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Ownership Structure and Firm Performance in Sweden

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Authors: Linus Åhman and Oskar Brantås
Supervisor: Moursli Mohamed-Reda
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Linus Åhman and Oskar Brantås

Abstract:

The aim of this thesis is to investigate the relation between ownership structure and firm performance. The research is based on publicly traded firms listed on the Stockholm stock exchange OMX30, during the time period 2006-2011. Our study is based on panel data of 225 firms, with approximately 1 observation per year. Firstly, we measure the performance of family controlled and non-family controlled firms by using both Tobin's Q and ROA as measurement for firm performance. Further, we estimate the possible impact a family member has on the firm performance when operating as either the CEO or Chairman of the board, in family controlled firms. Accordingly, we find that family-controlled firms perform worse, compared to firms that are not family-controlled. We also find a statistically significant negative relationship when a family member operates as the Chairman of the board.

Keywords: Firm performance, Family-controlled firm, Agency Costs, Active-Owner, Dual-Class-Shares, Voting Rights.

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1. Introduction

The optimal ownership structure for a firm has been widely discussed since Berle and Means (1932) released their paper on how the modern corporation separates ownership and control. A natural question follows; why is a certain type of ownership structure more preferable in different countries? Oreland (2007) indicates that the difference in firm performance is due to which extent different corporate control instruments are used in the given country. Sweden is characterized by a concentrated ownership and ranks first in the use of different corporate control instruments, which makes Sweden an interesting country to investigate the possible impacts family-owned firms has on firm performance (La Porta et al., 1999 and Morck et al 2005 and Holmén and Knopf 2004).

In this paper, we examine the impact different ownership structures have on firm performance, by using Tobin's Q and ROA as measurement. Our sample consists of 225 firms, listed on the Stockholm Stock Exchange OMX30. Furthermore, we estimate the effects a family member has on the firm's performance, when operating as either the CEO, or Chairman of the board. The purpose of this paper is to investigate if a specific type of firm, i.e. family controlled or non-family controlled firm is more preferable than the other, in terms of performance. Our research is mainly approached to individuals that owns a firm and to others students that are interested in further studies in this topic.

2. Literature review

When studying firm performance and family control, a good start is to define what a family controlled firm is. Holmén and Knopf (2004) examine Swedish listed firms and argue that if an individual or group of individual's control 25% or more of the votes, they are considered to be in operational control of a firm. Cronqvist and Nilsson (2003) and Oreland (2007) also examine Swedish listed firms and define, similarly with Holmén and Knopf (2004) an owner to be in operational control of the firm if he controls more than 25% of the firm's votes. However, La Porta et al. (1999) examine the 27 richest countries in the world and use a 20% cut-off level of control for an individual to be in operational control of the firm.

Firms that are controlled by an individual or a family are common in several countries, where Sweden is characterized by a concentrated ownership structure (La Porta et al., 1999 and Morck et al 2005). In order to obtain control of a firm, different corporate control instruments are used. Dual-class shares, pyramidal structures, cross-shareholdings and preemption are common types of control instruments. Countries where a high degree of corporate control instruments are used become a good object for studies about firm performance and family control, due to the variety of family firms and non-family firms. Holmén and Knopf (2004) find that Sweden ranks first in the use of dual-class shares, second in the frequency of pyramidal ownership and third in the frequency of cross-shareholdings. When approaching firms that use pyramidal structures Oreland (2007), as well as Cronqvist and Nilsson (2003) use the ultimate owner approach; the largest shareholder of the main company is considered to be the controlling owner. In order to conclude how different levels of voting rights might affect firm performance, Oreland (2007) constructs a robustness test. He tests Tobin's Q for family-owned firms that controls 25% of the voting rights and compares the results to family-owned firms that controls 50% of the voting rights controls. Moreover, he concludes that it is hard to draw any conclusion if it is positive or negative when a family controls 50% or more of the voting rights in terms of firm's performance.

2.1 Firm Performance and Family Control

Previous literature comes with different results regarding firm performance, which can depend on the way one defines and measures firm performance. A common way is by using Tobin's Q or ROA as dependent variable; the former is a measure of the market valuation of a firm, while the latter is an accounting measure. Oreland (2007) examines firms listed on the Stockholm stock exchange, from year 1985 to 2000. He measures firm performance by using Tobin's Q and finds that family-owned firm's exhibit worse firm performance compared to firms that are non-family owned. Moreover, he concludes that part of the poor performance in family controlled firms is due to the family's control over the CEO position, where the heirs of the founders lack of management skills results in poor performance. This type of managerial conflict that occurs in corporations is commonly known as agency costs. Anderson and Reeb (2003) examine U.S. firms listed on S&P 500, from year 1992 to 1999. They conclude that family controlled firms perform better than firms that are not family-owned, both with Tobin's Q and ROA as measurement for firm performance. Moreover, they find that the relationship between firm performance and family ownership is nonlinear; when the family's control of the firm increases, the probability for entrenchment and poor performance is the greatest. Furthermore, they find that firms with a family member operating as the CEO performs better, measured by ROA. However, when measured by Tobin's Q, they find a positive firm performance only when the founder serves as CEO, alternatively a non-family member; descendants of the founder serving as CEO have no effect on market performance. They conclude that the greater performance family-owned firms are associated with are due to the valuable knowledge and understandings family members has one the firm.

Roe (2002) examine managerial alignments in different countries, primary in the EU and US and the corporate law in the given nations. He divides, similarly with Oreland (2007) agency costs into two groups -costs of mismanagement and costs of private benefits. Oreland (2007) concludes that family controlled firms are more associated with costs of mismanagement, while firms with dispersed ownership are more associated with costs of private benefits of control. Furthermore, he finds that the primary part of family controlled firms poor performance is due to the family's control of the CEO-positions. The main reason for the costs in family firms is when heirs are

taking influential positions in the family firm and make unqualified decisions that are associated with costs of mismanagement. Bebchuk et al (2000) examine firms in nations with common corporate control instruments and analyze the consequences and potential agency costs of the control instruments. They find similar results as Oreland (2007) and show that the use of different controlling instruments, such as pyramids, cross-holdings and dual-class shares increase the potential for private benefits of control. Moreover, Fama and Jensen (1983) examine separation of ownership and control. They find that combining ownership and control creates opportunities for a large shareholder to take decisions that expropriate minority shareholders. (La Porta et al., 1999, Faccio and Lang, 2002, and Morck et al., 2005) find similar results and indicate that the high degree of different corporate control instruments in Sweden and the expropriation of minority shareholders are due to the minority shareholders small part of the firm's' expenses.

Cronqvist and Nilsson (2003) examine the effects family control has on the market valuation of the firm, by studying firms listed on the Stockholm Stock exchange from year 1991 to 1997. They find a negative association between family ownership and Tobin's Q in firms using dual-class-shares, where the estimated agency costs of controlling shareholders are 6-25% of firm value. Furthermore, they show that firms using dual-class-shares have fewer incentives in value-maximizing strategies, compared to firms that only provide A-shares. They conclude that firms with a concentrated ownership is associated with a significant decrease in Tobin's Q, where family controlled firms are associated with the largest discount on firm value, compared to all other controlling owner categories. Hence, they interpret these results as evidence that agency costs are larger for controlling minority shareholders. However, Demsetz and Lehn (1985) examine the structure of corporate ownership and how it varies in terms of value maximization. They find that family influence can provide competitive advantages and they conclude that concentrated investors have economic incentives to decrease the agency conflicts and maximize firm value.

3. Hypothesis

Swedish listed firms are characterized by a high degree of concentrated ownership, which results in many family owned firms. Due to the high rankings in use of different corporate control instruments, families can entrench the control over their firms. Large shareholders obtain a substantially larger control right, relative to the control rights provided by the ownership in the case of the absence of dual-class shares and other corporate control instruments. As documented by Cronqvist and Nilsson (2003), family controlled firms are associated with the largest discount on firm value, compared to all controlling owner categories. Furthermore, they find evidence of agency costs in firms with a controlling minority shareholder. The potential expropriation of minority shareholders that is common in Swedish family owned firms (La Porta et al., 1999, Faccio and Lang, 2002, and Morck et al., 2005), can lead to further entrenchment of the firm for the controlling owner, and hence increase the costs of mismanagement. We hypothesize that firms that are not family-controlled perform better than family-controlled firms.

Hypothesis 1: Non-family owned firms *outperform* family-controlled firms.

The most influential positions for a firm's decision making and strategies are the CEO and Chairman Posts. As documented by Demsetz and Lehn (1985) family influence can provide competitive advantages and concentrated investors have economic incentives to decrease the agency conflicts and maximize firm value. However, Swedish listed firms with a family member as CEO perform worse, compared to firms with a non-family CEO (Oreland 2007). The main cause of the bad firm performance is due to costs of mismanagement. We hypothesize that if a family member get more influence in the firm, by being appointed as the CEO or Chairman, the costs of mismanagement will be greater.

