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Examining the effect of family control on firm value and performance

Evidence from the OMX60

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NEG300 V14 Project Paper with Discussant – Finance (15 ECTS)

Keywords: Family-firm, Founder family-firm, Ownership structure,

Firm performance, OMX60

Abstract

The aim of this study is to investigate the effect of family control on firm performance on the OMX60 during the period 2008-2012. The study is inspired by Anderson and Reeb (2003) an Oreland (2007). The results show evidence of a positive effect on Return on assets for founding family-firms but no evidence of a family-effect on Tobin's Q and family-effect by family-firms on ROA.

Key words: Family-firm, Founder family-firm, Ownership structure, Firm performance, OMX60.

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1. Introduction

There are mixed opinions regarding family control of public firms. Many family firms are highly regarded because many of the large corporations have thrived under the same family for decades (Barontini and Caprio, 2006). Family firms are a successful concept and many of the large firms have started as family owned corporations. One of the more famous family empires in Sweden is the Wallenberg family with a large influence on several of the Swedish firms. Wallenberg is one of Sweden's oldest family group and the empire is on its fifth generation (Fagerfjäll, 2007). This type of long-term commitment is something that many associate with family control but also the devotion that many families have in the firms that they invest in. But there have been some discussions that families and other shareholders may have different interests that could prevent value accumulation and growth in the company (Barontini and Caprio, 2006).

The main purpose of this thesis is to investigate the possible differences in firm performance between family-controlled firms and non-family controlled firms in Sweden. The result could have an impact on decisions within the firms regarding family control.

To distinguish this paper from earlier work this thesis will focus on firms in the Swedish market. To find evidence of differences the collection of data will be from Swedish firms in the "large cap" category on the OMX. Previous studies have been made on this topic, focusing on the North American market and the European market. Barontini and Caprio (2006) have shown that family controlled firms do not have any negative affect the firm performance as previous studies have concluded. The study by Barontini and Caprio (2006) is based on data from 675 publicly traded firms across Europe. Andersson and Reeb (2003) discuss the result of a slightly positive effect in performance between family controlled firms and non-family controlled firms in their study based on the North American market.

Another earlier study that has been focusing on family controlled firms is Villalonga and Amith (2006) that finds that the family owned firms only create value if the founder remains in the firm

as the CEO. The value created by the family-effect is though destroyed when the descendants takes over. Oreland (2007) on the other hand seems to find that family-firms, in his study on the Swedish market, have worse performance in comparison to non-family firms.

Previous articles have contradictory conclusions that could imply that factors beyond family control might be involved, eg. structural differences between markets and regions. Dyer (2006) verify the contradictory conclusions by comparing nine studies that examine firm performance and family control on firms across Europe and the USA. Dyer (2006) argues that one cause of the difference between results in previous studies is that the studies fail to determine the family effect from other variables.

To examine if there are a significant "family-effect" on firm performance on the Swedish market we will look at the following questions; Do firms with family ownership majority have an effect on firm performance? What measure is a good tool for detecting the effect of performance in family firms?

2. Theory

2.1 Family firms and performance

There are many theories about the positive and negative perspective of performance in family-firms. Dyer (2006) presents family factors affecting high versus low firm performance where the principal-agency theory has a central role (see table 1). If the agents (managers) and the principal (owners) have different goals the agent costs will be severe, although this is not unique for family firms. Jensen and Meckling (1976) discuss that family firms are likely to have lower agency cost because the owners and the managers in family firms often are the same. The agency costs are the costs of the monitoring of the agents by the principals, and they increase when the firm grows. Since the need of monitoring by the owner is not an issue when owner and manager are the same person, the agency costs will not be a problem in founder-led firms. On the other hand, the family control of the manager could be a reason for higher, or equally high, agency costs as non-family firms due to the differences in the interest of family members in managerial positions (Schultze et al, 2001).

Table 1: Family factors affecting firm performance

Family Factors Contributing to High Performance	Family Factors Contributing to Low Performance
Agency Benefits	*Agency Costs*
Lower agency costs due to the alignment of principal-agent goals	Higher agency costs due to conflicting goals in the family
Lower agency costs due to high trust and shared values among family members	Higher agency costs from opportunism, shirking, and adverse selection because of altruism (i.e., family members fail to monitor each other)
Family Assets	*Family Liabilities*
Human capital: the family has unique training, skills, flexibility, and motivation	Family lacks necessary skills and abilities due to small labor pool, lack of talent, or inadequate training
Social capital: the family develops relationships outside the family with employees, customers, suppliers, and other stakeholders that generate goodwill	Family fails to develop social capital with key stakeholders due to distrust of outsiders (i.e., "amoral familism")
Family "branding" of the firm or of the firm's goods and services may generate goodwill and a positive image with stakeholders	Family relationships lead to complex conflicts among family that may undermine image and goodwill with stakeholders
Physical/financial capital: the family may have physical or financial assets that can be used to support the firm	Family uses firm assets for personal use, thus draining the firm of financial and other resources

Picture from Dyer (2006) p. 259

Schulze et al (2001) mentions that parents altruism, treating people for who they are and not for what they do, aswell can result in that they are generous to their children despite that they might be insufficient or incompetence which could result in deterioration in the firm's value-added. Family control can also create problems with "free-rider family members" as a result of the parents altruism to their family members (Schulze et al 2001). This result is also supported by Villalonga and Amit (2004) where the findings from 508 firms from Fortune 500 claims that second generation family-leaders destroy firm value. Schulze et al (2001) are not only presenting the negative effects of parent's altruism, the family control might also have a positive effect where altruism will minimize the agency costs.

The principal-agent theory is not unique for family-firms. Non-family firms can aswell be affected by the positive and negative impacts of management control. Other aspects affecting the family-firm performance despite the agency theory is the aspect of long-term investment in family firms to be able to support the next generations in the family (Gudmunsson et al. 1999). Another factor to take into account is the value of reputation of the family and the family firm

where, especially in the service industry, the reputation of a family name positively influences costumers and suppliers (Dyer 2006).

