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MSc Thesis

**Downsizing: Family Ownership,
Family Management and Listing Status -
*Evidence from Norwegian Firms***

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Abstract

In this paper we examine the likelihood and degree of downsizing in Norwegian companies in the years 2000 to 2004. The idea is to investigate whether family ownership, family management and listing status have any impact on downsizing decisions. We find both family ownership and family management to have significant negative impact on the probability of downsizing, as well as on the degree of downsizing when it occurs. Our analysis shows no significant effects of the listing status of the firms on both the probability and the degree of downsizing.

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Introduction

We examine the relationship between Norwegian family firms and their employees when downsizing is considered. In addition we are most likely one of the few researchers that will compare differences in downsizing decisions between listed and non-listed companies. Previous literature exploring the influence of family management and ownership on likelihood and size of job cuts is very limited, and mostly look at listed companies in the US.

Our research will contribute to the literature by looking at Norwegian firms, since we believe there are some differences compared to other countries studied in the existing literature, especially the S&P 500 firms, as we will discuss below. One difference between Norway and the US is the labor rights. There is more protection against being laid off and more extensive rights to receive welfare payments in Norway compared to most other countries. This gives us an idea that managers in Norway could be less reluctant to cut jobs compared to managers in other countries, as it will have a less severe impact on the workers that are going to be laid off. Another aspect of the Norwegian labor market works in the opposite direction. Norwegian workers are generally less willing to move to different locations within the country than is for example the case in the US. With this in mind we could assume that a large cornerstone company located in a remote location would show more social responsibility for the employees, by downsizing less.

The reasons why family firms are thought to have a different attitude towards job cuts than other firms are that they are believed to have a more long-term perspective that follows from stewardship theory. Firm culture can also be different, as described in the commentary by Eddleston (2008).

A number of recent published articles that look at stewardship and agency theory in family firms may actually explain some of our findings regarding downsizing. These articles point out that owners of family firms cares deeply about the family reputation. Measuring performance in family firms are not solely done by

maximizing profit, but achieving social capital could be an equivalent goal. Family firms show more stewardship by investing more in training of the employees, give them broader jobs and more responsibilities in addition to create a flexible and inclusive culture. These investments will likely make the family firms less willing to lay off employees.

Our findings from this study might be of great interest for a wide audience. As the Confederation of Norwegian Enterprise (NHO) points out, the last decade of scandals and bankruptcies in well known companies around the world have made the researchers more interested in investigating performance and corporate social behavior (e.g. laying off employees) based on ownership structure (NHO, 2008). Family ownership is the most common one, and according to the Organization for Economic Co-operation and Development (OECD) one third of the five hundred largest Norwegian companies is family owned. NHO believe that family firms contribute with about half of the Norwegian value creation. Compared to 90 percent in Sweden, 85 percent in EU and 90 percent in the US according to OECD. The reason why Norway is lower is because of the extensive amount of state ownership. Taking this into consideration makes research of Norwegian family firms even more valuable for our audience. In addition family firms and both their current and potential employees who appreciate job stability could value our research.

Motivated by the work of Stavrou, Kassinis & Filotheou (2006) and Block (2008) we have constructed six hypotheses, where we made the distinction between family ownership and family management, in addition to listed and non-listed companies. The data we have used in our study have been obtained from the database created by the Centre for Corporate Governance Research (CCGR) at the Norwegian School of Management BI. We have investigated all Norwegian firms with annual data from the period 2000 to 2004, including the period following the September 11th terrorist attacks in 2001. In our analysis we have excluded data from companies with ten or less employees to avoid unwanted noise and randomness as we will discuss later. The estimation procedures we used were logit regression for the probability of downsizing and panel regression using

random effects GLS when we looked at the degree of downsizing.

The main findings in our study are that there is a relationship between workforce decrease and family management and family ownership. We find that both family-owned and family-managed firms downsize to a smaller degree and less often than other firms. Nevertheless, we find family-owned firms to be upsizing less than other firms. What we do not find is any significant relationships between listing status and downsizing of the workforce.

In the next section we will give a detailed explanation of the economic idea, before we move on to the literature review in section 2, where we will present definitions and findings from related literature. In section 3 we will present our six hypotheses, while section 4 contains methodology and data description. Our analysis, together with the discussion is presented in section 5, before concluding in section 6.

Economic idea

The economic idea in our study is to explore the difference in the likelihood for downsizing between family firms and other firms, as well as investigating differences in the number of people that are laid off when the decision is eventually made. The working paper “Family Management, Family Ownership and Downsizing: Evidence from S&P 500 Firms” by Jörn Hendrich Block (2008) studies this issue for listed companies in the US. We intend to do a similar study for Norwegian companies. Our study will be different from this paper not only in that we are looking at Norwegian companies, but as well we will go further with a comparison between downsizing in listed and non-listed companies in Norway. As a consequence, our study requires an extensive amount of data compared to previous studies on this subject.

To be able to proceed with this investigation we formulate six economic questions

that we will use to develop testable hypotheses:

- Are family-owned firms less likely to downsize compared to other firms?
- When downsizing, are family-owned firms laying off more people than other firms?
- Are Norwegian family-managed firms less likely to downsize compared to other firms?
- When downsizing, are family-managed firms laying off more people than other firms?
- Are listed companies more likely to downsize than non-listed?
- Is there a difference between listed and non-listed companies in the number of people laid off when they are downsizing?