Hypothesis 2: Non-family owned firms *outperform* family controlled firms with a family member as CEO or Chairman of the board.

4. Sample Construction and Data Description

Our sample consists of 224 firms listed on the Stockholm stock exchange, with a total of 1238 observations. We use yearly data from year 2006 to 2011. We construct our sample by merging two different datasets into one. The first includes ownership data, as name of the largest owner and the voting rights of the largest owner; it consists of 225 firms and 2026 observations from 2005-2013. The second dataset includes board data as age, board size and employee directors of 255 firms and 1294 observations from 2006-2011[1]. Data on firm performance and accounting data have been retrieved from Thomson Reuters DataStream.

4.1 Firm Performance

We use the simplified Tobin's Q formula by Chung & Pruitt (1994), which is commonly used as a measure of firm performance. This approximation is very close to the more theoretical and complicated Tobin's Q formula developed by James Tobin in 1967. Tobin's Q is defined as the ratio between the firm's market value to its book value. Tobin's Q serves as a proxy to firm performance; we are therefore able to test if there is any difference in the valuation between family-controlled firms and firms with dispersed ownership. We use the natural logarithm of Tobin's Q, in order to get a normal distribution of the values and to remove outliers. Table 1, panel A provides summary statistics for the firm performance data. There are 1,214 observations in the sample, with values of Tobin's Q, including a mean of 1.963 and standard deviation of 2.038. Most of the firms in the sample are therefore overvalued. A Tobin's Q value higher than 1 implies that a firm's stocks are more expensive than the replacement cost of its assets.

Similar to Anderson and Reeb (2003), we also include Return on Assets (ROA), which is the ratio between the net income and the total assets. ROA displays how efficient the management uses their assets to generate earnings. The summary statistics of ROA are presented in appendix table 1 panel A. There are 1,228 observations in the sample, with a mean value of 1.045 and standard deviation of 0.173. We use the natural log of ROA in our regressions.

[1] Ownership structure data is hand collected from Sundqvist and Sundins Ägarna och makten (2006-2009), SIS Ägarservice and from corporate governance reports (annual reports). Board data is collected from Fristedt and Sundqvist Styrelser och revisorer i Sveriges börsföretag (2006-2009), SIS Ägarservice.

4.2 Control variables and Tobin's Q and ROA by Industry

We include several control variables, in order to control for industry and firm characteristics. First, we include firm size as a control variable; it is defined as the book value of total assets, and is calculated as the natural logarithm of total asset. Second, we include leverage; a high level of debt can prevent managers from investing in negative net-present-value projects, which has an impact on Tobin's Q and ROA (Jensen 1986). Leverage is measured as the book value of long-term debt divided by the book value of total assets. Finally, we include several board structure variables. The first board structure variable is board age, which is defined as the yearly average age of the people on the board. We also include board size, which is defined as the number of people sitting on the board. Earlier literature as (Yermack 1996) have found on the US market that small boards of directors are more effective, using Tobin's Q as firm performance. Board size are therefore of interest to examine. Employee-elected directors are included and are defined as the number of directors sitting in the board that are elected by the employees. The summary statistics for the control variables are presented in appendix table 1 panel B. The firm size variable has a total of 1,234 observations, a mean value of 14.669 and standard deviation of 2.259. The leverage variable has 1,101 observations and a mean of 33.257 and standard deviation of 23.141. The board size variable has 1,238 observations, a mean of 7.799 and a standard deviation of 2.213. The board age variable has 1,109 observations and a mean of 54.630 with a standard deviation of 3.743. The employee director variable has 1,109 observations, a mean value of 0.096 and a standard deviation of 0.116.

Firms in different industries sustain of different capital structures in the matter of investments required. Titman & Wessels (1998) conclude that some industries are more capital-intense compared to others, therefore Tobin's Q can differ among industries. We include 10 industry variables based on the firm's ICB Code[2]. In appendix table 1 panel C we present the mean values of Tobin's Q and ROA by industry. The industries have different mean values, the healthcare industry consist of 28 firms and 136 observations, and have the highest Tobin's Q value of 3.507.

[2] ICB CODE represents an industry code within the Industrial Classification Benchmark (ICB)

The utilities industry has a mean Tobin's Q of 1.010. In the utilities industry, we only have 2 observations. The financial industry consists of 40 firms and 227 observations, with a mean value of 1.113 measured with Tobin's Q. The mean values of ROA in the oil & gas industry consisting of 10 observations and 2 firms, and healthcare industry consisting of 137 observations and 28 firms, have a mean smaller than 1. The consumer services industry consists of 113 observations and 21 firms, and has the largest mean value of 1.1.

4.3 Description of controlling owner categories and family CEO and Chairman

We consider a firm to be family owned, if an individual or a group of family members control 25% or more of the firm's voting rights, similar to Holmen and Knopf (2004), Oreland (2007) and Cronqvist and Nilsson (2003). In the case of pyramidal structures and investment companies, we use the ultimate owner approach. When a shareholder holds 25% or more of the voting rights in the controlling firm, we consider the affiliated company to be family-owned as well. For example, Melker Schörling is sole owner of MSAB which in turn is sole owner of BNS Holding AB. BNS Holding AB controls 35% of the voting rights in Aarhuskarlshamn. Since we use the cut-off level for control 25% of the voting rights, we consider Aarhuskarlshamn as a family controlled firm, where Melker Schörling is the owner. Our sample consists of 1238 firms where 554 of them are family controlled. Furthermore, we control for firms controlled by an individual or a group of family members that controls 50% or more of the voting rights where the same logic follows for the ultimate owner approach. Our sample shows that of 1238 firms, 247 are family controlled. Of 1238 firms, 637 provide dual-class shares (A-shares and B-shares); where only 601 provide B-shares. The ownership data are collected in the book series *Owners and Power in Sweden's listed Companies* by Sundqvist and Sundin (2006-2009).[3]

In order to control for possible impacts on firm performance from a family member as CEO or family member as Chairman of the firm, we categorize the family-controlled firms as either active family controlled or not. We categorize family members serving as the CEO or Chairman of the

[3] In the book series *Owners and Power in Sweden's listed Companies* by Sundqvist and Sundin (2006-2009), they present detailed data about both equity and voting rights with an additional feature of firms with shares held by family members.

firm similar to Maury (2005), who considers a firm to be active family controlled if a family member holds the CEO, Honorary Chairman, Chairman or vice position. Furthermore, we include CEO-status and Chairman-Status as independent variables in order to examine their possible effects on firm performance[4]. When using 25% as cut-off level of control for the voting rights, where 554 firms are family owned, there are 129 firms with a family member as CEO, 220 firms with a family member as Chairman and 328 firms with an active owner. When using 50% as cut-off level of control for the voting rights, where 554 firms are family owned, there are 78 firms with a family member as CEO, 113 firms with a family member as Chairman and 175 firms with an active owner.

5. Methodology

5.1 The relationship between firm performance and family control

In order to examine the relationship between firm performance and ownership structure, we perform multiple regression models and estimate the following model: "Ordinary Least-Squares" (OLS). Similar to Cronqvist and Nilsson (2003), we test the effects of a controlling owner by using dummy variables. We include 5 independent variables, as well as seven control variables. The regression model we use in our multivariate analysis is shown below.

1. OLS fixed effects regression model:

$$Y_{it}=\beta_0+\beta_1 X1_{it}+\beta_2 X2+\beta_3 Z_{it}+\alpha_i+u_{it},\ t= 1,2,3,4,5,6$$

2. Pooled OLS Regression model:

$$Y=\beta_0+\beta_1 X+\beta_2 Z+\varepsilon$$

[4] Board and director data is hand-collected and provided by Moursli Mohamed-Reda

In the OLS fixed effect regression the dependent variable Tobin's Q and ROA are denoted as Y. The constant is B0 and our variable of primary interest, ownership structure is denoted as X_1. In hypothesis 2 the CEO-status, Chairman-status and active owner are included as variable of interest and are denoted as X_2. Furthermore, we include seven control variables in the model: Firm size, dual-class share, leverage, board age, employee director, Tobin's Q_{t-1} and ROA_{t-1}. The control variables are denoted with Z. The error terms are divided into two different terms, "$\boldsymbol{a_i}$" that not change over time and "$\boldsymbol{u_{it}}$" that does change over time. The "i" variable stands for the firm and "t" is the time period. In the pooled OLS regression the dependent variables, the variables of main interest and the control variables denotes the same. The industry variables are also included as control variables in the pooled OLS regression.

5.2 Panel data and Fixed effect model

In our study, we transform our data to panel-data, in order to test for fixed effects or random effects. Panel-data is preferable in our regression as it can manage multiple observations over multiple periods in time, unlike time-series- or cross-sectional data. Furthermore, we perform a Hausman-test, for the regressions regarding hypothesis 1, in order to investigate if fixed effects or random effects are preferable. We find that the fixed effect is the most consistent model. Moreover, we also perform a Hausman-test for the regressions regarding hypothesis 2 and find that the fixed effect is the most consistent model. Fixed effects are included in earlier studies as Cronqvist and Nilsson (2003) and Himmelberg et al. (1999). The purpose of using fixed effects is to capture possible unobserved firm heterogeneity that is both consistent over time, and related to Tobin's Q and ROA.