To continue the aspect of manager control, Burkart et al (2003) present a model of managerial succession in a firm owned and managed by its founder where the founder decides (1) between hiring a professional manager or leaving management to its family and (2) on what fraction of the company to float on the stock exchange. The two paradigms of corporate governance are combined in the single model of managerial succession: the Anglo-Saxon paradigm of the conflict between the shareholders and the manager and the second paradigm of the conflict between large and small shareholders. The background of the decision of the founder is according to Burkart et al (2003) shaped by the degree of legal protection of minority shareholders and shows an implication of how the founder should decide optimal succession and ownership structure. When the legal protection of minority shareholders is strong, the optimal solution for the founder is to hire the best professional manager and sell off the entire firm in the stock market due to minimization of the agency conflict between the manager and small minority shareholders. With intermediate protection of minority shareholders, the founder should still hire a professional manager, but due to the intermediate protection of minority shareholders the founder or its descendants must stay on as large shareholders to monitor the manager. When the protection of minority shareholders is weak, the agency problems are too severe to allow for separation of ownership and management and in this case the founding family must stay and run the firm.

3.Literature Review

3.1 Family firm

The concept of family firms is somewhat difficult to define. The question is which firms that should be included in the group of family firms. There is some divergences opinion about what a family-firm really is. Some refer to family firms as firms where the largest shareholder is one of the family members in the founding family. Researchers claim that the founding family needs to possess one or more board seats and/or the position as CEO. As Andersson & Reeb (2003) discuss, the problem is particularly substantial for older firms where there is more likely for

distant relatives to have the active positions in the firms. It is hard to identify relatives in second or even third generations that might not even carry the same surname as the founder or his or hers closest family members.

3.2 Earlier empirical studies

Barontini and Caprio (2006) investigate the relation between family control and ownership structure. The data is collected from 675 large publicly traded firms from 11 countries from Continental Europe over the years 1999, 2000 and 2001. Their evidence indicate a positive relationship between family control, market valuation and operating performance. The analysis by Barontini and Caprio (2006) take into account the "family effect" by the variables family firm and ownership variables where a firm is considered a family-controlled family firm if a family controls more than 51% of direct voting rights or controls more than twice the direct voting rights of the second largest shareholder. The dependant variables measuring firm performance and firm valuation is Tobin's Q and return on assets (ROA). Their result does not imply a global negative effect of family control, rather a positive association of family control with market valuation and operating performance. If the founder still is in a controlling position the family-effect in firms in Continental Europe is positive. However, they do not find evidence that descendant-controlled firms underperform non-family firms.

Anderson and Reeb (2003) investigate the relation between founding-family ownership and firm performance from a sample of 403 firms from S&P 500 in 1992 to 1999. Firm performance is measured by Tobin's Q, Return on assets (ROA) and Return on equity (ROE) and the definition of family firm is that the family continues to have equity ownership stake in firm, family possesses board seats and the founding CEO or its descendent is still the acting CEO (Anderson and Reeb 2003). The findings show that family firms outperform non-family firms in both ROA and Tobin's Q.

Oreland (2007) examine the relationship between family control and firm performance on 144 Swedish public listed companies over the years 1985-2000. Taking into account the impact of family control of the CEO position as well as family controlled and founder controlled owner

Oreland (2007) show that both family firms and founder family firms perform worse than firms with dispersed ownership.

Oreland (2007) measures firm performance by Tobin's Q and uses control variables in the form of firm characteristics and the independent variables ROA, size, age, leverage, sales/assets, PPE (property, plant and equipment)/assets and CAPEX (capital expenditures)/assets in the regression. It is important to have in mind that even if ROA often is used as an alternative measure of performance the ownership might affect Tobin´s q through ROA (Oreland, 2007). This can result in difficulties to find the true relationship between the ownership and Tobin´s q. The definition of a family firm according to Oreland (2007) is divided into family controlled firms and founder-family controlled firms. Family controlled firms are firms where an individual or group of individuals controls $\geq$ 25 percent of the firm. Firms controlled by founder-families are firms where the controlling owner(s) are either the founder or relatives to the founder (Ibid).

Villalonga and Amit (2006) argues that a firm considered a family firm has to fulfil the criteria of having members of the family as officer, director or a shareholder in the firm. They find a higher Tobin's Q in family owned firms but when the descendant takes over the managing of the firm the firm value gets destroyed. Villalonga and Amit (2006) measure firm value by Tobin's Q for their sample collected from the firm-year data of 508 firms from Fortune 500 1994-2000.

These four studies represent the background for our study, but to further acknowledge the issue of the difficulties in defining a family-firm and choose the correct firm performance measurement we have also been reviewing Dyer (2006). Dyer (2006) analyse the "family effect" on firm performance, as several studies regarding family firm performance have found mixed results on firm performance considered the effect of family firms. The mixed results on firm performance are according to Dyer (2006) a result of differences in the measurements regarding both the firm performance and family firm. Table 1 shows us an overview of the earlier studies we have based our study on and it show us the difference in findings, definition of family-firms and performance/valuation measurements.

Table 2: Earlier studies

Citation	Definition family firm	Performance/ valuation measure	Sample	Sample criteria	Findings
Anderson and Reeb (2003)	Family firm criteria: (1) the family continues to have an equity ownership stake in firm; (2) family possesses board seats; (3) founding CEO or its descendant is the acting CEO.	1. Tobin's Q 2. Return on assets (ROA) 3. Return on equity	403 firms taken from S&P 500. Firms from 1992-1999	S&P 500 firms, excluding banks and public utilities	Family firms have higher Tobin's Q and return on assets.
Barontini and Caprio (2006)	Family controlled firm if a family controls more than 51% of direct voting rights or control more than double the direct voting rights of the second largest shareholder.	1. Tobin's Q 2. Return on assets (ROA)	675 firms from 11 countries from Continental Europe. Time period 1999-2001.	Non-financial and non-regulated firms with assets worth more than €300 in 1999 from 11 countries.	Family controlled firms perform slightly more positive than non-family firms.
Oreland (2007)	Family controlled firm if an individual or group controls $\geq$25%. Founder family controlled firm if controlling owner(s) are the founder or its relatives.	Tobin's Q	144 Swedish public listed firms. Time period 1985-2000.	144 large non-financial firms listed on the Stockholm Stock Exchange from 1985-2000.	Family controlled firms perform worse than non-family firms.
Villalonga and Amit (2004)	The founder or a member of its family by either blood or marrage is an officer, a director, or a stockholder.	Tobin's Q	508 firms from Fortune 500 during the years 1994-2000.	Fortune 500 firms from 1994-2000.	Family owned firms have higher Tobin's Q but second-generation family leaders destroy firm value.

