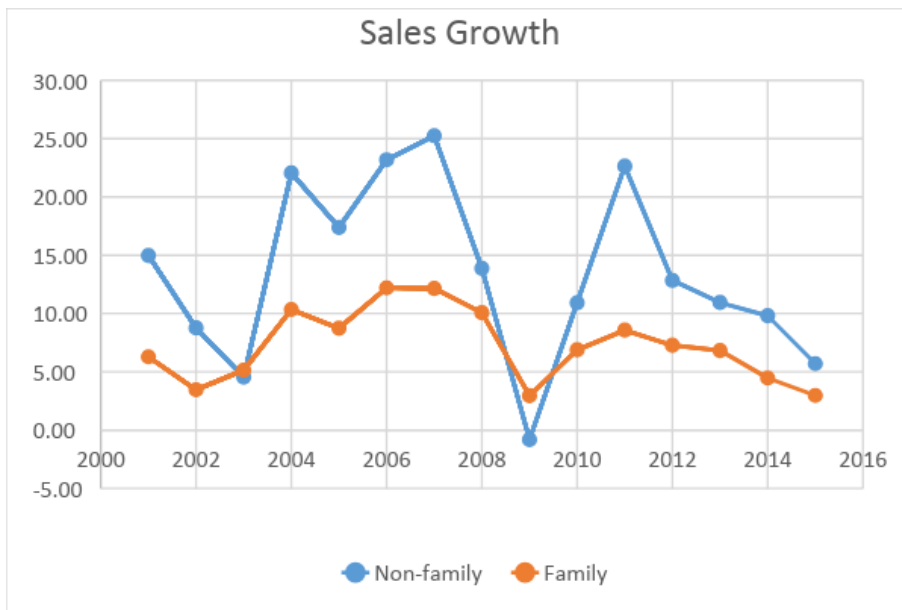


Figure 3C

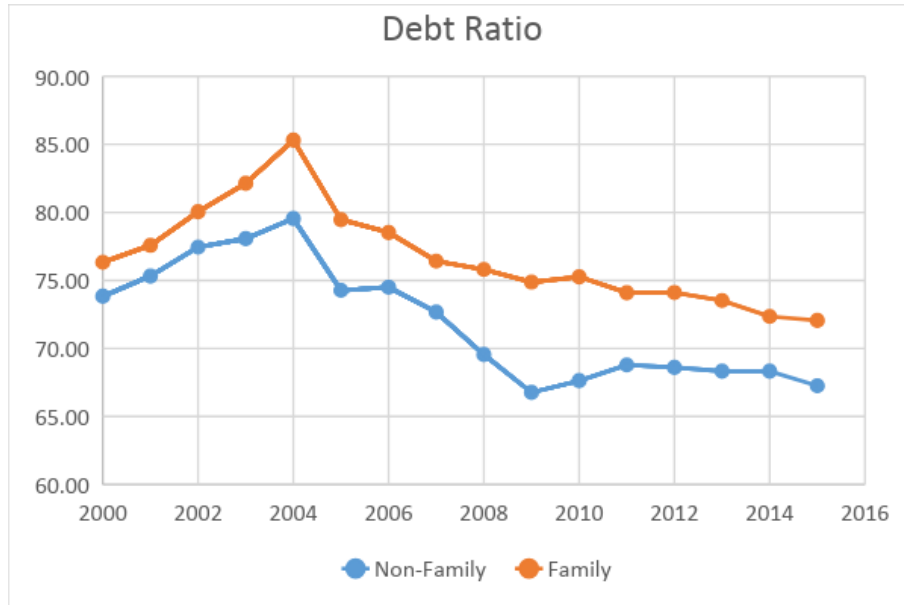


Figure 4C

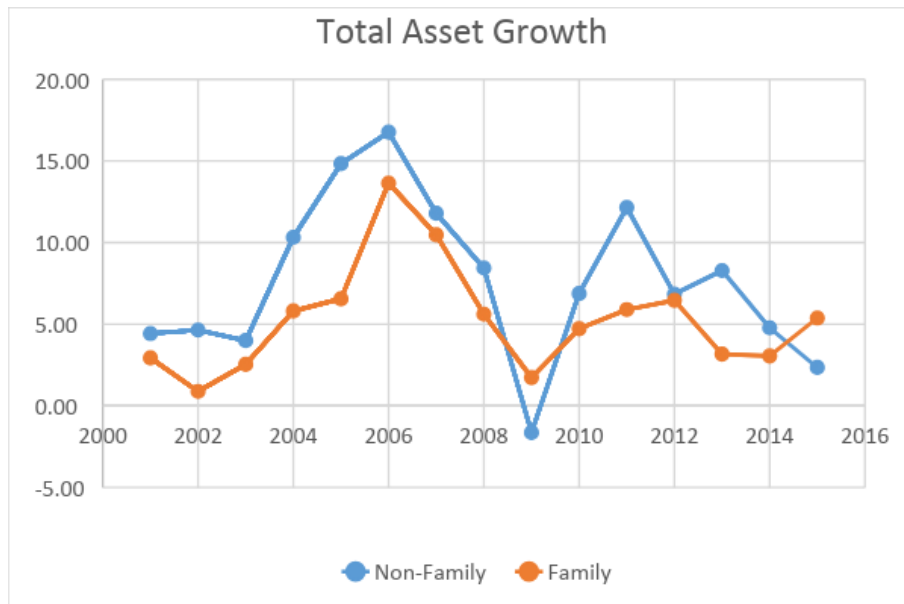
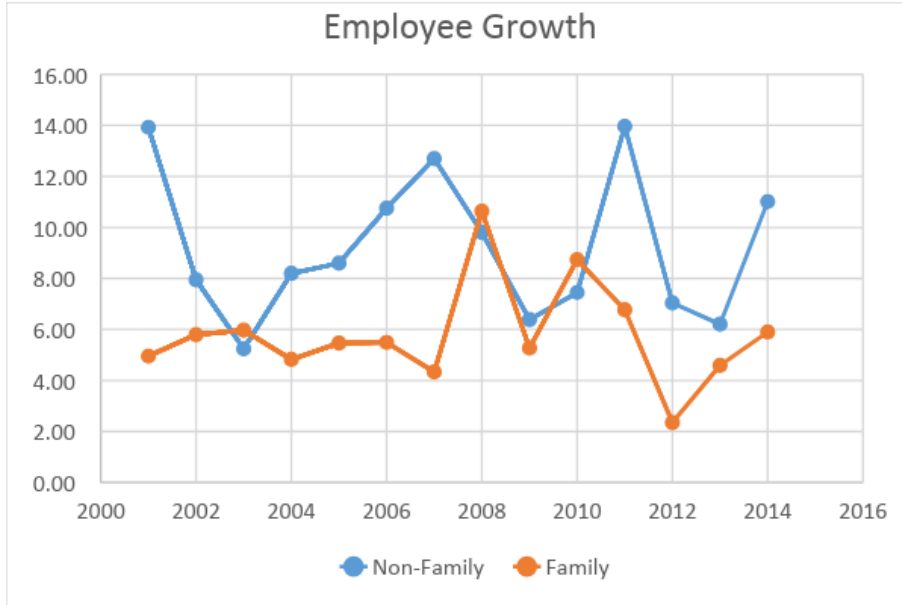


Figure 5C



Appendix D

Table 2B. Characteristics of Small Firms

		Family firms							
		All firms	Non-family	Pure Family				CEO from Family	
				Yes		No	Yes	No	
				Entrepreneurial	Not entrepreneurial				
Total Assets	(1)	5.1	1.7	1.5	1.7	2.1	1.5	2.4	
(in millions)	(2)	4.2	1.4	1.3	1.5	1.4	1.4	1.5	
	(3)	2.4	0.8	0.9	1.0	1.0	0.9	0.9	
Total Sales	(1)	10.5	1.9	1.8	1.8	1.9	1.8	1.8	
(in millions)	(2)	9.1	1.9	1.8	1.8	1.8	1.8	1.8	
	(3)	4.9	1.8	1.7	1.8	1.8	1.7	1.7	