5.3 Endogeneity

One of the problems when studying the relationship between firm performance and ownership structures are the endogeneity problem. The problem can arise due to several reasons, for example, if there is an omitted variable affecting both firm performance and the ownership structure variables. In order to attempt the endogeneity problem of omitted variables, Oreland (2007) and Anderson and Reeb (2003) use the fixed-effect model in their regression. The endogeneity problem of omitted variables can partly be mitigated due to the use of panel data, pointed out by Bøhren and Strøm (2010) The fixed effect model can partly also mitigate the endogeneity problem due to omitted variable bias (Wooldridge, 2014).

A second concern is reverse causality, which means that the dependent variable, firm performance might affect the independent variable, ownership structure. The reverse causality causes the interpretation of the direction of causality to be misleading. In order to handle this issue, we include the past performance of Tobin's Q and ROA as independent variables, similar to Bøhren and Strøm (2010). This enables us to analyze the past performance to the current performance and hence make conclusions of persistence.

5.4 Robustness

Similar to Oreland (2007), we use both a 25% cut-off level for the voting rights as well as a 50% cut-off level for the voting rights, to determine if different levels of voting rights affect firm performance, i.e. do different levels of family control affect firm performance. In order to decide if robust standard errors are critical to use in the regression, we perform a Breush-Pagan test (1979).[5] Since the test result is heteroscedastic for specification model 1, we use robust standard errors for both Tobin's Q and ROA, as well as for the two types of ownership-structures. We perform the same test for specification covering hypothesis 2, and get the same results.

[5] The Breush-Pagan test controls for linear form of heteroscedasticity

5.5 Industry

To control for industries we will run a linear OLS regression and interpret if the different industry groups have a significant relation to Tobin's Q and ROA. We are aware of the possible endogeneity problem and the violation of Gauss-Markov assumption of homoscedasticity that the standard deviation of the error terms are constant and do not depend on the x-value. Therefore the results should be taken with caution.

5.6 Multicollinearity

To control for multicollinearity, we construct a correlation matrix that includes all the independent variables. The model shows the pairwise correlation between the different variables. The result from the correlation matrix are presented in the appendix table 4 the correlations of interest are the 0.659 correlation between the variable firm size and board size, the variable board size are also highly correlated by 0.680 with employee director and the variable are therefore not included in the same regressions. The rather high correlation of 0.560 between ownership structure at the 25% level and ownership structure at the 50% level, are of no concern because the two variables not are included in the same regressions. The same logic follows for the rather high correlation between active-owner and CEO-status of 0.51 and chairman-status of 0.76.

6. Empirical Results

6.1 Ownership-Structure on Tobin's Q and ROA

In this section, we present the results from the covering the first hypothesis. We perform multiple regressions models, using both Tobin's Q and ROA as measurement for firm performance. The first eight regressions are performed with Tobin's Q as dependent variable, where four of the regressions use the ownership structure variable defined by 25% of the voting rights as independent variable. The other four uses the ownership structure variable defined as 50% of the voting rights as independent variable. The last eight regressions are performed with ROA as dependent variable, and use the two different ownership structure variables, 25% and 50%, as independent variables. The regressions contain the following control variables: Firm size, leverage, dual-class shares, average board age, employee directors, lagged ROA and lagged Tobin's Q.

6.12 Ownership-Structure on Tobin's Q

In the first regression model, we test Tobin's Q against the independent variable ownership structure at the 25%-voting right level, and use firm size as a control variable. We exclude the other control variables in the first regression model in order to control for when we have none or a very small correlation between our variables. Moreover, we also exclude the other control variables in order to control for the impact change between the models. In the second regression model, the dual-class share variable is included. In the third regression model we include the one year lagged effect of Tobin's Q, the variable controls for past performance. In the fourth regression model, leverage, board age and employee directors are added to the model, the variables are included first in the last regression because of the large number of observations with missing data. The regression results are presented in appendix table 5. In Regression (1) the coefficient of the main variable of interest, ownership structure at the 25% voting rights level is not significant. However, the coefficient of firm size is significant at the 1%-level. In regression (2) there is no significance for the variable of main priority, ownership structure. The firm size

coefficient is again significant at the 1%-level, the dual-class shares is significant at the 10% level. In regression (3) the ownership structure variable is significant at the 10% level, the dual-class share variable is significant at the 5% level, and both the firm size and lagged effect of Tobin's Q are significant at the 1% level. In Regression (4) the ownership structure variable is significant at the 5% level, as well as the dual-class share variable. The firm size and lagged Tobin's Q variable are both significant at the 1% level. In regression (5) to (8) when we control for the ownership structure variable at the 50% voting rights level, none of the coefficients are significant. The firm size variable is however significant at the 1% level in all of the following regressions, as well as the past performance variable. The dual-class share variable is not significant in regression (6) but is so at the 1% level when past performance variable is included in regression (7), and at the 5% level in regression (8).

In regression (1) to (4) the ownership structure variable at the 25% voting right level has a negative coefficient; family controlled firms perform worse than non-family controlled firms, using Tobin's Q as a measurement for firm performance. However the result in regression (1) and (2) isn't reliable because of the non-significant value of the coefficient. In regression (3) where the lagged effect of the performance is included, the ownership structure coefficient has a larger negative value compared to the first two regressions; the ownership structure coefficient is also significant at the 10% level. In regression (4) where the leverage, board age and employee director's variables are included the coefficient of the ownership structure variable has the most negative value of the four regression models, while it is significant at the 5% level. Therefore, the negative impact family-controlled firms have on firm performance is more reliable in regression (3) and (4), where the result is in line with the first hypothesis, that family controlled firms perform worse than non-family controlled firms. In regression (5) to (8) when we control for the ownership structure variable at the 50% voting right level, the coefficients are positive in regression model (5) to (7), but negative in regression (8), where more control variables are included. The conclusion from regression (5) to (7) is that family-controlled firms at the 50% voting right level have a positive impact on Tobin's Q and perform better than non-family controlled firms; the result is the opposite in regression (8). However, the Ownership structure at

the 50% voting rights level variable is insignificant in all of the regressions, and the result is therefore not reliable. The firm size variable has a negative coefficient in all eight regressions; when the firm size increases, firm performance decreases. By controlling for dual-class shares the impact of the ownership structure variable on firm performance is not changing. However, the R-Square value increases by 0.001 when dual-class shares are included in the regression. The dual-class shares coefficients are positive in all regressions; firms with dual-class shares have a higher expected value of Tobin's Q and therefore perform better. The impact of past performance is as expected, the coefficients are positive in all of the regression models. A firm with a high past year value of Tobin's Q, the firm should yield high performance the year after as well. By interpreting the R-square, the highest value can be found in regression (2) and (6), i.e. in the regressions where dual-class share and firm size are the only control variables. However, the ownership structure variables are not significant in these two regressions.

6. 13 Ownership-Structure on ROA

In the following regressions we use ROA as measurement for firm performance: the same eight regression models as in previous models are performed. The first four regressions test ROA against the ownership structure at the 25% voting right level variable, and the last four regressions test against the ownership structure at the 50% voting level. We use the same logic regarding control variables as we used in the regression with Tobin's Q as dependent variable. The regression results are presented in appendix table 6. The ownership structure variable is insignificant in all of the 8 regressions. The firm size variable is significant at the 1% level. The dual-class share variable is significant at the 10% level in regression (2) and (6). When controlling for past performance the one year lagged ROA variable is significant at the 1% level in regression (4) and (8). The average age variable is significant at the 1% level. The leverage variable is significant at the 5% level.

The coefficient of the ownership structure variable is not reliable in any of the regressions because of the insignificant values. However the direction can be interpreted, in regression (1) and in regressions (2) the coefficient is positive, i.e. family-controlled firms perform better than non-family controlled firms. However, in regression (3) where the past performance variable is included and in regression (4) where the control variables leverage, board age and employee director are included in the model the coefficient of the ownership structure is negative. In regression (5) to (7) the ownership structure variable is positive. However, in regression (8) where more control variables are included the coefficient is negative. By interpreting the R-square, the highest value can be found in regression (4) and (8) where the most variables are included, the opposite result than in the regressions when Tobin's Q where used as measure of firm performance. When ROA are used as firm performance measure the firm size coefficients are positive while the past performance variable is negative. In the firms where last year's management efficiently used its assets to generate earnings, they yield worse performance the next year. This result is due to the control of firm size which is a proxy for total assets, and the formula for ROA is earnings divided by total assets. The leverage coefficient is negative; the higher debt and asset ratio the firm has, the worse are the performance. The average board age variable have a negative coefficient, the conclusion from this is that the older average age at the board, the worse is the performance.