Table 1 is an overview of earlier studies used as theory in this study.

3.3 Firm performance

Most of the studies use ROA and Tobin's Q as firm performance measurements. Therefore the parameters in this study will follow the same model as Oreland (2007), who also made his study on the Swedish market, but also include ROA as a measurement for firm performance.

3.3.1 Tobin´s Q

Tobin´s Q is the ratio between the total market value and total asset value for a firm. This variable implies that the ratio between the total market value and the total asset value of the firm will tend towards a value of one in the long run. Although it has been observed that the value can differ substantially from one under long periods of time. The theory behind Tobin's Q is that many analysts believe that the market value of a firm cannot outstand the replacement cost, because in that case investors would try to replace the firm. Similar firms on the market will drive down the market value of the firm to market equilibrium because of the competitive pressure. The advantage of Tobin's Q compared to other firm performance measurements is that Tobin's Q is based on the market value that measure current values of a firms assets and indebtedness's. Another positive factor by using a measure based on a firms market value in comparison to the book value is that assets like those of intellectual properties is included in the market value. (Bodie et al., 2009, p.765).

When Tobin's Q is greater than one the value of installed capital in the existing firm exceeds the cost of repurchasing it new and start a new firm from scratch (Burda & Wyplosz 2012, p.195). This would imply that the firms should take the chance to invest in more capital to increase the firm's market value. But giving the declining of marginal productivity the new investments in capital reduces the return on capital over time and therefore Tobin's Q will decline over time. The model does though have some restrictions regarding public utilities and banks where there are some risk of government regulations that could affect the firm performance and therefore the result of Tobin's Q (Anderson and Reeb, 2003).

3.3.2 Return on assets (ROA)

Return on total assets (ROA) measures the profitability for all contribution of capital that is measured by earnings before taxes, depreciation, interest and amortization divided by the total

assets of the firm (Bodie et al. 2009, p.765). If ROA exceeds the debt-equity ratio the firms earn more than it pays to their creditors. ROA is measured as the book value and some problems with those types of measurements is, as discussed earlier, that it not measurements the current value of the firm's assets and liabilities (Bodie et al. 2009, p.812). Another mentionable aspect is that ROA does not take into account the value that the firm possesses in intellectual properties like strong firm name or patent and intern research of development.

4. Method

4.1 Hypotheses

The previous studies by Anderson and Reeb (2003), Barontini and Caprio (2006) and Villalonga and Amit (2004) have shown a positive family-effect on firm performance while the family-effect in Oreland (2007) is negative. Since the majority of the previous studies have shown a positive effect on firm performance, our hypotheses will test the positive "family-effect" on firm performance by measuring Tobin's Q and ROA.

The first hypothesis will test the family-effect on firm performance by measuring Tobin's Q and ROA where family-effect is the effect of family firms;

$\boldsymbol{H_1}$: $\boldsymbol{Family\ firms\ show\ higher\ performnce\ than\ non-family\ firms}$

The second hypothesis will test the family-effect on firm performance when the family firm controls the CEO. Firm performance is measured by Tobin's Q and ROA;

$\boldsymbol{H_2}$: $\boldsymbol{Family\ firms\ with\ control\ of\ the\ CEO\ outperform\ the\ family\ firms\ without\ control\ of\ the\ CEO}$

The third hypothesis tests the founding-family effect on firm performance by measuring Tobin's Q and ROA;

$\boldsymbol{H_3}$: $\boldsymbol{Founding\ family\ firms\ show\ higher\ performance\ than\ non\ founder\ firms}$

The fourth hypothesis will test the founding-family effect on firm performance when the founding-family firm controls the CEO;

H_4: Founding family firms with control of the CEO outperform the firms without control of the CEO

4.2 Variables

To define the structure of the ownership in the sample the degree of shareholder's control over the firm is used. If the major shareholder is a single family or individual and control $\geq$ 25 % of the voting rights or $\geq$ 25 % of the capital, the firm is considered to be a family controlled firm (Oreland 2007). If the founder-family still are shareholders in the firm and possesses board seats the firm is considered to be a founder-family firm (Andersson and Reeb 2003). To control if the founder-family still have an equity ownership in the firm we use the book "Ägarna och makten i Sveriges Börsföretag" (Fristedt et al, 2009) that presents the 25 largest shareholders in public listed firms. We have therefore decided to only take account for the 25 largest shareholders when defining the founder-family firms.

Since the argument regarding having family members on the board or as CEO have been mentioned in several earlier studies (Andersson and Reeb (2003), Oreland (2007)) we have decided to take this factor in to account. The control of the firm manager is an especially important factor to consider, since the CEO is making the operative decisions and therefore almost have ultimate control over the firm (Oreland 2007). We are therefore also going to consider the effect of having a family or founding-family controlled CEO. In our sample only one firm, Hennes & Mauritz, controls the CEO. Therefore we can not control for the effect of having a family-controlled CEO, but will present the regression results in appendix.

Table 3: Family structure

Family structure	N	Percentage
Family firm	18	45%
Founding-family firm	9	23%
Non founder family or family firm	20	50%
Family CEO	1	3%
Founder family CEO	1	3%

Table 2 displays the quantity and percentage of firms in different family structures. The sample total consists of 200 firm-year observations, from 2008 to 2012. To be a family firm, the individual or family must have ≥25% of the shares or votes. To be a founding-family firm, the founder or its family must be an equity shareholder among the largest 25 shareholders and have board seat(s). Non-founder family or non-family firm is the firms not in the family-firm and founding-family firm groups. Family CEO is where the controlling family- or founder-family firm controls the position as CEO in the firm.

4.3 Sample and data collection

The sample firms used in this study are collected from OMX 60, which contains the 60 most traded shares in Sweden listed on the Stockholm Stock Exchange. We have collected data from the firms contained in the OMX 60 under a five-year period, from 2008 to 2012.

Ten (10) firms with residence outside Sweden are excluded from the sample. Four (4) public utilities and banks are also excluded as well as three (3) investment firms, since according to Anderson and Reeb (2003) the government regulations could affect the firm performance. In the sample of OMX60 there are three firms that have both their A and B shares among the 60 most traded and therefore there are a total of 57 firms in the OMX60. We then have a total of twenty (20) excluded firms which results in forty (40) firms remaining in our sample and a total of 200 observations (see table 4).