When we have answered these questions we will have provided insight into an area with little previous research, especially when it comes to the differences in downsizing decisions between listed and non-listed companies. Since the majority of employees in Norway are hired by a non-listed company, it will be of great interest to know more about how family management affects the firms' downsizing considerations.

Literature review

In the following we are examining some of the literature in the fields of downsizing and family firms. First we look at two main articles that examine the relationship between family firms and downsizing before we look more closely at definitions of downsizing and family firms.

Stavrou, Kassinis & Filotheou (2006) "Downsizing and Stakeholder Orientation Among the Fortune 500: Does Family Ownership Matter." is the first paper to examine downsizing in family and non-family firms from a stakeholder perspective by examining the Fortune 500 companies. Family firms constitute 35% of the S&P 500 Industrials and 33% of Fortune 500 firms (Anderson and

Reeb, 2003). They found complete data on 180 out of the 204 initial firms (90 family and 90 non-family), yielding 540 firm-year observations for the period of 2000-2004. This period included the terrorist attacks of September 11th, 2001 in New York City, which initiated an economic slowdown which caused increased downsizing. Hence, in 2001 companies in the U.S. announced layoffs of almost two million workers (Cascio, 2002).

In their research they define family firms according to Gomez Mejia et al. (2003) as family owned or controlled if (a) at least two directors have a family relationship and (b) family members own or control at least 5% of the voting stocks. In addition to capturing an active family participation, which Gomez Mejia's definition did not capture, a family member had to serve as a CEO. Downsizing is measured by dividing the reported number of downsized employees for each company by the total workforce of the company at the year's end before downsizing. They manually examined downsizing announcements from the companies. Minor downsizing events, layoff ratio's less than 0,5%, and companies with missing values were excluded from the sample. Performance was used as a control variable, since the relationship between downsizing and performance has been found to be statistically significant in previous studies.

Stavrou, Kassinis & Filotheou concluded that family firms are less likely to downsize than their non-family counterparts regardless of performance considerations. Another interesting finding is that the average annual end-of-year performance of family firms that have downsized during the 2000-2002 period is positive while that of their non-family counterparts is negative. Even though the study controls for time effects, the study was not longitudinal in nature and therefore they do not test for effects among their variables across time. This could be a limitation of the paper.

The working paper "Family Management, Family Ownership and Downsizing: Evidence from S&P 500 Firms" by Jorn Hendrich Block (2008) research the area "relationship between family firms and their employees" further by extending their study to distinguish between family ownership and family management,

understanding them as being two distinguished dimensions of family firms. Existing financial studies find that family management in particular (and not family ownership) seems to create firm value (Villalonga & Amit, 2006). For the research he examined the S&P 500 companies containing Large-Cap corporations in U.S. In addition this research used longitudinal data, which allowed him to include lagged values, making the findings more robust regarding issues of causality. The final estimation samples covered 2,234 observations from 390 firms in the period 1994 to 2003. To measure downsizing, this paper compare the number of reported employees in a company from one period with the previous period. As a control variable for reduction in workforce they use decline in financial performance and decline in sales. Ownership structure and management compositions were collected initially from an issue of Business Week and further expanded with information from U.S Securities and Exchange Commission in addition to magazine, databases and websites of the companies.

The paper distinguishes between ownership by family and two other types of ownership such as financial investors (e.g. large banks, insurance companies, mutual funds, private equity firms) or other large individual financial investors (e.g. Warren Buffet, Kirk Kirkorian and Philipp Anschutz) and ownership by employees. The central conclusion is that family management and family ownership have different impacts regarding the respective firms' engagement in downsizing. Family management was found to decrease the likelihood of downsizing, whereas family ownership was found to have an impact only when it comes to deep job cuts. Family ownership decreases the likelihood of deep job cuts with above 6%. The findings support both an agency and stewardship theory view of the family firm. Family managers act as stewards with a long-term view, hence they are less likely to undertake short-term, cost-saving-oriented job cuts, and the paper points out several reasons for that. First of all family managers stay in the job for a longer period, second the firm is a part of their family identity and the goal is to pass it on to the next generation. Third, due to their safe position, they have no need for signaling in order to increase operating efficiency or profitability. Finally family managers are more likely to be emotionally attached to their firm and their employees.

The paper states that information asymmetry between owners and management

should be less of a problem since family owners has often more knowledge about the condition of the firm, therefore managers (both family and non-family) would have less need to achieve short-term results through cost-cutting such as downsizing. In addition family owners could more easily monitor their firm since a large part of their wealth are tied up to the firm. Since the firm is a part of their family identity, it is likely that that they care more about social responsibility, since they value a good reputation. Another interesting finding in this research is that larger, older and faster-growing firms, as well as firms with more debt, are more likely to belong to the downsizing group.

The limitation of the research is that it only regards large public U.S. firms. Small to medium-sized companies and private firms are not part of the sample. But it is believed that the results would be confirmed and even be stronger for those firms. It is also expected that U.S. firms are more concerned about short-term results than non-U.S. firms.

Downsizing

Cascio (2002) finds the Economic logic that drives downsizing is straightforward since there are really only two ways to make money in business: either you cut costs or you increase revenues. Given that future costs are far more predictable than future revenues companies often end up with downsizing. Still they found no significant, consistent evidence that employment downsizing led to improved financial performance, as measured by return on assets or industry-adjusted return on assets.