RoA	(1)	6.7	-2.3	6.0	4.4	2.7	5.3	3.0	
	(2)	7.8	-0.3	7.2	5.4	4.7	6.6	4.2	
	(3)	8.5	4.2	8.7	6.6	6.8	8.0	6.9	
RoE	(1)	45.2	39.8	44.4	35.8	37.0	41.1	41.3	
	(2)	44.0	28.3	40.6	32.2	37.7	38.5	35.8	
	(3)	29.0	19.2	26.9	21.6	23.8	25.3	24.1	
Sales Growth	(1)	35.8	41.7	28.1	12.1	51.3	26.2	50.1	
	(2)	8.1	14.2	6.6	4.6	6.9	6.3	5.3	
	(3)	2.5	2.3	0.5	-0.4	0.5	0.4	-0.5	
Debt Ratio	(1)	79.4	88.9	78.4	80.1	87.3	79.8	85.4	
	(2)	76.3	83.0	73.7	76.8	80.7	75.1	79.6	
	(3)	76.4	77.1	70.8	74.3	75.3	72.2	74.5	
Employment	(1)	7.1	3.6	2	2.80	2.8	2.5	2.8	
	(2)	-	-	-	-	-	-	-	
	(3)	4	3	2	2	2	2	2	
Age	(1)	10.1	7.2	8.0	9.5	10.1	8.7	9.1	
	(2)	-	-	-	-	-	-	-	
	(3)	7	5	6	7	7	6	7	