Table 4: Overview firms in the sample from OMX60

	Firms in OMX 60		
1	Alfa Laval	**30**	SCANIA
2	Arcam	**31**	Securitas
3	Assa Abloy	**32**	Skanska
4	Atlas Copco	**33**	SKF
5	Axis	**34**	SSAB
6	Betsson	**35**	Swedish Match
7	Boliden	**36**	Tele 2
8	Castellum	**37**	TeliaSonera
9	Electrolux	**38**	Trelleborg
10	Elekta	**39**	Volvo
11	Ericsson	**40**	Husqvarna
12	Fabege	**41**	ABB Ltd*
13	Fingerprint Cards	**42**	AstraZeneca*
14	Getinge	**43**	Autoliv SDB*
15	Hennes & Mauritz	**44**	SEB **
16	Hexagon	**45**	Ica Gruppen*
17	Hexpol	**46**	Industrivärden **
18	Holmen	**47**	Investor **
19	Intrum Justitia	**48**	Kinnevik *
20	JM	**49**	Lundin Mining Corporation SDB*
21	Lundin Petrolium	**50**	Millicom Int. Cellular SDB*
22	Meda	**51**	Nokia Oyj*
23	Modern Times Group	**52**	Nordea Bank**
24	NCC	**53**	Oriflame, SDB*
25	Precise Biometrics	**54**	Stora Enso R*
26	Raos	**55**	Sv. Handelsbanken **
27	SAAB	**56**	Swedbank **
28	Sandvik	**57**	Swedish Orphan Biovitrum*
29	SCA		

*Table 4 displays the firms in the sample form the OMX60. *Dismissed, foreign residence, **Dismissed, Financial institutions*

4.4 Data

The data used is key performance indicators and financial ratios collected from Orbis. For two of the firms the information regarding number of outstanding shares and the share price were missing in the Orbis database and therefore the data were collected from Data Stream. The data includes information about the largest capital owners and the one with the largest voting rights of the firms. The secondary data also includes information about the board members, the CEO and the founder of the firms. This data is collected from "Ägarna och makten i Sveriges Börsföretag" (Fristedt et al, 2009) and the firm's own Internet pages.

4.5 Implementation

The first step of the implementation was to collect the data needed from OMX60; firm performance and firm valuation measurements from the annual reports and through the databases Orbis and Datastream. Data on ownership structure about family, founder-family, founder-CEO and family-CEO where obtained from the book "Ägarna och makten i Sveriges Börsföretag" (Fristedt et al, 2009) and the webpages of respective firm. The firms were also categorised in industries by GICS (the Global Industry Classification Standard). The firm category named "Industrials" is the one category with the most observations. There for this is category that is used in the regressions.

Table 5: Classification of the firms in industries

Industry classification (GICS)	N	Family-firms	Founding-family-firms	Family CEO/ Founding CEO	Non-founding / Non-family Firms
1. Industrials	16	8	2	0	7
2. Information Technology	2	0	1	0	1
3. Consumer Staples	3	2	2	1	1
4. Materials	4	2	2	0	2
5. Financials	5	1	1	0	4
6. Consumer Discretionary	4	2	0	0	2
7. Health Care	3	1	1	0	2

Table 5 (continued)

Industry classification (GICS)	N	Family-firms	Founding-family-firms	Family CEO/ Founding CEO	Non-founding / Non-family Firms
8. Energy	1	1	0	0	0
9. Telecommunication Services	2	1	0	0	1
10. Utilities	0	0	0	0	0
Total	40	18	9	1	20

The table displays the classifications of the firms into 10 different industries according to the GICS (the Global Industry Classification Standard). The sample consists of 40 firms from OMX60 with 200 firm-year observations from 2008 to 2012. The firms are divided into family-firms, founding-family firms, family-CEO, founding-family CEO and non-founding/non-family firm. To be a family firm, the individual or family must have ≥25% of the shares or votes. To be a founding-family firm, the founder or its family must be an equity shareholder among the largest 25 shareholders and have board seat(s). Non-founder family or non-family firm is the firms not in the family-firm and founding-family firm groups. Family CEO is where the controlling family- or founder-family firm controls the position as CEO in the firm.

4.6 The chosen Variables and their definition

Following is an overview and short description of the variables used in the study.

Dependent variables

- $\boldsymbol{Return\ on\ total\ assets\ (ROA) =}$ $\frac{EBITDA\ (Earnings\ before\ interest,taxes,depreciation\ and\ amortization)}{Total\ assets}$ (Oreland 2007 p. 27)

- $\boldsymbol{Tobin's\ q} = \frac{Total\ Market\ Value\ of\ Firm}{Total\ Asset\ Value}$ (Andersson and Reeb 2003 p.1310)

Main Independent variables

- ***Family firm*** – A single family or individual have ≥ 25% of the voting rights or own ≥ 25% of the capital. Measured by a dummy variable were (1) is a family-firm and (0) is a non-family firm.
- ***Family CEO*** - A single family or individual that have ≥ 25% of the voting rights or own 25% of the capital has the position as CEO in the firm. Measured by a dummy variable were (1) is family CEO positions and (0) is a non-family CEO position.

- ***Founder-family firm*** **-** The founding family are among the 25 largest shareholders in the firm and possesses board seat(s). Measured by a dummy variable were (1) is founder-family firm and (0) is a non-founder family firm.
- ***Founder-family CEO*** **-** The founder or its descendant have the position as CEO in the firm. Measured by a dummy variable were (1) is a founder-family CEO position and (0) is a non-founder family CEO position.

Control variables

- ***Leverage (debt-equity ratio)*** $= \frac{total\ debt}{shareholders\ equity}$
- ***Industry*** **–** Classification of the firms according to GICS.
- ***Ln(size)*** - The natural logarithm of total assets of the firm.
- ***Return on total assets*** – when using lnTobin's- Q as depending variable.