Cappelli (2000) defines downsizing as the elimination of jobs in an organization, and this comprises two kinds of job cuts. Some cuts are driven by reductions in labor demand following on from decreases demand for a firm's product or services. Firms, however, may also reduce jobs even in environments where demand is robust, seeking increased operating efficiencies as technological changes provide opportunities to substitute capital for labor or to organize work in new ways.

Freeman & Cameron (1993) defines organizational downsizing as "constituting a

set of activities, undertaken on the part of the management of an organization, designed to improve organizational efficiency, productivity, and/or competitiveness.” They describe the differences between downsizing, decline and layoffs. “Downsizing is not something that happens to an organization, but is something that organization members undertake purposively. This implies, first of all, that downsizing is an intentional endeavor (...) Second, downsizing usually involves reductions in personnel, although it is not limited solely to personnel reductions.” They also say that “Downsizing, therefore, may be indicated by the presence of fewer employees at time 2 compared to time 1, but this reduction is a result of organizational action or policies that removed personnel. Fewer employees per unit of output can also indicate downsizing at time 2 compared to time 1, in which case downsizing activities would have produced improved efficiency.” The definition of downsizing used here is therefore somewhat different from the definition used elsewhere, as a pure reduction in workforce, where Freeman and Cameron use the term “layoffs”.

In our study we have chosen to describe downsizing in the same way as Freeman and Cameron, by a percentage change in employees from the previous year.

Definitions of a family firm

The following literature is using several different definitions of family firms. According to Miller, Le Breton-Miller, Lester and Cannella (2007) there seems to be no general consensus on the definition. Some of the studies mentioned below are looking at firms controlled, managed or founded by family members/relatives. Others are using the family firm definition on firms where an individual or a group of individuals or relatives are holding a certain amount of the shares.

As many other studies on family firms, Anderson and Reeb (2003) look at the relationship between family ownership and firm performance in S&P 500 companies. Their study also includes an investigation of the association between active family control and firm performance. They define a company as a family firm if there exists fractional equity ownership of the founding family and/or there are family members serving on the board of directors.

Ang, Cole and Lin (2000) explores the influence of ownership structure on agency costs in US companies. Their definition of a family firm is a company where a single family owns a majority of the shares.

Barontini and Caprio (2006) study the relationship between ownership structure and firm performance in a sample of 675 large public corporations in continental Europe. According to their results, performance is higher in founder-controlled corporations and in corporations controlled by descendants who sit on the board as non-executive directors. But when a descendant has the CEO position there is no significant difference. They use as a definition for a family firm that the family «controls more than 51% of direct voting rights, or controls more than the double the direct voting rights of the second largest shareholder.» The reason is that they believe some companies with a family as the largest shareholder are also owned by banks or the state with nearly the same ownership share. These companies are then seen as controlled by a coalition rather than a family.

A study done by Barth, Gulbrandsen and Schøne (2005) found that family-owned firms are less productive than non-family-owned firms. The data for this study were obtained from the Confederation of Norwegian Enterprise (NHO). If at least 33% of the shares in the firm was owned by one person or by one family the companies were regarded as family-owned.

The separation of ownership and control in East Asian corporations is examined by Claessens et al. (2000). They find that voting rights often exceed cash flow rights, due to pyramid structures and cross-holdings. Family trees for the 15 largest family groups in each country was obtained, and the definition of a family firm used in this study was one where a family group control more than 5 % of the votes.

Faccio and Lang (2002) analyze ownership and control in Western European corporations. They consider as family firms companies if a family, an individual or an unlisted firm has more than 20 % of cash flow or control rights. They

describe their approach as follows: “If we failed to identify the owners of an unlisted firm, then we classified them as a family. This approach is close to that of Claessens et al. (2000), who regard as a family any controlling shareholder that was an unlisted firm in a business group”.

The difference between companies with a “founder-CEO” and a “successor-CEO” is examined by Fahlenbrach (2006). Several potential differences between the two CEO types are discussed, such as founder-CEOs having more influence and decision-making power due to entrepreneur status, different degrees of agency costs and a different attitude towards risk leading to different investment decisions. A sample of 2,327 large, publicly listed US firms in the 1992-2002 period is studied. In this study, companies with a “founder-CEO” are regarded as family firms.

La Porta et al. (1999) base their definition of ownership on voting rights rather than cash flow rights. Firms are divided between widely held and those with ultimate owners. Ultimate ownership is defined as a shareholder having direct and indirect voting rights in the firm that exceed 20 per cent. It is argued that 20 % voting rights is often enough to have effective control of a firm. Then, a firm is seen as family owned if a person or a family is the ultimate owner (i.e. controls more than 20 per cent of the votes).

How family-controlled firms in Western Europe perform in relation to other firms is investigated by Maury (2006). Only the performance of firms with active family control are found to positively affect performance, whereas passive family control does not have any influence. The definition used for a family firm is one where the largest controlling shareholder holding at least 10 % of the voting rights is a family, an individual or an unlisted firm. Unlisted firms are included because they are believed to often be closely held, and hence one form of family control. As in most articles dealing with ownership and performance, Tobin's q and ROA are used as the performance measures.

McConaughy et al. (1998) examine the efficiency and value of founding family controlled firms, and find that founding family-controlled firms are more efficient and have a higher valuation than other firms. A firm is defined as family firm when the CEO is a founder or a descendant of the founder.