6.2 Ownership-Structure and CEO/Chairman-Status on Tobin's Q and ROA

This section features the results of the regressions covering hypothesis two, where we use Tobin's Q and ROA as the dependent variables. The explanatory variables are the ownership structure at both the 25% voting rights level and at the 50% voting rights level, as well as the CEO-status, chairman-status and active-owner. We also include an interaction term between ownership-structure and CEO-status, chairman-status and active-owner. The control variables we use are; firm size, leverage, dual-class shares, average board age, employee directors, lagged ROA and lagged Tobin's Q.

6.21 Tobin's Q at the 25% level

The first regression models are performed with Tobin's Q as dependent variable. Regression (1) includes the ownership structure at the 25% voting right level and the CEO-Status variable together with the interaction term between the two variables, firm size and dual-class shares are included as control variables. In regression (2) we include the one year lagged effect of Tobin's Q in order to control for past performance. In regression (3) we include leverage, average board age and employee director as well. Regression model (4) to (6) have the same structure as regression (3), but the Chairman-Status is used instead of the CEO-Status variable. Regression (7) to (9) has the same structure as well but includes the active-owner variable instead of the Chairman-status variable. The regression results are presented in appendix table 7. In regression (1) the ownership structure variable is not significant, neither is the CEO-status variable or the interaction term between them. In regression (2) and (3) the ownership structure variable is significant at the 5% level. However, the CEO-status and the interaction term are not significant. In regression (3) the leverage variable is significant at the 10% level. In regression (4) and (5) the ownership structure variable is not significant. However, the chairman-status is significant at the 10% level in regression (4) and at the 5% level in regression (5). The interaction term is significant at the 5% level in regression (4) and at the 10% level in regression (5). The ownership structure variable is significant at the 5% level in regression (6), the chairman-status and interaction term is not. In regression (7) and (8) the ownership structure is not significant. However, in regression (9) the ownership structure variable is significant at the 5% level. The active-owner variable and the interaction term are not significant in any of the regressions. The firm size variable is significant at the 1% level in all of the regressions, as well as the lagged Tobin's Q variable. The dual-class share variable is significant at the 10% level in regression (1) and at the 5% level in all the other regressions but (4) and (7), where it is not significant.

The coefficient of the ownership structure variable is negative in all of the regression models. However, the direction is not reliable in all of the regression models because of insignificant values, however, in regression (2), (3), (6) and (9) the ownership structure variable is significant and the direction can therefore be trusted. The negative value of the coefficient is also largest in

these regressions and the result is in line with the conclusion from hypothesis one, that family controlled firms perform worse than non-family controlled firms. In regressions (3), (6) and (9) where all of the control variables are included, the R-Square presents the lowest value. Moreover, none of the control variables are significant except for the leverage variable that is included in regression (3). The number of observations are small because of the missing values of some of the control variables, therefore the most reliable regression model would be (2), (5) and (8), which include the past performance variable and have a larger number of observations, especially model (2) where the ownership structure variable is significant.

In the first three regressions the CEO-status variable and the interaction term are included; in the first regression, the CEO-Status variable have a positive coefficient, the interaction term between ownership structure and CEO-Status are positive as well. None of the variables are significant, but by interpreting the direction, the conclusion is that firms with a family member as CEO performs better than firms without a family member as CEO, the same result can be concluded for the family-controlled firms when a family member serves as CEO. However, in regression (2) and (3) where we include the past performance variable in the model, the coefficient of the CEO-status is negative, the conclusion therefore that these firms perform worse. The interaction term between ownership structure and CEO-status is still positive, therefore, family-controlled firms with a family member as CEO perform better than family-controlled firms with an outside CEO. In regression (4) to (6) when controlling for chairman-status, the coefficient is positive in all three regressions and significant in regression (4) and (5). The interaction term is however negative in all of the three regressions and is again significant in regression (4) and (5). In the firms where a family member operates as the chairman of the board, the firm performance is higher compared to the firms without a family member as chairman of the board. The result from the interaction terms follows: Family-controlled firms with a family member as chairman of the board perform worse than family-controlled firm without a family member in a controlling position. In regression (6) where we include leverage, average board age and employee director in the model, the chairman-status and interaction term are insignificant. Because of the missing observations in regression (6) the better models would be regression (4) and (5), which also presents a higher R-Square value,

the direction of the coefficients are the same between the models, and the conclusion should be the same. In the last three regressions the active owner coefficient is positive while the interaction term is negative. By interpreting the direction of the coefficient, firms with an active owner perform better than the firms without. The interaction term conclude that family-controlled firms with an active owner perform worse than family-controlled firms without an active owner. The result is however not significant and the result is not reliable. The impact of firm size, past performance and dual-class shares are the same as in the regressions covering hypothesis one with Tobin's Q as dependent variable, all of them but firm size have a positive impact on firm performance. The impact of leverage is small, and is only significant in one of the three regressions; the coefficient has the same small value of –0.002 in all of the regression models. Board age has a small positive impact on firm performance but the variable is not significant. The employee director variable has a larger positive impact, and the result is that the more employee employed directors that are sitting on the board the higher firm performance, however, the variable is however not significant.

6.22 Tobin's Q at the 50% level

We use the same structure for the regression models when we control for the ownership structure variable at the 50% voting right level. In appendix table 8 the results from the regressions including the ownership structure variable at the 50% level are presented. The ownership structure variable is only significant in regression (9), and at the 10% level. None of the CEO-status, chairman-status or active-owner variables are significant in any of the regressions. The interaction term is only significant in regression (6) at the 5% level and in regression (9) at the 10% level. The firm size and past performance variable is significant in all of the regressions at the 1% level. The dual-class share variable is significant at the 5% level in all of the regressions but (1), (4) and (7), where it is insignificant. The leverage variable is only significant in regression (6) and (9), then at the 10% level.

The impact of the ownership structure variable is harder to interpret because of both positive and negative values between the different regression models. In regression (1) the coefficient is negative, but in regression (2) when the past performance variable is included the coefficient is positive, in regression (3) where leverage, average board age and employee director are added the coefficient is negative again. In the next two regressions (4) and (5) the coefficient is positive, but in regression (6) the coefficient is negative. In the last three regressions (7) to (9) the ownership structure variable is positive in the first two and negative in the last one. The conclusion is that in regression (3), (6) and (9) where all the control variables are included in the model, the coefficient is negative. The only regression with a significant value of the ownership structure variable is in regression (9), the negative coefficient is therefore the most reliable one. The conclusion is once again that family firms perform worse than non-family firms. However, because of the missing observations of the control variables in regression (3), (6) and (9) the result should be interpreted carefully. In the first regression the CEO-status coefficient is positive, but in regression (2) and (3) where the past performance variable is included in the model, the coefficient is negative. The reason for this could be that when last performance is included in the model, the negative impact by a family member acting as a CEO on firm performance is more distinct when more than one year are taken into account. The interaction term is positive in all three regressions. The result is therefore the same as in the models where the ownership structure variable at the 25% level where used. In regression (4) and (5) the chairman-status variable has a positive coefficient but in regression (6) the coefficient is negative. The direction of the chairman-status coefficient in regression (4) and (5) are the same in both models when different ownership structures variables are used. The difference is that the coefficient is not significant when the ownership structure variable at the 50% level is used. The interaction term in model (4) is negative in both models with different ownership-structure variables; again it is not significant when the ownership structure variable at the 50% level is used. In regression (5) the direction of the interaction term is positive but insignificant. However, when we use the ownership structure at the 25% level the coefficient is negative and significant. The result is therefore not robust, and no conclusion can be made from the model including the ownership structure defined by 50% of the voting rights. In regression (6) the interaction term between the ownership structure at the 50% level and the

chairman-status variable is significant, with a positive coefficient; the conclusion is that a family-controlled firm with a family member as chairman of the board performs better than family-controlled firms without a family member as chairman. In regression (7) the impact of the active-owner and the interaction term between the active-owner and the ownership structure at the 50% level are both positive and is therefore in the same direction as in the model where the ownership structure variable at the 25% level where used. In regression (8) the coefficients of the active-owner and the interaction term are positive again. The coefficient of the interaction term however has the opposite direction than in the model where the ownership structure at the 25% level variable is used. In regression (9) the active-owner coefficient have a negative value but in the regression model with the other ownership structure variable the coefficient is positive, the impact is therefore hard to interpret, and because of that none of the variables are significant the direction of the impact is unsure. The interaction term in regression (9) where more control variable are included, have a significant and positive coefficient. The conclusion from this is that family controlled firms with a family member as either CEO or chairman perform better than family controlled firms without a family member controlling the CEO or chairman position. By including the leverage variable which is significant together with the non-significant variable average board age and employee director variables, the coefficient of the interaction term in regression (9) present a significant result, which is opposite from the result in regression (8). The impact of the leverage variable is negative in all of the regressions; the higher debt and asset ratio the firm has, the worse is the performance. Dual-class share and past performance coefficients are positive in all of the following regressions while the firm size coefficient is negative.