4.7 Regressions

We will run eight regressions, four with Tobin's Q as the dependent variable and four with ROA as the dependent variable. We will measure the effect of the following four variables on Tobin's Q and ROA in four different regressions; (1) family firm, (2) founder family firm, (3) family firms with a family CEO, (4) founder family firms with a founder family CEO. The method used is OLS regression with cluster. We use cluster standard errors on firms. The cluster is used to make the observations within the cluster more similar to each other than observations within different clusters (Wooldridge, 2013, p.403-404). In our case this means that the yearly observations regarding each firm are tied to each other in a way.

We test the variables in the regressions for multicollinearity this is done to see if any of our variables are correlated with each other. The multicollinearity test is of certain interest because if we have collinearity between any of the variables the coefficient estimates of the OLS regressions may change unpredictably in response to small changes in the model or data (Wooldridge, 2013, p.262).

1. $$Tobin's\ q\ = \beta_0 + \beta_1(fam) + \sum_{t=1}^{4} \gamma_t\ (year\ dummy) + \beta_3(liabilities) + \beta_4(\ln\ size) + \sum_{t=1}^{9} \gamma_t\ (industry\ dummy) + \beta_6(ROA) + \epsilon$$

2. $$Tobin's\ q = \beta_0 + \beta_1(Founding\ family\ equity) + \sum_{t=1}^{4} \gamma_t\ (year\ dummy) + \beta_3(liabilities) + \beta_4(\ln\ size) + \sum_{t=1}^{9} \gamma_t\ (industry\ dummy) + \beta_6(ROA) + \epsilon$$

3. $$ROA = \beta_0 + \beta_1(family\ CEO) + \sum_{t=1}^{4} \gamma_t\ (year\ dummy) + \beta_3(liabilities) + \beta_4(\ln\ size) + \sum_{t=1}^{9} \gamma_t\ (industry\ dummy) + \epsilon$$

4. $$ROA\ = \beta_0 + \beta_1(founding\ family\ CEO) + \sum_{t=1}^{4} \gamma_t\ (year\ dummy) + \beta_3(liabilities) + \beta_4(\ln\ size) + \sum_{t=1}^{9} \gamma_t\ (industry\ dummy) + \epsilon$$

5. Empirical results

The empirical results is presented by the four regressions made; Tobin's Q with family-firm and founder-family firm and ROA with family-firm and founder-family firm. We begin with an overview of the mean, standard deviation, min- and max values of the variables used in the tests. The tests will be presented in table 6-11.

Table 6: Mean, standard deviations, min- and max values

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	199	0,12297	0,177185	-1,4157	0,603105
Tobin's Q	200	1,38155	1,534872	0,08541	10,47839
Liability	200	0,58074	0,161418	0,09013	1,142718
Total debt	200	4642210	6554520	1234,43	3,90E+07
ln Size	200	14,9148	1,951093	8,37899	17,76826
Table 6 continues					
Share price	200	15,3598	10,19782	0,10242	66,31835
Market value	200	7247864	1,22E+07	7830,33	1,16E+08

Table 6 shows the mean, standard deviations, min- and max value of the variables used in the tests. The sample consists 200 firm-year observations from 2008-2012 from 40 firms from the OMX60. One observation is missing when calculating ROA and EBITDA where we have used 199 observations.

5.1 Test 1: Tobin's q and family firm

The correlation matrix in table 1.1 in appendix shows no evidence for high correlation between the variables in the regression.

Table 7: Regression analysis Tobin's Q and family firm

Linear regression: lnTobin´s q, Fam, Liability, lnSize, ROA, y11, y10, y09, y08, industry 1 (cluster)		
Number of obs=199		
F (9, 39) = 17,71		
Prob> F = 0,0000		
R-squared = 0,4398		
lnTobin's Q	**Coef.**	**T**
Fam	-0,1402817	-0,76
Liability	-1,141291	-1,04
lnSize	-0,2198943	-2,98***
ROA	1,528687	1,48
y11	-0,088674	-1,31

Table 7 continues		
y10	0,0790124	1,28
y09	-0,2599774	-2,64**
y08	-0,7103298	-4,75***
Industry 1	-0,0239946	-0,13
cons	3,920084	5,25

*Table 7 show the OLS regression analysis with cluster on firmcode made in Stata with lnTobin's Q, family, liability, lnsize, ROA, year dummys 2008-2011 and industry-dummy for industry 1 ("Industrials"). The sample consists 199 firm-year observations from 2008-2012. Family is a dummy variable measuring if the firm is a family firm, 1 if a family or individual own ≥25% of the votes or shares. ROA is Return on assets, liability is calculated by total debt divided by total assets and lnsize is the natural logarithm of the total asset of the firm. There are 5 year-dummy variables, 2008-2012 and 2012 is excluded in the regression. *, ** and *** indicate significance at the 10-, 5-, and 1-percent level, respectively, for double-sided t-test.*

With a R-square of 0,4398, 43,98 % of the dependent variable (ln)Tobin's Q in the regression is described by the independent variables. The variable that is the most interesting in the regression is family firm but we can not see significance for it and therefore we can not say with certainty that family have an effect on firms market value measured by (ln)Tobin's Q. We can see that the variable of (ln)size are significant with a t value of -2,98 at a significance level of at least 1%, meaning that a 1% increase of firms size would lead to a decrease of the firms value of Tobin's Q with 0,22%. The rest of the variable in the regression do not have any significance with an exception of the year dummy of 2009 and 2008. The year dummy 2009 is significant on 5% level with a t-value of -2,64 this means that the dummy 2009 has a negative effect on (ln)Tobins Q compared with the year of 2012 that is representing the base group. The year dummy 2008 is significant on the 1% level with a t-value of -4,75 and has a negative effect compared to the base year 2012 wish is excluded in the regression, meaning that the value of Tobin´s Q was considerably lower especially in the years of 2008 but also for the year of 2009 compared to 2012.

5.2 Test 2: Tobin's q and founder family firm

The correlation matrix in table 1.2 in appendix shows no evidence for high correlation between the variables in the regression.