The effect of inherited control on firm performance is studied by Perez-Gonzalez (2006). Here, defined as family successions is the replacement of an old CEO with a new one related to the former by blood or marriage. They also looked at the effects when the new CEO was related by blood or marriage to the founder or a large shareholder.

Schulze, Lubatkin and Dino (2003) study the different positions of outside owners and owner-managers with regards to risk-taking and the use of debt. They define as family firms companies that are privately held and defined as family firms in the American family business survey done by Arthur Andersen in 1995.

Another study on family management succession is done by Smith and Amoako-Adu (1999). Family succession is compared to succession by a non-family insider or outsider with regards to changes in stock price and corporate performance. They use the following definition: "An actively managed family firm is defined as (1) a corporation in which a person or a group related by family ties holds the largest voting block and holds at least 10% of the total votes, and (2) the president and/or CEO is a family member before the succession".

Villalonga and Amit (2006) study the valuation of family firms compared to non-family firms. The companies defined as family firms are those in which the founder or one or more family members are officers or directors, or own 5% or more of the firm's equity, either individually or as a group.

We have found that the definitions of family businesses used in the literature concentrate mainly on two things; family control and family ownership. Family firms have been defined as companies run by founder or member of founding

family by McConaughy et al. (1998), and a common definition as described by Miller, Le Breton-Miller, Lester and Cannella (2007) seems to be that a family firm is one where the founding family or individual own a certain fraction or serve on the board. This latter definition is used by Anderson and Reeb (2003), Barth et. al. (2005), Faccio and Lang (2002), La Porta et al. (1999) and others.

We have chosen the same division between family management and family ownership as Block (2008). We handle family ownership in about the same way, although our definition of a family is different to some degree. As for family management, we have chosen to describe this by four different aspects (CEO, chair, number of family board seats and number of families) rather than defining some companies as family managed and others as not.

Listed versus non-listed companies

The working paper by Reynaud and Degorre (2007) that examines the workforce reduction and firm performance on French companies in the period 1994-2000 is as far as we know the first to study the relationship between listed and non-listed companies. They used a database of every French company with sales turnover above 530,000 Euro and at least 20 employees. This covers 500,000 companies and 80% of the employees. After elimination they ended up with examining 13,615 non-listed companies and 222 listed companies. In their research they found that the downsizing decision is made at different stages of firms' performance downturn. Listed companies downsize before being close to bankruptcy, while non-listed firms use downsizing as a last strategy before bankruptcy. Shareholders for listed companies urge this decision due to financial objectives.

Agency and stewardship theory

The two previous mentioned articles that look at the relationship between downsizing and ownership structure both use agency and stewardship theory as one possible explanation of their findings. Agency theory focuses on the conflicting interest between the principal (i.e. the owner) and the agent (i.e. the manager). A manager with neither shares in the company nor any family

connection with the owners may face conflicting goals or often pursue his own goals. Even though some researchers have shown that agency problems can exist in family firms (e.g. Gomez-Mejia et al., 2001; Schulze et al., 2001), the main view, due to early research, is that family owners and family managers generally will behave as stewards, since agency cost (e.g. conflicting interest) are minimized as a results of family involvement in both ownership and management (J.J. Chrisman et al.: 2007).

Miller, Le Breton-Miller and Scholnick (2008) point out that family owned businesses cares deeply about the long-term prospects of the business, mainly because of their family's fortune, reputation and future are at stake. In this case the family owned business might have a conflict of interest when it comes to for example downsizing. A family owned business might lose a good reputation as an employer to important stakeholders (e.g. employees, community, customers etc.) when they lay off employees. And this negative experience will not only affect the company but also the family name due to the family involvement. On the other hand, if the company do not downsize, hence reduce costs or decreases a potential loss, both the family fortune and future are at stake since no one can afford losing money in the long run.

A family fortune may often be measured in social capital and not always in the amount of money. Families owning large business, for example cornerstone companies, will have a great opportunity to derive social capital. In addition the family executive will have this opportunity (Gomez-Mejia et al., 2007). This social capital could be an important achievement and goal for the family owners and may explain our findings regarding downsizing, since a goal for the family owners may be the desire to continue being a good and stable employer that will not downsize even when the economy faces a downturn.

There is no requirement that family firms, compared with public firms, pursue solely economic goals such as maximizing profit or firm value (Chua, Chrisman and Bergiel 2009). Hence managers in family firms may have broader and more complex goals of achievements. Second family firms have often a more complex

relationship between the owners and managers, and third the family's visions are pursued across generations. The achievement of social capital could be one non-financial goal, and may explain why performance from managers, both from the family and outside, in family owned companies could be evaluated different than other companies. Hence, when it comes to downsizing we should expect to find different results comparing family owned firms with other non-family owned firms due to the differences in strategies and evaluation of performance. It could be easier for a family business owner to lose capital alone than to lose family reputation (e.g. social capital) (Gomez-Mejia et al., 2007).

A study done by Miller, Le Breton-Miller and Scholnick (2008) takes its attention to some very important points regarding family owned business that may have considerable value for our research of downsizing in family firms. This article states that family owned businesses and family management are often described to have the ability to demonstrate more stewardship for their employees. These companies show stewardship by investing more in training of the employees, gives the employees broader jobs and more responsibilities in addition to their ability to create a flexible and inclusive culture. These aspects of stewardship makes their employees more motivated for staying longer in their businesses and for that reason the family owned business harvest from longer duration of their employees. From this article we would believe that family owned business would be less willing to lay off employees due to their substantial investment in the employees "education" through stewardship management.