6.23 ROA at the 25% level

In the following regressions ROA will be used instead of Tobin's Q, the same nine regression models are performed. The first three regressions test ROA against the ownership structure at the 25% level and CEO-status, the next three regressions include chairman-status instead of CEO-status, and in the last three regressions the active-owner variable is used instead. Furthermore, the same control variables are used. The results are presented in appendix table 9. The ownership

structure variable is not significant in any of the nine regressions. The CEO-status variable and the interaction term are not significant in any of the first three regressions. In regression (4) the chairman-status variable is significant at the 1% level, and in regression (5) it is significant at the 5% level, however, in regression (6) the chairman-status is insignificant. In regression (7) the active-owner variable is significant at the 10%-level, in the last two regressions the variable is insignificant. The interaction terms are not significant in any of the nine regressions. The firm size and average age variable is significant at the 1% level in all of the regressions where they are included. The dual-class share variable is significant at the 10% level in regression model (1), (4) and (7). The past performance variable is significant at the 1% level in the last regression models, i.e. (3), (6) and (9), where the leverage variable also is significant at the 5% level.

The impact of the ownership structure variable is unreliable and is therefore difficult to interpret because of both positive and negative coefficients in the different regressions models. In the first regression model i.e. (1), (4) and (7) where firm size and dual-class shares are the only control variables the coefficient is slightly positive, but in the second regression model, i.e. (2), (5) and (8) where past performance is included the coefficient is negative, family-controlled firms perform worse than non-family controlled firms, this should be the most reliable result because of the importance of past performance, however neither of the ownership structure variables or the past performance variables are significant so no further conclusion can be made. In the third regression model i.e. regressions (3), (6) and (9) the ownership structure coefficient is negative in regression (3) and (6) but positive in regression (9). In regression (1) the coefficient of the CEO-status is positive, but in regression (2) where past performance is included the CEO-status coefficient is negative. In regression (5) and (8) where past performance also is included the coefficient for chairman and active-owner status is negative again. The result is the same as for the ownership structure variable, when past performance is included in the model the coefficient get negative. However, in the last regression model, i.e. (3), (6) and (9) where we include more control variables, the CEO-status coefficient in regression (3) is positive, and the direction is the opposite to the ownership-structure variable. In regression (6) where we include chairman-status the impact is negative and is in the same direction as the ownership structure coefficient. In the last

regression where we include active-owner, the impact is negative, and is therefore in the opposite direction as the ownership structure variable. However, neither of the variables is significant and the direction of the impact should be carefully interpreted. The chairman-status variable in regression (4) and (5) together with the active-owner variable in regression (7) is the only significant variables, and is therefore most reliable. However, in regression (4) the chairman-status coefficient is positive, the conclusion from this is that when we only control for firm size and dual-class shares, a firm with a family member as chairman of the board performs better. In regression (7) where we also only control for firm size and dual-class shares the active-owner coefficient is negative and because of a significant value the impact is trustworthy. Firms with a family member as CEO or chairman of the board perform worse than firms with an outside director. In all of the regressions, but model 3, i.e. regression (3), (6) and (9) the interaction term is positive, and family controlled firms with a family member as CEO, chairman of the board or active-owner perform better. None of the interaction terms are significant, so the result is not trustworthy.

6.24 ROA at the 50% level

In the following nine regressions the ownership structure at the 50% level variable are used instead of the ownership structure at the 25% level. The results are presented in appendix table 10. The ownership structure variable is insignificant in all of the nine regressions, As well as the CEO-status variable in the first three regressions. However, in regression (4) the chairman-status variable is significant at the 1% level and in regression (5) at the 5% level, in regression (6) it is not significant. The active-owner variable is significant in regression (7) but not in the last two regressions. Firm size is significant at the 1% level in all of the following regressions. The dual-class share is significant at the 10% level in the first regression model, i.e. (1), (4) and (7). The past performance variable is only significant in the last regression model where all the control variables are included i.e. regression (3), (6) and (9), then at the 1% level. The average board age variable is also significant at the 1% level while the leverage variable is significant at the 5% level. The interaction terms are insignificant in all of the nine regressions.

The impact of the variables is in the most regressions in line with the results from the regression models when we used the ownership structure variable at the 25% level. The impact of the ownership structure variable is positive in regression (1), (4), (7) and (9) but negative in regression (3), (5), and the impact is therefore the same in the two models. The impact of the ownership structure variable is however the opposite in regression (2), (5) (8) i.e. it is positive when we use the ownership structure variable at the 50% level, but negative when the ownership structure variable at the 25%-level is used. The positive impact of the interaction terms is the same in regression (1), (4) and (7), and the negative impact is the same in the last regression model i.e. regression (3), (6) and (9). However, the impact of the interaction term is the opposite in regression (2), (5) and (8), it is negative when we control for ownership structure at the 50% level, but positive when we control for ownership structure at the 25% level. None of the variables are significant so the impact is not reliable, however the direction of the coefficients are the same in most of the different models, the result is therefore robust when controlling for the ownership structure at the 50% level variable. The impact of the CEO-Status, chairman-status and active-owner coefficients is the same in all regressions but (2) and (4). The chairman-status coefficient in regression (4) is significant in both models with different ownership structure variables; the impact is negative when the ownership structure at the 50% level is used and positive when the other ownership structure variable is used. The conclusion is that family controlled firms that control 50% or more of the voting rights and have a family member serving as chairman of the board perform worse than if the chairman not would have been a family member. The chairman coefficient in regression (5) is negative and significant in both of the models with the different ownership structure variables. The result is therefore robust and reliable. The impact of the control variables firm size, dual-class share, past performance and average board age is the same in all of the 18 regressions.

6.3 Pooled OLS

The last two regressions are Pooled OLS, including most of the variables, but the board size variable because of multicollinearity and some of the industry dummies because of small number of observations. The first regression has Tobin's Q as dependent variable and the second regression have ROA as dependent variable. The results are presented in appendix table 11. In the first regression model none of the ownership structure variables are significant; neither is the CEO-status and chairman-status variable. The interaction term between the CEO-status variable and the ownership structure at the 25% level variable is significant at the 10% level, the other interaction terms are not significant. The basic material and consumer goods industry are significant at the 5% level, the industrials industry is significant at the 10% level and financials industry is significant at the 1% level. The leverage variable is significant at the 10% level. The past performance variable is significant at the 1% level.

The ownership structure coefficients are positive, which conclude that family-controlled firms perform better than non-family controlled firms. However, none of them are significant so the impact is not reliable. The coefficient of the CEO-status is negative, while the coefficient of the chairman-status is positive. The coefficient of the interaction term between the CEO-status and ownership structure at the 25% level variable are positive and significant, family-controlled firms with a family member as CEO performs better than family-controlled firms with a hired CEO. The interaction term between CEO-status and ownership structure at the 50% level are negative, as well as the interaction term between both of the ownership structure variables and chairman-status. The included Industry variables have negative coefficients, the basic materials, industrials, consumer goods and financial industries are all significant; the conclusion is that the firms in these industries perform worse than the firms in the excluded industries, which are oil & gas, telecommunication and utilities industry. In line with earlier result the leverage coefficient is negative, and the past performance variable is positive.

In the last regression the ownership structure at the 25% level variable is significant at the 5% level while the other ownership structure variable is insignificant. The chairman-status variable is significant while the CEO-Status variable is not. The healthcare industry is significant at the 5% level, while the financial industry variable is significant at the 10% level. The firm size variable is significant at the 1% level as well as the past performance variable. The interaction term between the ownership structure variable at the 25% level and chairman-status variable is significant at the 1% level; the other interaction terms are insignificant.

Both of the ownership structure variables have positive coefficients. The only significant one is the ownership structure at the 25% level variable, which is the most reliable result. The conclusion from performing a Pooled OLS is that family-controlled firms perform better than non-family controlled firms. The CEO-status coefficient is positive when ROA are used as a proxy for firm performance, a family member or founder as CEO perform better than a hired CEO, however, the coefficient is not significant therefore we cannot make any further conclusions. The only significant interaction term is between ownership structure at the 25% level and chairman-status, the coefficient is negative, concluded from these result family-controlled firms with a family member as a chairman of the board performs worse than family-controlled firms with a hired chairman. The rest of the interaction terms have positive coefficients, which conclude that family-controlled firms with a family member as either CEO or chairman perform better than if the CEO or chairman would have been a hired outside director. However, the result is not significant so the result is not reliable. The two significant industry variables have negative coefficients; firms in these industries perform worse than the firms in Oil & Gas, Telecommunication and Utilities industry which are the excluded industries. The Firm size coefficient is positive, larger firms perform better than small firms. The only significant interaction term is between ownership structure at the 25% level and Chairman-status.