Table 8: Regression analysis Tobin's Q and family firm

Linear regression lnTobin´s Q, Founding fam, Liability, lnSize, ROA, y11, y10, y09, y08, industry 1 (cluster)		
Number of obs=199		
F (9, 39) = 17,20		
Prob> F = 0,0000		
R-squared = 0,4399		
lnTobin´s Q	**Coef.**	**t**
Founding fam	0,1728902	0,59
Liability	-1,122279	-0,98
lnSize	-0,2205699	-2,93***
ROA	1,345996	1,33
y11	-0,089258	-1,39
y10	0,076055	1,31
y09	-0,2515599	-2,63**
y08	-0,7088624	-4,8***
Industry 1	-0,0250665	-0,12
cons	3,837846	5,35

*Table 9 show the OLS regression analysis with cluster on firmcode made in Stata with lnTobin's Q, founding-family, liability, lnsize, ROA, year dummys 2008-2011 and industry-dummy for industry 1 ("Industrials"). Founding-Family is a dummy variable measuring if the firm is a family firm if the founder or its family are among the 25 largest shareholders and possesses board seat(s). The sample consists 199 firm-year observations from 2008-2012. There are 5 year-dummy variables, 2008-2012 and 2012 is excluded in the regression. *, ** and *** indicate significance at the 10-, 5-, and 1-percent level, respectively, for double-sided t-test.*

In table 9 above we can not see any significance between founding family and (ln)Tobin's Q because of a t-value of 0,59. In this regression we can see that (ln)size is significant with a t-value of -2,93 at least at 1% significant level, meaning that a 1% increase of firms size would lead to a decrease of the firms Tobin's Q with 0,22%. The other independent variables in the regression do not have any significance with the exception of the year dummy of 2009 and 2008. The year dummy 2009 is significant on 5% level and the year dummy 2008 is significant on the 1% level and has a negative effect compared to the base year 2012 wish is excluded in the

regression. This result implies that the value of Tobin's Q was considerably lower especially in the years of 2008 but also for the year of 2009 compared to 2012

5.3 Test 3: ROA and family

The correlation matrix in table 1.3 in appendix shows no evidence for high correlation between the variables in the regression.

Table 10: Regression analysis ROA and family

Linear regression ROA, Fam, Liability, lnSize, y11, y10, y09, y08, industry 1 (cluster)		
Number of obs=199		
F (8, 39) = 4,32		
Prob> F = 0,0009		
R-squared = 0,2066		
ROA	**Coef.**	**t**
Fam	0,0432258	1,56
Liability	-0,0427958	-0,29
lnSize	0,0278569	1,12
y11	0,0100617	0,57
y10	0,0018249	0,12
y09	0,053669	3,15***
y08	0,0227557	0,74
Industry 1	-0,0946189	-2,38**
cons	-0,269562	-0,78

*Table 10 show the OLS regression analysis with cluster on firmcode made in Stata with ROA, family, liability, lnsize, ROA, year dummys 2008-2011 and industry-dummy for industry 1 ("Insdustrials"). The sample consists 199 firm-year observations from 2008-2012. Family is a dummy variable measuring if the firm is a family firm, 1 if a family or individual own ≥25% of the votes or shares. ROA is Return on assets, liability is calculated by total debt divided by total assets and lnsize is the natural logarithm of the total asset of the firm. There are 5 year-dummy variables, 2008-2012 and 2012 is excluded in the regression. *, ** and *** indicate significance at the 10-, 5-, and 1-percent level, respectively, for double-sided t-test.*

The result of the OLS regression with cluster for ROA and family in table 10 has an R-square of 0.2066 which implies that the independent variables in the regression explains 20,66% of the variation in ROA. Our family variable is not significant and therefore we cannot say with certainty that family has an effect on ROA. This is also the case for liability, size and the year dummies 2011, 2010 and 2008. The year dummy 2009 is significant on 1% significance level and has a positive effect compared to the base year 2012 wish is excluded in the regression,

meaning that the value of ROA was higher in the years of 2009 compared to 2012. The industry dummy "industry 1" is significant at the 5% significance level and has a negative effect on ROA compared to the other nine industries, with a coefficient of -0.095 this implies that the firms in the industry 1 had a lower value of their ROA compared to the firms in the other 9 industries.

5.4 Test 4: ROA and founder family

The correlation matrix in table 1.4 in appendix shows no evidence for high correlation between the variables in the regression.

Table 11: Regression analysis ROA and founder family

Linear regression ROA, Founding family, Liability, lnSize, y11, y10, y09, y08, industry 1 (cluster)		
Number of obs=199		
F (8, 39) = 4,30		
Prob> F = 0,0009		
R-squared = 0,2446		
ROA	**Coef.**	**t**
Found fam	0,1026704	2,17**
Liability	-0,0417116	-0,3
lnSize	0,0304877	1,22
y11	0,0101114	0,58
y10	0,0023126	0,15
y09	0,0543663	3,23***
y08	0,0236024	0,78
industry 1	-0,072319	-2,05**
cons	-0,3197294	-0,93

*Table 11 show the OLS regression analysis with cluster on firmcode made in Stata ROA, founder-family, liability, lnsize, ROA, year dummys 2008-2011 and industry-dummy for industry 1 ("Insdustrials"). Founding-Family is a dummy variable measuring if the firm is a family firm if the founder or its family are among the 25 largest shareholders and possesses board seat(s). There are 5 year-dummy variables, 2008-2012 and 2012 is excluded in the regression. The sample consists 199 firm-year observations from 2008-2012. *, ** and *** indicate significance at the 10-, 5-, and 1-percent level, respectively, for double-sided t-test.*

The result by the OLS regression with firm cluster for ROA and founder family in table 11 has an R-square of 0.2446 which implies that the independent variables in the regression explains 24,46% of the variations in ROA. Our founder family variable is significant at least on the 5% significance level with a t-value of 2.17 and therefore the variable founder family has a positive effect on ROA, meaning that if our founder family variable increasing with 1 unit, ROA would

increase by 0,102 unit. The variables liability, size and the year dummies 2011, 2010 and 2008 are not significant. The year dummy 2009 is significant on a 1% significance level and has a positive effect with a coefficient of 0.054 compared to the base year 2012 that are excluded in the regression, this implies that the value of ROA was higher in 2009 compared to the year of 2012. The industry dummy "industry 1" is significant at the 5% significance level and has a negative effect on ROA compared to the other nine industries, with a coefficient of -0.072 this implies that the firms in the industry 1 had a lower value of their ROA compared to the firms in the other 9 industries.