Hypotheses

To answer the economic questions above we have stated six corresponding hypotheses. As recommended in the working paper by Block (2008) we have made the distinction between family ownership and family management, a distinction not made by others such as Stavrou, Kassinis and Filotheou (2007). We can then formulate four hypotheses we can test to explore the different relationships. We look at both the likelihood and size of job cuts:

Hypothesis 1:

The likelihood of workforce decrease is negatively correlated with the extent of family ownership.

Hypothesis 2:

The degree of workforce decrease is negatively correlated with the extent of family ownership.

Hypothesis 3:

The likelihood of workforce decrease is negatively correlated with family management.

Hypothesis 4:

The degree of workforce decrease is negatively correlated with family management.

Following our earlier discussion, we need another two hypotheses regarding the listing status of the companies. Reynaud and Degorre (2007) find that listed companies downsize earlier than non-listed companies, hence the suggestion of positive correlation in hypothesis 5. On the other hand, non-listed companies are found to often be downsizing when close to bankruptcy. This in turn will likely influence the size of the job cuts. But we choose to formulate hypothesis 6 as two-sided.

Hypothesis 5:

The likelihood of workforce decrease is positively correlated with the company being listed.

Hypothesis 6:

The degree of workforce decrease is dependent on the listing status of the company.

Methodology and data

The data we have used in our study have been obtained from the database created by the Centre for Corporate Governance Research (CCGR) at the Norwegian School of Management BI. Today they can present, after a couple of years of work, both ownership- and management-structure; hence this makes it possible to conduct a study on all Norwegian firms with annual data from the period 1994 to 2006. Accounting data, such as company-sales, -assets and -payroll data is available from companies' annual reports from the Brønnøysund Register Center. Employment data comes from the Norwegian Labour and Welfare Administration.

One important aspect in this study is the family definition used to construct the database. In the CCGR database the information about relationships between two individuals, such as parent, grandparent, grand grandparent, grand grand grandparent and marriage has been used to construct 18 different family relations. For example sisters, cousins, uncle, aunt, nephew and niece. A single individual is regarded as a family consisting of one person if there are no relatives in the firm. As is clear, we have data on both family ownership and family management. Thus, we are able to make the same division as successfully employed in the Block discussion paper (2008).

In our study we are looking at the years 2000 to 2004, since the data set we have used did not contain complete employment data after 2004, and before 2000 we did not have any data on family management and family ownership. Another limitation we have incorporated is the exclusion of companies with ten or less employees only in our analysis. There are at least two reasons to do this. The main reason is that for companies with very few employees the effects of small changes, e.g. downsizing from three to two, gives a large percentage change that

is very likely to be different in nature than a similar percentage decrease for a larger firm. Furthermore, in many cases companies that have reported one or no employees are holding companies and other company structures that do not naturally belong in our study.

The procedure we have chosen to test the effects of the independent variables on the probability of downsizing is relatively similar to that of Block (2008), as we estimate a logit regression where the dependent variable is a dummy that equals one if the company has downsized during the preceding year and zero if the number of employees is unchanged or has increased. When we look at the degree of downsizing we perform panel regressions using random effects GLS. The percentage change in employees from the previous year is used as dependent variable as we want to study the degree of downsizing.

Since we want to avoid any endogeneity problems that may occur, and to present stronger evidence of causality, the relevant independent variables are lagged by one year. This in turn makes the sample period one year shorter, and in the analysis the years 2001 to 2004 are included in the regressions.

Independent variables

This section gives a description of the variables we have chosen to include in our regressions. One of our main contributions is as explained above the study of non-listed companies in addition to listed companies. We have used a dummy variable to capture this difference, *Listed on OSE*, which equals one if the company is listed and zero otherwise. Then we have several variables related to the family firm dimensions; family management and family ownership. Variables related to family management are the dummy variables *Largest family has CEO* and *Largest family has chair*, in addition to *Largest family number of board seats* and *Number of families*. The latter being the number of families owning a share in the company. Family ownership is represented by only one variable, *Ultimate family ownership*. This is the share of the company owned by families, both through direct holdings and through other companies. The reason why only one family

ownership variable is included is to avoid multicollinearity, since the different family ownership variables were highly correlated.

The remaining variables are control variables, year dummies and industry dummies. *Change in sales* is percentage change in company sales from last year. *Personnel intensity* is number of employees divided by total assets and multiplied by 1,000,000 to avoid very small numbers. *Firm size* is the log of the firm's total assets.

In addition to year dummies we have included dummies for the Norwegian NACE industry codes. Due to singular matrix problems in the estimation, industry codes containing too few companies were placed in category Z, represented by a zero on the other industry dummies. Table 1 shows the industry codes we have included in the regressions.