7. Conclusion

In this paper we analyze family-owned firm's performance, compared to the performance of firms with dispersed ownership. We use both Tobin's Q and ROA as measurement for firm performance. Furthermore, we analyze the possible impact family members with an influential role in the firm, such as the CEO or Chairman have on the firm's performance. We build our predictions by La Porta et al. (1999), Faccio and Lang (2002), and Morck et al. (2005), Cronqvist and Nilsson (2003), and Oreland (2007) where Swedish family-owned firms are associated with the largest discount on firm value, compared to all other controlling owner categories. Furthermore, previous literature find that the expropriation of minority shareholders in family owned firms can lead to higher costs of mismanagement, due to the entrenchment of the firm a family can obtain. This leads to lower firm performance for firms that are family-controlled, compared to non-family-controlled firms.

We find some statistically-significant results that can be of interest for studies of firm performance and ownership structure. The primary findings are that family-owned firms are associated with lower performance compared to non-family owned firms, when measured by Tobin's Q. This is in line with our first hypothesis and show that different ownership structures have a significant effect on the firm's performance. Furthermore, we find a statistically negative relationship between Tobin's Q and family members operating as Chairman of the firm; family-owned firms run by a family member as Chairman of the board is associated with lower performance. This result is in line with our second hypothesis and indicates that when a family member operates in an influential role in the firm, the firm is associated with lower performance. Our results are statistically insignificant when we use ROA as measurement for firm performance, also when we test for the possible impacts a family member, operating as CEO of the firm has on the firm's performance. Hence, we cannot make any further conclusions for our second hypothesis.

The results were expected as they correspond with previous papers on the subject. Cronqvist and Nilsson (2003), as well as Oreland (2007) papers on firm performance and ownership structure in Swedish listed firms show that family-owned firms are associated with lower performance.

Furthermore, Oreland (2007) conclude that due to the high level use of different corporate control instruments in Sweden, families entrench their control over the firm and make bad investment decisions; when a family member operates as CEO in the firm, the firm is associated with lower performance due to the higher costs of mismanagement. These findings can contribute to our results and may explain why family-owned firms perform worse compared to non-family owned. However, our results differs from Andersson and Reeb (2003) paper on U.S listed firms, who find a positive relationship between firm performance and ownership structure, measured by ROA. We believe that this can be explained by the lower use of corporate control instruments in the U.S relative to Sweden. As documented by Oreland (2007) the primary costs for family owned firms are due to costs of mismanagement. Families have greater control over their firms in Sweden compared to U.S due to dual-class-shares which make the potential costs for the firm's more severe in Sweden.

We believe that further investigations on the effects family members in influential positions has on firm's performance would contribute to the literature. It would be of interest to further analyze the potential agency costs that arises when family members operates in influential positions of the firm. Moreover, it would be of interest to investigate the difference in small non-publicly traded firms and see if there is any difference regarding firm performance. We would also like to recommend a study of firms in countries where corporate control instruments not are used in the large extent as in Sweden, in order to draw further conclusions about the potential expropriation that arises when controlling-owners entrench their power.

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Appendix

Table 1 - Descriptive Statistics

Panel A

Variable	N	Mean	SD	Min	Max
Tobin's Q	1,214	1.963	2.038	0.281	27.954
ROA	1,228	1.045	0. 173	-0.298	1.760

Panel A shows the summary statistics of Tobin's Q and ROA . The total sample consists of 1238 observations. Tobin's Q, ROA are in logarithmic form.

Panel B

Variable	N	Mean	SD	Min	Max
Firm Size	1,234	14.669	2.259	9.332	22.579
Leverage	1,101	33.257	23.141	.01	190.72
Board Size	1,238	7.799	2.313	2	15
Board Age	1,109	54.630	3.743	40.8	65.5
Employee Director	1,109	0.096	0.116	0	0.333

Panel B shows the summary statistics of the control variables. The total sample consists of 1238 observations. Leverage is in logarithmic form

Panel C

	Tobin's Q				*ROA*			
Definition	**N**	**Firms**	**Mean**	**STD.Dev**	**N**	**Firms**	**Mean**	**STD.Dev**
Oil & Gas	10	2	2.640	1.509	16	3	0.964	0.254
Basic Materials	66	12	1.261	0.569	67	12	1.036	0.083
Industrials	371	64	1.853	1.862	373	64	1.046	0.141
Consumer Goods	113	20	1.700	1.091	112	20	1.079	0.110
Health Care	136	28	3.507	3.623	137	28	0.913	0.297
Consumer Services	111	21	2.546	2.017	113	21	1.100	0.171
Telecommunications	19	4	1.617	0.441	20	4	1.084	0.059
Utilities	2	1	1.010	0.076	3	1	1.012	0.017
Financials	227	40	1.113	0.406	224	40	1.057	0.142
Technology	158	29	2.207	2.155	160	29	1.086	0.143

Panel C reports mean Tobin's Q and ROA by industry. There are ten different industries. The sample consists of 1238 observations from 2006-2011.

Table 2 – Descriptive Statistics

Panel A

Distribution of Ownership Structure	N	Family Firm	Non-Family Firms
Nature Of Owner at the ≥25%-level	1238	554	684
Nature Of Owner at the ≥50%-level	1238	247	991

Table 2 Panel A shows the distribution of ownership structure, within Swedish listed firms from 2006-2011. The sample consists of 1238 observations where 554 firms are controlled by a group of family members controlling 25% or more of the firms voting rights. When there is no individual or group of family members controlling 25% or more of the votes, they are considers as a non-family firm. The same logic follows for Nature of Owner ≥50%., where 247 firms are family controlled and 991 non-family controlled.

Panel B

Distribution Of Controlling Owner	N	Family	Non-Family
CEO Status	1238	189	1047
Chairman Status	1238	335	899
Active Owner	1238	479	757
Nature Of Owner ≥25% * CEO	554	129	425
Nature Of Owner ≥25% * Chairman	554	220	333
Nature Of Owner ≥25% * Active Owner	554	328	226
Nature Of Owner ≥50% * CEO	247	78	169
Nature Of Owner ≥50% * Chairman	247	113	134
Nature Of Owner ≥50% * Active Owner	247	175	72

Table 2 Panel B shows the distribution of controlling owner, within Swedish listed firms from 2006-2011. The sample consists of 1238 observations. A firm with an active owner is considered in the case of either a family member serving as CEO or Chairman. If a firm is both family controlled, with 25% of the votes and has a family member as CEO, the interaction variable is Nature Of Owner ≥25% * CEO

Panel C

Distribution Of Shares	N	A-Shares & B-Shares	B-Shares
Type Of Shares	1238	637	601

Panel C shows the distribution of shares within Swedish listed firms from 2006-2011. The sample consists of 1238 observations where firms with both A and B-shares available are 637

Table 3 – Descriptive statistics and Variable Definition

Variable Description	Definition
Dependent Variables	
Tobin's Q	$\frac{\text{Market value equity + Liabilities market value}}{\text{Equity book value + Liabilities book value}}$
ROA	$\frac{\text{Earnings before interest, taxes and depreciation}}{\text{Book value of total assets}}$
Independent Variables	
Ownership Structure 25%	Dummy variable that equals one if the firm is family-controlled at the 25%- level and zero otherwise
Ownership Structure 50%	Dummy variable that equals one if the firm is family-controlled at the 50%-level and zero otherwise
CEO-Status	Equals one if the CEO is a family member, zero otherwise.
Chairman-Status	Equals one if the Chairman is family member, zero otherwise.
Active Owner	Equals one if a family member is either CEO or Chairman, zero otherwise
Control Variables	
Firm Size	The natural log of total assets, proxy for Firm Size
Leverage	$\frac{\text{Book value of long-term debt}}{\text{Book value of total assets}}$
Dual-class Shares	Dummy variable equals one with the presence of dual-class shares, otherwise zero.
Lagged Tobin's Q	The one year lagged value of Tobin's Q, past Tobins Q performance.
Lagged ROA	The one year lagged value of ROA, past ROA performance.
Board Size	The yearly average of how many people that are sitting in the board.
Board Age	The yearly average age of the people sitting in the board.
Employee Directors	The yearly average number of directors sitting in the board that are elected by the employees.
Ind1-10	Dummy variables for industry is categorized based on the first number of the ICB Code, 1: Oil & Gas, 2: Basic Materials, 3: Industrials, 4: Consumer Goods, 5: Health Care, 6: Consumer Services, 7: Telecommunications, 8: Utilities, 9: Financials, 10: Technology.
Interaction Variables	
Nature of Owner≥25% * CEO-Status	Interaction term between Nature of Owner ≥25% and CEO-Status
* Chairman-Status	Interaction term between Nature of Owner≥25% and Chairman-Status
* Active Owner	Interaction term between Nature of Owner≥25% and Active Owner
Nature of Owner≥50% * CEO-Status	Interaction term between Nature of Owner ≥50% and CEO-Status
* Chairman-Status	Nature of Owner ≥50% and Chairman-Status interaction term.
* Active Owner	Interaction term between Nature of Owner≥25% and Active Owner