5.5 Test 5: Tobin's Q and ROA with Founder Family CEO and Family CEO

Both the regressions of Tobin's Q and ROA with the independent variables of family and founding family CEO have the problem with only one observation. It is only the firm Hennes & Mauritz that have a CEO with connections to a founding family that are among the 25 largest owners or a family that owns at least 25% of the equity in the firm or have 25% of the voting rights. In the case of Hennes & Mauritz the founding family still has an extremely large impact on the firm. Because of the lack of observations we cannot get any useful information from the regressions, for the regression result for CEO; see the tables 1.5-1.8 in appendix.

5.6 Summary empirical results

Our empirical results implies that the null hypotheses for Tobin's Q can´t be rejected since none of the tests with Tobin's Q as the dependant variable are significant. We cannot say that family and founding-family has an effect on Tobin's Q. The empirical result also implies that the null hypothesis for ROA only can be rejected in the case of Founding-family but we cannot say that family has an effect on ROA. In the case of the effect of Family-CEO and Founder-Family-CEO on Tobin's Q and ROA we cannot draw any conclusions since the sample is too small.

5.7 Discussion

5.7.1 Reliability

The data have been collected from the databases Orbis and Data Stream that include information about the firm's financial results. The information about the firm's CEO´s and owning structures have been gathered from "Ägarna och Makten I Sveriges börsföretag" written by Fristedt et al, 2009 and the actuality of this information has been controlled for at the firm's own websites.

5.7.2 Validity

Do the chosen parameters measure the values we are interested in in the right way? To strengthen the validity of this study we has chosen to examine two different dependent parameters, the Tobin's Q used in Oreland (2007) that is a market-oriented measure and ROA used in Andersson and Reeb (2003) that is an accounting based measure. The usage of some of the parameters that several of the earlier studies have been using is increasing the validity of our study.

5.7.3 Systematic errors

Because a population sample is not an exact reflection of the population the result based on the sample may not be representative for the total population. Some of the errors that is possible to appear is processing error, error of measurement and cover errors.

The question we need to ask ourselves is if our sample from the OMX 60 is a true sample of our population of Swedish firms listed on the Stock Exchange. One of the problems that have been encountered for is the excluding of banks and the investment firms. This is the case where government regulations could affect firm performance that can cause problems when calculations of Tobin's Q. Excluding this firms may have resulted in some cover errors.

6. Conclusion

The purpose of this thesis has been to find evidence of a "family-effect" on the firm performance and firm valuation measures. The family-effect was measured by Family firm, Founder-family firm and if the CEO are controlled by the families. We have accomplished the purpose of the thesis but we failed to test the effect of a family and founding-family controlled CEO because of the lack of observations on family controlled CEO in our sample. Even though our data contained about 50% family-controlled-firms there where only one (1) firm that also controlled the position as CEO.

The main findings in our empirical results imply that Founding-family has a positive effect on Return on Assets (ROA). The conclusion is that the result from the regression differs distinctly from the value by which we measure the firm's performances. We can observe that by using the book value of return on assets in the regressions instead of the market value of Tobin´s q, it results in a significance of the founding-family effect.

7. Analysis

Our concern has been with the previous studies contradictory results because even though the studies have had similar purposes and hypothesis their empirical results implies different "family-effects" on performance and valuation measures. As described in section 3.2 Earlier studies, Anderson and Reeb (2003), Barontini and Caprio (2006) and Villalonga and Amit (2004) find a positive family-effect on firm performance and firm valuation and Oreland (2007) find a negative family-effect. Their contradictory results could be an effect of the different data samples since the sample of Oreland (2007) is from Swedish firms and the other samples were collected from the US and Continental Europe.

The data in our study where collected from Swedish firms but still our result is contradictory to that of Oreland's. One reason for the difference in our results is that we have different time periods and our time period (2008-2012) consisted the years of the financial crisis. Our result could be a sign, although not tested for in this study, of that founding-family firms may have

managed to deal with the financial crisis in a better way than non-founding family-firms. Another more certain answer to the question why our result differ from the result of Oreland's, may be that Oreland has based his search on a larger sample than ours and has also only studied the effect on Tobin's Q. The larger sample may have an effect on his opportunity to get a more accurate result. At the same time he also have some additional control variables in comparison to what we have in our regression, this is also something that can have an effect on the result. The above-mentioned factors could be the reason why he found significance of family control on Tobin's Q that we fail to find.

The difference in the significance of family effect in the regressions with ROA and Tobin's Q is something that we find interesting. The question is why this difference between the performance and valuing measures is occurring. The obvious differences are that the two performance values indicate two different ways to measure the performance versus value of a firm. One reason may be that an underlying variable is affecting the way that the dependent variable is affected by a family-firm. What is it that makes the book value more affected by a family structure than the market value? This, and the possibility that family-controlled firms have handled the finance crisis differently than non-family firms, would be interesting to explore in further studies.

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9. Appendix

Table 1.1: Correlation matrix Tobin's q and family firm

Correlation on Family, ROA, liability, lnSize					(obs=199)
	Fam	**ROA**	**Liability**	**lnSize**	
Fam	1				
ROA	0,1649	1			
Liability	0,0528	0,1013	1		
lnSize	0,1589	0,3325	0,4621	1	

Table 6 shows the correlation between the variables Family, ROA, liability and lnsize. Family is a dummy variable measuring if the firm is a family firm, 1 if a family or individual own ≥25% of the votes or shares. ROA is Return on assets, liability is calculated by total debt divided by total assets and lnsize is the natural logarithm of the total asset of the firm. There are 199 firm-year observations from 2008 to 2012 collected from 40 firms in the OMX60.

Table 1.2: Correlation matrix Tobin's q and founder family

Correlation on Founding Family, ROA, Liability, lnSize					(obs=199)
	Founding fam	**ROA**	**Liability**	**lnSize**	
Founding Fam	1				
ROA	0,2823	1			
Liability	-0,0394	0,1013	1		
lnSize	-0,0056	0,3325	0,4621	1	

Table 8 shows the correlation between the variables Founding-Family, ROA, liability and lnsize. Founding-Family is a dummy variable measuring if the firm is a family firm if the founder or its family are among the 25 largest shareholders and possesses board seat(s). ROA is Return on assets, liability is calculated by total debt divided by total assets and lnsize is the natural logarithm of the total asset of the firm. There are 199 firm-year observations from 2008 to 2012 collected from 40 firms in the OMX60.