Table 1: NACE industry codes

B	<i>Fishing</i>
D	<i>Manufacturing</i>
F	<i>Construction</i>
G	<i>Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods</i>
H	<i>Hotels and restaurants</i>
I	<i>Transport, storage and communication</i>
J	<i>Financial intermediation</i>
K	<i>Real estate, renting and business activities</i>
N	<i>Health and social work</i>
O	<i>Other community, social and personal service activities</i>
Z	<i>Unknown</i>

-
- In our regressions we have not included data on ROA and leverage. Including these variables could be a possible improvement.
-

Construction of a proxy variable

During our work we have attempted to overcome the problems with missing employment data, especially in the years 2005 and 2006 in our data set. Using the variables above as well as payroll data and other relevant variables, a proxy variable for the number of employees was constructed. However, it did not lead to any significant improvements. And since the share of missing values for number of employees for the years 1999-2004 is below 10 % we chose to keep the original data only.

Analysis

In this section we present the regression results from the testing of our hypotheses. We will start by looking at the probability of downsizing, followed by the degree of downsizing. Then we will show the results of a robustness test as described above, including smaller companies to see if this changes the results significantly.

Probability of downsizing

The results of the logit regression can be seen in table 2 below. As can be seen, hypothesis 1 is supported, as ultimate family ownership has a very significant negative impact on the likelihood of downsizing. It is not equally clear when it comes to hypothesis 3, as we have chosen to include four different parameters to describe family management. However, two of the four are highly significant and with the negative signs as we expected. Thus we arrive at the conclusion that hypothesis 3 is supported. We do not find support for hypothesis 5 concerning listing status, as the dummy variable for listing status is not found to be significant on the 5 %-level. It even has the opposite sign to what we expected. Both *personnel intensity* and *firm size* seem to have highly significant positive impact on the probability of downsizing.

Table 2: Logit regression

Dependent variable: decrease in workforce for companies with >10 employees

Variables	β (SE)	
Listed on OSE	-0.306 (0.177)	*
Largest family has CEO ^a	-0.113 (0.025)	***
Largest family has chair ^a	0.007 (0.026)	
Largest family number of board seats ^a	-0.074 (0.015)	***
Number of families ^a	0.007 (0.004)	*
Ultimate family ownership ^a	-0.002 (0.000)	***
Change in sales ^a	0.000 (0.000)	*
Personnel intensity ^a	0.030 (0.002)	***
Firm size ^a	0.244 (0.011)	***
Year dummy: 2001	-0.012 (0.032)	
Year dummy: 2002	0.072 (0.032)	**
Year dummy: 2003	0.138 (0.031)	***
Industry dummy: B	-0.647 (0.110)	***
Industry dummy: D	0.219 (0.041)	***
Industry dummy: F	-0.092 (0.045)	**
Industry dummy: G	-0.094 (0.039)	**
Industry dummy: H	0.218 (0.054)	***
Industry dummy: I	-0.089 (0.062)	
Industry dummy: J	-0.614 (0.298)	**
Industry dummy: K	0.103 (0.048)	**
Industry dummy: N	-0.370 (0.113)	***
Industry dummy: O	-0.065 (0.079)	
Number of observations included	41 602	
Number of downsizing observations	11 264	
McFadden R ²	0.02	

^a Observations are lagged one year.

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

Table 2: Effects of listing status, family management and family ownership on the probability of downsizing.

Our findings on downsizing probability were much in line with what we expected, although the listing status did not turn out to have any significant influence on the likelihood of downsizing. Compared to the paper by Block (2008), we observe the same signs on the coefficients for family management, family ownership, personnel intensity and firm size. The only difference being that our regression coefficient for family ownership is statistically significant, that was not the case in the Block paper.

Degree of downsizing

The results from our random effects GLS regressions, exploring the degree of downsizing, can be seen below in table 3. The first column includes all observations of the dependent variable, whereas the next column results from a regression including only positive observations, and the third column is obtained by running a regression with negative and zero change observations of the dependent variable. As we will discuss below, the low R^2 is probably indicating that there are relevant explanatory variables that are left out of the equation.

From the first column, with all observations included, it seems that we reach the opposite conclusion to that of Block when testing our hypothesis number 2. Our results show that the total change in workforce is decreasing with the extent of family ownership, whereas the Block paper reaches the opposite conclusion. Nevertheless, looking at the downsizing observations in the third column we get the same result. The findings show that family-owned firms upsize less than other firms, and this in turn contributes to the negative sign on the coefficient when all observations are included. Therefore we conclude that hypothesis 2 is supported.

Interpreting the regression results when analyzing the effects of family management on the degree of downsizing leads to less clear conclusions. We are looking at the effects of the largest family having the CEO, Chair, the number of board seats belonging to the largest family as well as the number of families in the company. We find that there is a positive effect on job growth when the chair belongs to the largest family, but no significant results of this when only downsizing is considered. The regression on downsizing only shows that significantly less job cuts can be expected when the largest family has the CEO. Another finding is that the degree of downsizing decreases with the number of board seats belonging to the largest family. These results lead us to the conclusion that hypothesis 4 is not . That is, when downsizing, firms with family management are downsizing less compared to other firms.