Table 4 – Pair-wise Correlation Matrix

	Nature25	activeo	CEO	Chair	Nature50	Dualshares	LOGTQ	LOGROA	LOGLEV	Firmsize	avgbs	avgage	avgemp
Natureo25	1.0000												
activeowner	0.3932	1.0000											
CEO	0.2385	0.5135	1.0000										
Chair	0.2765	0.7578	-0.0869	1.0000									
nature50	0.5609	0.3451	0.2851	0.2078	1.0000								
dualshares	0.4045	0.2945	0.2081	0.2111	0.3398	1.0000							
LOGTQ	-0.0174	-0.0449	-0.0552	-0.0106	-0.0521	-0.0689	1.0000						
LOGROA	0.1044	0.0752	0.0633	0.0465	0.0724	0.1349	0.0287	1.0000					
LOGLEV	0.0268	-0.0117	0.0072	-0.0259	-0.0103	0.0345	-0.1853	0.0274	1.0000				
Firmsize	-0.0554	-0.0740	-0.1490	0.0142	-0.0824	0.1294	-0.2209	0.1679	0.2913	1.0000			
avgbs	-0.0470	-0.1808	-0.3014	-0.0185	-0.1806	0.0207	-0.0673	0.0562	0.1840	0.6590	1.0000		
avgage	0.0008	-0.0717	-0.0189	-0.0811	0.0777	0.1415	-0.0622	0.0090	0.0749	0.1127	0.0469	1.0000	
avgemp	0.0304	-0.0998	-0.0951	-0.0797	-0.1526	-0.0126	-0.0377	0.0338	0.1210	0.2985	0.6799	0.0138	1.0000

In the correlation matrix, the Nature25 variable is the ownership structure at the 25% voting rights level, and the Nature50 variable is the ownership structure at the 50% voting rights level. Avgbs is the average board size, avgage equals the average board age and avgemp is the average employee director variable.

Table 5 – Fixed effect Regression result, ownership structure on Tobin's Q

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Tobins Q	Tobins Q	Tobins Q	Tobins Q	Tobins Q	Tobins Q	Tobins Q	Tobins Q
Ownership Structure 50%					0.028	0.028	0.085	-0.021
					(0.101)	(0.100)	(0.101)	(0.081)
Ownership Structure 25%	-0.054	-0.058	-0.139*	-0.176**				
	(0.069)	(0.070)	(0.079)	(0.075)				
Firm Size	-0.338***	-0.340***	-0.284***	-0.254***	-0.337***	-0.339***	-0.282***	-0.250***
	(0.054)	(0.054)	(0.058)	(0.054)	(0.054)	(0.055)	(0.059)	(0.053)
Dual-class Shares		0.133*	0.222**	0.128**		0.122	0.201***	0.127**
		(0.078)	(0.092)	(0.054)		(0.083)	(0.077)	(0.054)
Lagged TQ			0.131***	0.119***			0.130***	0.116***
			(0.034)	(0.039)			(0.034)	(0.038)
Leverage				-0.001*				-0.001
				(0.001)				(0.001)
Board Age				0.003				0.003
				(0.006)				(0.006)
Employee Directors				0.192				0.265
				(0.512)				(0.499)
Constant	5.430***	5.397***	4.468***	3.961***	5.389***	5.357***	4.380***	3.815***
	(0.791)	(0.788)	(0.855)	(0.826)	(0.794)	(0.792)	(0.856)	(0.819)
Observations	1,213	1,213	992	848	1,213	1,213	992	848
R-squared	0.090	0.091	0.085	0.069	0.089	0.090	0.081	0.061
Number of firmid	221	221	215	193	221	221	215	193

The sample presents the results from the Longitudal linear model.
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 6 – Fixed effect Regression result, ownership structure on ROA

VARIABLES	(1) ROA	(2) ROA	(3) ROA	(4) ROA	(5) ROA	(6) ROA	(7) ROA	(8) ROA
Ownership Structure 50%					0.035	0.035	0.073	-0.021
					(0.044)	(0.044)	(0.064)	(0.030)
Ownership Structure 25%	0.013	0.015	-0.027	-0.006				
	(0.062)	(0.062)	(0.084)	(0.032)				
Firm Size	0.150***	0.151***	0.262***	0.189***	0.150***	0.151***	0.263***	0.189***
	(0.042)	(0.043)	(0.060)	(0.052)	(0.042)	(0.042)	(0.060)	(0.052)
Dual-class Shares		-0.067*	-0.050	-0.034		-0.064*	-0.055	-0.034
		(0.040)	(0.035)	(0.034)		(0.036)	(0.035)	(0.034)
Lagged ROA			-0.025	-0.208***			-0.025	-0.209***
			(0.080)	(0.057)			(0.079)	(0.057)
Leverage				-0.001**				-0.001**
				(0.0004)				(0.0004)
Board Age				-0.009***				-0.009***
				(0.003)				(0.003)
Employee Directors				-0.124				-0.104
				(0.220)				(0.227)
Constant	2.190***	2.172***	3.804***	-2.238***	2.185***	2.166***	3.839***	-2.236***
	(0.629)	(0.625)	(0.878)	(0.699)	(0.613)	(0.609)	(0.871)	(0.695)
Observations	1,225	1,225	1,003	847	1,225	1,225	1,003	847
R-squared	0.040	0.040	0.123	0.147	0.040	0.041	0.124	0.147
Number of firmid	222	222	220	194	222	222	220	194

The sample presents the results from the Longitudal linear model.
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 7 – Fixed effect Regression result, ownership structure and CEO/Chairman-status on Tobin's Q

VARIABLES	(1) TQ	(2) TQ	(3) TQ	(4) TQ	(5) TQ	(6) TQ	(7) TQ	(8) TQ	(9) TQ
Ownership Structure 25%	-0.073	-0.149**	-0.179**	-0.018	-0.114	-0.154**	-0.036	-0.129	-0.159**
	(0.067)	(0.075)	(0.074)	(0.075)	(0.081)	(0.072)	(0.075)	(0.081)	(0.073)
CEO	0.014	-0.061	-0.034						
	(0.129)	(0.139)	(0.132)						
Own25*CEO	0.181	0.209	0.070						
	(0.138)	(0.171)	(0.142)						
Chair				0.139*	0.129**	0.090			
				(0.072)	(0.062)	(0.083)			
Own25*Chair				-0.163**	-0.134*	-0.112			
				(0.082)	(0.072)	(0.086)			
Active Owner							0.114	0.076	0.043
							(0.071)	(0.072)	(0.071)
Own25*Act							-0.085	-0.057	-0.091
							(0.086)	(0.088)	(0.086)
Firm Size	0.341***	0.284***	0.247***	0.347***	0.289***	0.249***	0.346***	0.288***	0.249***
	(0.055)	(0.059)	(0.054)	(0.055)	(0.059)	(0.054)	(0.054)	(0.059)	(0.053)
Dual-class Shares	0.136*	0.224**	0.105**	0.128	0.220**	0.108**	0.131	0.222**	0.108**
	(0.076)	(0.093)	(0.049)	(0.081)	(0.089)	(0.050)	(0.080)	(0.091)	(0.049)
Lagged TQ		0.132***	0.120***		0.128***	0.118***		0.129***	0.118***
		(0.034)	(0.040)		(0.034)	(0.040)		(0.034)	(0.040)
leverage			-0.002*			-0.002			-0.002
			(0.001)			(0.001)			(0.001)
Board Age			0.003			0.003			0.003
			(0.007)			(0.007)			(0.007)
Employee Directors			0.193			0.207			0.205
			(0.503)			(0.500)			(0.499)
Constant	5.392***	4.467***	3.938***	5.479***	4.530***	3.942***	5.456***	4.509***	3.938***
	(0.792)	(0.860)	(0.830)	(0.797)	(0.865)	(0.826)	(0.786)	(0.857)	(0.826)
Observations	1,213	992	848	1,211	990	847	1,213	992	848
R-squared	0.093	0.087	0.075	0.094	0.087	0.076	0.094	0.087	0.075
Number of firmid	221	215	193	221	214	192	221	215	193

The sample presents the results from the Longitudal linear model.