Table 1.3: Correlation matrix ROA and family

Correlation on Family, Liability, lnSize				(obs=199)
	Fam	**Liability**	**lnSize**	
Fam	1			
Liability	0,0528	1		
lnSize	0,1589	0,4621	1	

Table 10 shows the correlation between the variables Family, liability and lnsize. Family is a dummy variable measuring if the firm is a family firm, 1 if a family or individual own ≥25% of the votes or shares. ROA is Return on assets, liability is calculated by total debt divided by total assets and lnsize is the natural logarithm of the total asset of the firm. There are 199 firm-year observations from 2008 to 2012 collected from 40 firms in the OMX60.

Table 1.4: Correlation matrix ROA and founder family

Correlation on Founding family, Liability, lnSize			(obs=199)
	Founding fam	Liability	lnSize
Founding fam	1		
Liability	-0,0394	1	
lnSize	-0,0056	0,4621	1

Table 12 shows the correlation between the variables Founding-Family, liability and lnsize. Founding-Family is a dummy variable measuring if the founder or its family are among the 25 largest shareholders and possesses board seat(s). ROA is Return on assets, liability is calculated by total debt divided by total assets and lnsize is the natural logarithm of the total asset of the firm. There are 199 firm-year observations from 2008 to 2012 collected from 40 firms in the OMX60.

Table 1.5 Regression Founding family CEO, lnTobin´s Q

Linear regression lnTobin´s Q, Founding CEO, Liability, lnSize, ROA, y11, y10, y09, y08, industry 1 (cluster)						
Number of obs=199						
F (9, 39) = -						
Prob> F = -						
R-squared = 0,4878						
Root MSE = 0,66263						
lnTobin´s Q	**Coef.**	**Robust Std.Err.**	**t**	**P>|t|**	**[95% Conf. Intervall]**	
Founding CEO	1,524395	0,48216	3,16	0,003	0,549134	2,499656
Liability	-0,48945	1,086736	-0,45	0,655	-2,68758	1,708679
lnSize	-0,24785	0,076151	-3,25	0,002	-0,40188	-938181
ROA	1,100072	0,836945	1,31	0,196	-0,59281	2,792953
y11	-0,0882	0,063752	-1,38	0,174	-0,21715	0,040756
y10	0,08012	0,605719	1,32	0,194	-0,0424	0,202638
y09	-0,24424	0,091822	-2,66	0,011	-0,42997	-0,05851
y08	-0,73303	0,143267	-5,12	0	-1,02282	-0,44325
Industry 1	-0,034	0,193986	-0,18	0,862	-0,42638	0,358371
cons	3,914728	0,709374	5,52	0	2,479884	5,349572

Table 1.6 Regression Family CEO, lnTobin´s Q

Linear regression lnTobin´s Q, Fam CEO, Liability, lnSize, ROA, y11, y10, y09, y08, industry 1 (cluster)						
Number of obs=199						
F (9, 39) = -						
Prob> F = -						
R-squared = 0,4878						
Root MSE = 0,66263						
lnTobin´s Q	**Coef.**	**Robust Std.Err.**	**t**	**P>|t|**	**[95% Conf. Intervall]**	
Fam CEO	1,524395	0,48216	3,16	0,003	0,549134	2,499656
Liability	-0,48945	1,086736	-0,45	0,655	-2,68758	1,708679
lnSize	-0,24785	0,076151	-3,25	0,002	-0,40188	-938181
ROA	1,100072	0,836945	1,31	0,196	-0,59281	2,792953
y11	-0,0882	0,063752	-1,38	0,174	-0,21715	0,040756
y10	0,08012	0,605719	1,32	0,194	-0,0424	0,202638
y09	-0,24424	0,091822	-2,66	0,011	-0,42997	-0,05851
y08	-0,73303	0,143267	-5,12	0	-1,02282	-0,44325
Industry 1	-0,034	0,193986	-0,18	0,862	-0,42638	0,358371
cons	3,914728	0,709374	5,52	0	2,479884	5,349572

Table 1.7 Regression, Founding family CEO, ROA

Linear regression ROA, Founding CEO, Liability, lnSize, y11, y10, y09, y08, industry 1 (cluster)						
Number of obs=199						
F (7, 39) = -						
Prob> F = -						
R-squared = 0,2458						
Root MSE = 0,15708						
ROA	**Coef.**	**Robust Std.Err.**	**t**	**P>|t|**	**[95% Conf. Intervall]**	
Found CEO	0,298732	0,054093	5,52	0	0,189318	0,408145
Liability	0,08006	0,101984	0,79	0,437	-0,12623	0,286342
lnSize	0,023496	0,026526	0,89	0,381	-0,03016	0,07715
y11	0,010276	0,016837	0,61	0,545	-0,02378	0,044331
y10	0,002418	0,015076	0,16	0,873	-0,02808	0,032913
y09	0,053114	0,01649	3,22	0,003	0,01976	0,086468
y08	0,017791	0,028038	0,63	0,529	-0,03892	0,074502
industry 1	-0,0814	0,039313	-2,07	0,045	-0,16092	-0,00188
cons	-0,26543	0,35941	-0,74	0,465	-0,99241	0,461542

Table 1.8 Regression, Family-CEO, ROA

Linear regression ROA, Family CEO, Liability, lnSize, y11, y10, y09, y08, industry 1 (cluster)						
Number of obs=199						
F (7, 39) = -						
Prob> F = -						
R-squared = 0,2458						
Root MSE = 0,15708						
ROA	**Coef.**	**Robust Std.Err.**	**t**	**P>|t|**	**[95% Conf. Intervall]**	
Fam CEO	0,298732	0,054093	5,52	0	0,189318	0,408145
Liability	0,08006	0,101984	0,79	0,437	-0,12623	0,286342
lnSize	0,023496	0,026526	0,89	0,381	-0,03016	0,07715
y11	0,010276	0,016837	0,61	0,545	-0,02378	0,044331
y10	0,002418	0,015076	0,16	0,873	-0,02808	0,032913
y09	0,053114	0,01649	3,22	0,003	0,01976	0,086468
y08	0,017791	0,028038	0,63	0,529	-0,03892	0,074502
industry 1	-0,0814	0,039313	-2,07	0,045	-0,16092	-0,00188
cons	-0,26543	0,35941	-0,74	0,465	-0,99241	0,461542