Table 3: Random effects GLS regressions*Dependent variable: Percentage change in workforce for companies with >10 employees*

Variables	All observations β (SE)	Only upsizing observations β (SE)	Only downsizing observations ^a β (SE)
Listed on OSE	1.795 (2.872)	3.760 (6.441)	1.063 (1.409)
Largest family has CEO ^b	-0.186 (0.362)	-1.033 (0.975)	0.505 (0.155) ***
Largest family has chair ^b	0.793 (0.381) **	2.312 (1.035) **	-0.082 (0.163)
Largest family number of board seats ^b	-0.246 (0.212)	-0.900 (0.592)	0.430 (0.090) ***
Number of families ^b	0.011 (0.065)	0.006 (0.168)	-0.033 (0.028)
Ultimate family ownership ^b	-0.015 (0.007) **	-0.060 (0.020) ***	0.014 (0.003) ***
Change in sales ^b	0.000 (0.000) ***	0.000 (0.000) **	0.000 (0.000)
Personnel intensity ^b	-0.241 (0.025) ***	-0.137 (0.078)	-0.238 (0.010) ***
Firm size ^b	-0.353 (0.165) **	-1.769 (0.431) ***	-1.277 (0.073) ***
Year dummy: 2001	0.356 (0.428)	0.893 (1.173)	-0.330 (0.176) *
Year dummy: 2002	-0.264 (0.426)	1.827 (1.195)	-0.222 (0.173)
Year dummy: 2003	-0.358 (0.419)	2.430 (1.174) **	-0.526 (0.170) ***
Industry dummy: B	2.633 (1.494) *	19.811 (4.639) ***	1.894 (0.619) ***
Industry dummy: D	-1.644 (0.600) ***	-2.569 (1.662)	-0.730 (0.253) ***
Industry dummy: F	1.822 (0.639) ***	-0.322 (1.697)	-0.136 (0.276)
Industry dummy: G	1.289 (0.561) **	2.271 (1.542)	-0.010 (0.237)
Industry dummy: H	0.904 (0.788)	10.406 (2.339) ***	-1.747 (0.329) ***
Industry dummy: I	2.957 (0.899) ***	7.370 (2.405) ***	-0.189 (0.387)
Industry dummy: J	9.845 (3.986) **	5.924 (8.055)	0.719 (2.103)
Industry dummy: K	4.136 (0.702) ***	8.113 (1.850) ***	-1.541 (0.305) ***
Industry dummy: N	7.126 (1.489) ***	8.763 (3.700) **	0.153 (0.671)
Industry dummy: O	2.936 (1.123) ***	8.018 (3.158) **	-0.330 (0.476)
Number of observations included	41 602	12 829	28 773
Number of cross-sections included	15 317	8 466	13 522
R ²	0.01	0.01	0.04

^a Observations with zero change are included.^b Observations are lagged one year.

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

Table 3: Effects of listing status, family management and family ownership on the degree of downsizing.

We did not find any significant effects of listing status on the degree of downsizing. Reasons for this may be that the listed firms were not so different from other firms of the same size, and that eventual effects are captured by the *firm size* variable. The regression results show that the degree of downsizing increases with firm size and personnel intensity, which is the same results as obtained by Block.

Robustness checks

The robustness of the results above will be examined in this section. This time we will run the regressions with all companies having more than three employees included. Then we intend to compare the results with what we obtained when only companies with more than ten employees were included.

Table 4: Logit regression

Dependent variable: decrease in workforce for companies with >3 employees

Variables	β (SE)	
Listed on OSE	0.158 (0.156)	
Largest family has CEO ^a	-0.054 (0.016)	***
Largest family has chair ^a	-0.002 (0.017)	
Largest family number of board seats ^a	-0.032 (0.010)	***
Number of families ^a	0.005 (0.003)	
Ultimate family ownership ^a	-0.003 (0.000)	***
Change in sales ^a	0.000 (0.000)	
Personnel intensity ^a	0.006 (0.001)	***
Firm size ^a	0.128 (0.006)	***
Year dummy: 2001	0.023 (0.020)	
Year dummy: 2002	0.053 (0.020)	***
Year dummy: 2003	0.078 (0.020)	***
Industry dummy: B	-0.338 (0.065)	***
Industry dummy: D	0.150 (0.028)	***
Industry dummy: F	-0.026 (0.029)	
Industry dummy: G	-0.067 (0.025)	***
Industry dummy: H	0.244 (0.036)	***
Industry dummy: I	-0.061 (0.040)	
Industry dummy: J	-0.172 (0.145)	
Industry dummy: K	0.031 (0.030)	
Industry dummy: N	-0.100 (0.057)	*
Industry dummy: O	0.070 (0.046)	
Number of observations included	117 952	
Number of downsizing observations	24 855	
McFadden R ²	0.02	

^a Observations are lagged one year.

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

Table 4: Effects of listing status, family management and family ownership on the probability of downsizing when all companies with above 3 employees are included.

Table 4 shows, except for the industry dummies, that the variables found to be significant in table 2 continued to be significant and with the same sign when the smaller companies were included. The coefficients are not directly comparable since the means have changed.

Table 5 shows the regression results when degree of downsizing is estimated including all companies with more than three employees. In this case more significant changes occur. As can be seen from the tables, ultimate family ownership is now only found to be significant when only downsizing observations are included. But hypothesis 2 is still supported. The four variables capturing family management have also changed to some degree. *Largest family has CEO* and *largest family number of board seats* have marginal changes in the coefficient. *Largest family has chair* is no longer significant, whereas *number of families* have a significant positive contribution to job growth when the smallest companies are included.