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 8 – Fixed effect Regression result, ownership structure and CEO/Chairman-status on Tobin's Q

VARIABLES	(1) TQ	(2) TQ	(3) TQ	(4) TQ	(5) TQ	(6) TQ	(7) TQ	(8) TQ	(9) TQ
Ownership Structure 50%	-0.006	0.079	-0.028	0.093	0.083	-0.110	0.055	0.060	-0.129*
	(0.104)	(0.107)	(0.081)	(0.115)	(0.119)	(0.067)	(0.141)	(0.139)	(0.077)
CEO	0.030	-0.011	-0.002						
	(0.107)	(0.110)	(0.097)						
Own50*CEO	0.161	0.041	0.052						
	(0.102)	(0.107)	(0.094)						
Chair				0.102	0.055	-0.049			
				(0.064)	(0.053)	(0.047)			
OWN50*Chair				-0.140	0.0327	0.169**			
				(0.097)	(0.093)	(0.081)			
Active Owner							0.089	0.040	-0.049
							(0.066)	(0.065)	(0.055)
OWN50*Act							-0.041	0.055	0.175*
							(0.120)	(0.112)	(0.092)
Firm Size	-0.341***	-0.283***	-0.243***	-0.343***	-0.284***	-0.239***	-0.343***	-0.285***	-0.239***
	(0.055)	(0.059)	(0.053)	(0.055)	(0.060)	(0.054)	(0.054)	(0.059)	(0.054)
Dual-class Shares	0.123	0.201***	0.105**	0.124	0.201***	0.103**	0.124	0.201***	0.102**
	(0.083)	(0.077)	(0.050)	(0.083)	(0.077)	(0.050)	(0.083)	(0.077)	(0.050)
Lagged TQ		0.130***	0.116***		0.128***	0.116***		0.129***	0.116***
		(0.034)	(0.039)		(0.034)	(0.039)		(0.034)	(0.039)
Leverage			-0.002			-0.002*			-0.002*
			(0.001)			(0.001)			(0.001)
Board Age			0.002			0.002			0.002
			(0.007)			(0.006)			(0.006)
Employee Directors			0.277			0.264			0.233
			(0.497)			(0.496)			(0.485)
Constant	5.377***	4.391***	3.799***	5.391***	4.391***	3.744***	5.379***	4.403***	3.786***
	(0.795)	(0.859)	(0.827)	(0.792)	(0.869)	(0.832)	(0.787)	(0.859)	(0.826)
Observations	1,213	992	848	1,211	990	847	1,213	992	848
R-squared	0.092	0.081	0.066	0.091	0.082	0.069	0.092	0.082	0.069
Number of firmid	221	215	193	221	214	192	221	215	193

Table 9 - Fixed effect Regression result, ownership structure and CEO/Chairman-status on ROA

VARIABLES	(1) ROA	(2) ROA	(3) ROA	(4) ROA	(5) ROA	(6) ROA	(7) ROA	(8) ROA	(9) ROA
Ownership Structure 25%	0.010	-0.034	-0.008	0.006	-0.033	-0.006	0.004	-0.028	0.005
	(0.064)	(0.086)	(0.032)	(0.070)	(0.090)	(0.039)	(0.072)	(0.094)	(0.037)
CEO	0.003	-0.006	0.070						
	(0.055)	(0.066)	(0.074)						
Own25*CEO	0.050	0.074	-0.049						
	(0.067)	(0.096)	(0.097)						
Chair				0.098***	-0.108**	-0.079			
				(0.035)	(0.045)	(0.076)			
Own25*Chair				0.044	0.031	-0.013			
				(0.045)	(0.053)	(0.069)			
Active Owner							-0.068*	-0.061	-0.025
							(0.034)	(0.043)	(0.062)
Own25*Act							0.044	0.020	-0.059
							(0.049)	(0.062)	(0.061)
Firm Size	0.151***	0.261***	0.191***	0.156***	0.268***	0.197***	0.155***	0.265***	0.194***
	(0.043)	(0.060)	(0.052)	(0.043)	(0.060)	(0.052)	(0.043)	(0.060)	(0.052)
Dual-class Shares	-0.066*	-0.049	-0.046	-0.067*	-0.051	-0.049	-0.066*	-0.051	-0.045
	(0.040)	(0.034)	(0.032)	(0.040)	(0.035)	(0.032)	(0.040)	(0.035)	(0.032)
Lagged ROA		-0.026	-0.207***		-0.026	-0.209***		-0.025	-0.208***
		(0.080)	(0.057)		(0.080)	(0.059)		(0.080)	(0.059)
Leverage			-0.001**			-0.001**			-0.001**
			(0.001)			(0.001)			(0.001)
Board Age			-0.009***			-0.010***			-0.009***
			(0.003)			(0.003)			(0.003)
Employee Directors			-0.136			-0.128			-0.0985
			(0.210)			(0.214)			(0.219)
Constant	2.172***	3.798***	2.252***	2.215***	3.860***	2.290***	2.199***	3.831***	2.279***
	(0.624)	(0.876)	(0.696)	(0.624)	(0.875)	(0.691)	(0.622)	(0.879)	(0.700)
Observations	1,224	1,003	847	1,222	1,001	846	1,224	1,003	847
R-squared	0.041	0.123	0.153	0.044	0.128	0.161	0.042	0.125	0.156
Number of firmid	222	220	194	222	219	193	222	220	194

Table 10 –Fixed effect Regression result, ownership structure and CEO/Chairman-status on ROA

VARIABLES	(1) ROA	(2) ROA	(3) ROA	(4) ROA	(5) ROA	(6) ROA	(7) ROA	(8) ROA	(9) ROA
Ownership Structure 50%	0.029	0.075	-0.016	0.021	0.065	-0.035	0.020	0.092	0.004
	(0.043)	(0.059)	(0.032)	(0.051)	(0.076)	(0.042)	(0.054)	(0.077)	(0.056)
CEO	0.017	0.020	0.079						
	(0.047	(0.056)	(0.057)						
OWN50*CEO	0.020	-0.016	-0.089						
	(0.065)	(0.101)	(0.061)						
Chair				-0.078***	-0.081**	-0.085			
				(0.030)	(0.038)	(0.053)			
OWN50*Chair				0.015	-0.015	-0.019			
				(0.046)	(0.062)	(0.068)			
Active Owner							-0.055*	-0.041	-0.036
							(0.031)	(0.039)	(0.053)
Own50*Act							0.022	-0.042	-0.073
							(0.048)	(0.065)	(0.078)
Firm Size	0.151***	0.263***	0.193***	0.154***	0.267***	0.197***	0.153***	0.266***	0.193***
	(0.042)	(0.060)	(0.052)	(0.042)	(0.059)	(0.051)	(0.042)	(0.060)	(0.052)
Dual-Class Shares	-0.064*	-0.055	-0.047	-0.065*	-0.056	-0.049	-0.065*	-0.056	-0.046
	(0.036)	(0.035)	(0.032)	(0.037)	(0.035)	(0.032)	(0.037)	(0.035)	(0.032)
Lagged ROA		-0.025	-0.205***		-0.026	-0.213***		-0.025	-0.213***
		(0.079)	(0.058)		(0.080)	(0.061)		(0.080)	(0.060)
Leverage			-0.001**			-0.001**			-0.001**
			(0.0004)			(0.0004)			(0.0004)
Board Age			-0.009***			-0.010***			-0.009***
			(0.003)			(0.003)			(0.003)
Employee Director			-0.099			-0.089			-0.052
			(0.223)			(0.218)			(0.227)
Constant	2.166***	3.845***	-2.281***	2.194***	-3.877***	2.277***	2.179***	3.864***	-2.266***
	(0.610)	(0.873)	(0.690)	(0.611)	(0.870)	(0.679)	(0.610)	(0.870)	(0.690)
Observations	1,224	1,003	847	1,222	1,001	846	1,224	1,003	847
R-squared	0.041	0.124	0.154	0.043	0.128	0.162	0.042	0.126	0.158
Number of firmid	222	220	194	222	219	193	222	220	194

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 11 –Pooled OLS regression result

VARIABLES	(1) TQ	(2) ROA
Ownership Structure 25%	0.003	0.036**
	(0.037)	(0.015)
Ownership Structure 50%	0.026	0.002
	(0.046)	(0.016)
CEO	-0.090	0.009
	(0.060)	(0.018)
Chair	0.040	0.033**
	(0.040)	(0.016)
Dual-class Shares	0.005	0.012
	(0.026)	(0.014)
Basic Materials	-0.153**	-0.0007
	(0.077)	(0.022)
Industrials	-0.107*	0.0029
	(0.063)	(0.021)
Consumer Goods	-0.140**	0.007
	(0.071)	(0.022)
Healthcare	-0.013	-0.071**
	(0.077)	(0.031)
Consumer Services	-0.048	0.009
	(0.072)	(0.023)
Financials	-0.175**	-0.038*
	(0.061)	(0.022)
Technology	-0.069	0.043
	(0.071)	(0.027)
leverage	-0.001*	-0.0003
	(0.0005)	(0.0002)
Firm Size	0.008	0.014***
	(0.007)	(0.004)
Board Age	0.002	0.0001
	(0.003)	(0.002)
Employee Directors	-0.151	-0.083
	(0.130)	(0.059)
Own25*CEO	0.135*	0.014
	(0.079)	(0.022)
Own25*Chair	-0.061	-0.079***
	(0.067)	(0.025)
Own50*CEO	-0.080	-0.018
	(0.070)	(0.023)
Own50*Chair	-0.020	0.033
	(0.066)	(0.027)
Lagged TQ	0.713***	
	(0.033)	
Lagged ROA		0.377***
		(0.079)
Constant	-0.009	-0.191
	(0.194)	(0.147)