(1): Mean, (2): Trimmed Mean(1%), (3): Median

All NOK values are adjusted for inflation

A small firm is defined as having average revenue inside the first quartile

Appendix E

Table 2C. Characteristics of Large Firms

		All firms	Non-family	Family firms				
				Pure Family			CEO from Family	
				Entrepreneurial	Yes		No	Yes
Not entrepreneurial								
Total Assets (in millions)	(1)	5.1	42.1	12.8	25.2	28.5	19.1	27.3
	(2)	4.2	33.9	11.6	22.6	25.3	17.5	23.9
	(3)	2.4	22.4	7.8	15.8	17.9	10.7	17.5
Total Sales (in millions)	(1)	10.5	84.3	60.5	62.6	67.4	61.7	71.0
	(2)	9.1	75.5	58.7	59.6	62.8	59.1	66.5
	(3)	4.9	55.5	52.9	49.6	50.8	51.4	52.6
RoA	(1)	6.7	9.6	8.3	9.9	9.5	8.9	9.5
	(2)	7.8	10.1	8.4	10.0	9.8	9.1	9.8
	(3)	8.5	9.5	8.7	9.4	8.9	8.9	9.0
RoE	(1)	45.2	48.7	45.1	52.2	48.6	48.2	45.1
	(2)	44.0	46.5	53.2	47.5	49.2	50.5	52.9
	(3)	29.0	31.3	44.4	30.4	29.8	36.7	33.0
Sales Growth	(1)	35.8	37.5	8.7	10.6	11.0	9.7	10.4
	(2)	8.1	13.6	7.1	6.0	7.8	7.0	7.6
	(3)	2.5	6.4	3.5	3.7	3.9	3.6	3.8
Debt Ratio	(1)	79.4	72.7	82.0	73.3	74.6	78.1	76.5
	(2)	76.3	72.2	81.8	72.9	73.9	77.8	75.5
	(3)	76.4	74.5	85.0	77.4	77.7	83.4	79.2
Employment	(1)	7.1	30.1	20	23.60	28.8	22.8	29.0
	(2)							
	(3)	4	21	15	18	20	16	20
Age	(1)	10.1	13.4	9.1	14.6	15.4	12.0	13.7
	(2)							
	(3)	7	11	7	12	12	9	11

(1): Mean, (2): Trimmed Mean(1%), (3): Median

All NOK values are adjusted for inflation

A large firm is defined as having average revenue above the 95 percentile.

Appendix F
Heckman selection model

***, ** and * represent
significance level of 1%,
5% and 10%, respectively

Growth

Size	-0.17**
Investments	0.00
Cash rate	-0.05***
RoA	0.18***
Debt ratio	0.00***
Age	-0.26***
Employees	-0.10***

Family

Size	-0.13***
Investments	0.00
Cash rate	0.00***
RoA	0.00***
Debt ratio	0.00***
Age	0.00***
Employees	0.00***

Observations	339 402
Lambda	35.74
P-Value	0.00

Appendix G

This table shows a difference in means test between firms who start and end as family firm and firms who start and end as a non-family firm, in the time period 2010-2015

Group	Observations	Mean	t-value
Non-Family (0)	2 270	11.89	
Family (1)	6 653	7.45	
Difference (0-1)		4.44	5.37

Ho: Difference = 0

Ha: Difference < 0

Pr(T < t) = 1.00

Ha: Difference !=0

Pr(|T| < |t|) = 0.00

Ha: Difference > 0

Pr(T > t) = 0.00

Appendix H

This table shows the observations and means of the firms that choose to change firm type from family to non-family during the time period 2010-2015

Group	Observations	Mean (%)
Non-Family (0)	181	7.66
Family (1)	191	8.32
Difference (0-1)		-0.66

Appendix I**Average yearly growth of the firms
in the cohort sample (9962 obs.)**

Years	Trimmed growth %
2010	14.23
2011	11.98
2012	9.55
2013	6.02
2014	5.31
2015	2.59

Appendix J

Average yearly growth for family
firms throughout 2010-2015 versus
those who became non-family in
2012

	Family	Non-Family from 2012
2010	12.01	12.07
2011	11.21	16.65
2012	8.49	5.76
2013	5.11	6.78
2014	5.25	-0.23
2015	1.35	6.66

Appendix K

This table shows the observations and means of the firms that choose to change firm type from non-family to family during the time period 2010-2015

Group	Observations	Mean (%)
Non-Family (0)	204	11.03
Family (1)	336	5.10
Difference (0-1)		5.93