Table 5: Random effects GLS regressions*Dependent variable: Percentage change in workforce for companies with >3 employees*

Variables	All observations β (SE)	Only upsizing observations β (SE)	Only downsizing observations ^a β (SE)
Listed on OSE	-3.183 (4.515)	5.406 (11.981)	-0.517 (1.330)
Largest family has CEO ^b	-0.456 (0.361)	-1.635 (1.186)	0.462 (4.575) ***
Largest family has chair ^b	0.066 (0.394)	0.777 (1.290)	0.085 (0.110)
Largest family number of board seats ^b	-0.532 (0.234) **	-2.336 (0.791) ***	0.375 (0.061) ***
Number of families ^b	0.234 (0.077) ***	0.292 (0.229)	-0.029 (0.023)
Ultimate family ownership ^b	0.004 (0.008)	-0.051 (0.027) *	0.017 (0.002) ***
Change in sales ^b	0.000 (0.000)	0.000 (0.000) **	0.000 (0.000)
Personnel intensity ^b	0.148 (0.008) ***	0.208 (0.018) ***	-0.285 (0.006) ***
Firm size ^b	0.081 (0.156)	-5.349 (0.498) ***	-1.243 (0.044) ***
Year dummy: 2001	1.301 (0.338) ***	2.728 (1.144) **	-0.406 (0.111) ***
Year dummy: 2002	-0.022 (0.332)	2.905 (1.145) **	-0.489 (0.109) ***
Year dummy: 2003	-0.950 (0.332) ***	-0.047 (1.113)	-0.563 (0.107) ***
Industry dummy: B	4.121 (1.535) ***	35.273 (5.912) ***	1.707 (0.390) ***
Industry dummy: D	-1.945 (0.664) ***	-5.801 (2.232) ***	-0.747 (0.182) ***
Industry dummy: F	1.799 (0.666) ***	-4.225 (2.129) **	-0.182 (0.184)
Industry dummy: G	0.234 (0.548)	-0.507 (1.874)	0.036 (0.154)
Industry dummy: H	-0.711 (0.890)	14.460 (3.134) ***	-2.131 (0.233) ***
Industry dummy: I	1.187 (0.938)	0.847 (3.078)	-0.036 (0.251)
Industry dummy: J	5.089 (3.415)	-1.729 (9.658)	0.020 (0.970)
Industry dummy: K	1.992 (0.687) ***	0.138 (2.242)	-0.900 (0.189) ***
Industry dummy: N	2.313 (1.351) *	0.237 (4.505)	0.420 (0.351)
Industry dummy: O	4.585 (1.112) ***	15.416 (3.717) ***	-0.567 (0.291) *
Number of observations included	117 952	28 339	89 613
Number of cross-sections included	41 315	19 815	38 150
R ²	0.00	0.02	0.04

^aObservations with zero change are included.^bObservations are lagged one year.

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

Table 5: Effects of listing status, family management and family ownership on the degree of downsizing when all companies with above 3 employees are included.

The conclusion of the robustness testing is that the regression results presented in table 2 and 3 were relatively robust, including the smaller companies with more than three employees did not lead to any change in the conclusions. Hypothesis 1 to 4 is still supported, and we still find no support for hypothesis 5 and 6 concerning listing status.

Discussion and conclusion

Our study explores the difference in the likelihood for downsizing in Norwegian family-managed and family-owned firms compared to other firms, as well as investigate differences in the number of people that are laid off when the decision is eventually made. We also look at the impact of companies' listing status on downsizing decisions. Previous research has concentrated on listed and mainly US companies, whereas we focus on Norway and include all limited liability companies. Our study includes data from the years 2000 to 2004.

We have made the same distinction between family-managed and family-owned companies as introduced in the discussion paper by Jörn Hendrich Block (2008). Studying the probability and degree of downsizing using logit and panel regressions, respectively, we found significant results supporting our hypotheses. Starting with the probability of downsizing, we found that both family management and family ownership led to significantly lower probability of downsizing. We used four different explanatory variables to represent family management. The variables *largest family has CEO* and *largest family number of board seats* gave significant results for both probability and degree of downsizing. Listing status, on the other hand, did not turn out to have any significant impact. Continuing with the degree of downsizing, the results show that both family management and family ownership were found to give a significantly lower degree of downsizing. Again, listing status was not found to have any significant effect.

Comparing our results to the Block (2008) paper, he finds no significant decrease in probability of downsizing for family ownership, only for family-managed firms. We find significant decrease in downsizing probability for both dimensions. As for degree of downsizing, Block finds that the degree of downsizing is positively influenced by family management and negatively influenced by family ownership. We find that both family management and family ownership decrease the degree of downsizing.

Block (2008) relates his finding to stewardship theory. Family managers acts as stewards with long-term view, they stay in the job for a longer period, the firm is a part of their family identity and the goal is to pass it on to the next generation. Due to their safe position as a family manager, they have no need for signaling in order to increase operating efficiency or profitability. Finally family managers are more likely to be emotionally attached to their firm and their employees.

In addition to the above mentioned explanation from Block (2008) we believe that family firms downsize less due their differences in evaluation of performance compared to non-family firms. There is no requirement that family firms, compared with public firms, pursue solely economic goals such as maximizing profit or firm value (Chua, Chrisman and Bergiel, 2009). Often achieving social capital could be a goal for the family that owns the firm. Of this reason it could be easier for a family business owner to lose capital alone than to lose family reputation (e.g. social capital). Another important point is that family firms invest more in their employees than other firms (e.g. training, broader jobs and more responsibility). We believe that family owned businesses would be less willing to lay off employees due to their substantial investment in the employees' "education" through stewardship management, and this could explain our findings.

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