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FAMILY OWNERSHIP: THE CASE OF LATVIA

Authors: Zanda Apine
Linda Kokare

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Zanda Apine

and

Linda Kokare

Supervisor: Anete Pajuste

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Abstract

The paper provides evidence about the linkage between firm's ownership structure and its financial performance. The particular study aims at filling the gap in the existing literature by examining a sample of private companies. It analyses financial data of Latvian companies during the time period of 2006-2014. In order to examine the differences between various types of ownerships, the authors employ the ratio analysis focusing on leverage, growth, asset structure, liquidity and profitability. To provide a more insightful evaluation of the particular relation between ownership structure and firms' profitability, the regression analysis is employed. The paper reveals that the ownership structure where two owners hold equal stakes in the company is the most successful with regards to firm's profitability. It is followed by family-owned and widely-held firms; consequently foreign-owned companies are associated with the lowest impact. Further on, the effect of family's involvement in the management team is tested. The results yield that the previously detected positive effect of family ownership is solely formed by the firms managed by the owner family.

Abbreviations

CEO - chief executive officer

CL - current liabilities

D/E - debt to equity ratio

FIM - family involvement in the management team

OLS - ordinary least squares

ROA - returns on equity

ROE - return on equity

TA - total assets

VIF - variance inflation factor

1. Introduction

The most common ownership structure in Europe is considered to be family firms; they compile more than 60% of the European enterprises (Bernard, 2013). The predominance of these companies facilitates the importance of a detailed research regarding the linkage between ownership structure and company's financial performance. As a consequence, there exist a high number of academic papers written on the particular topic.

King and Santor (2008) and Sraer and Thesmar (2007) in their research papers conclude that family-owned firms outperform non-family ones in terms of profitability. However, they employ a sample of listed companies, incorporating the fact that only relatively large enterprises are considered. Sciascia and Mazzola (2008) and Westhead and Howorth (2006) detect an inverse relationship when comparing private companies.

The fieldwork regarding the topic emphasizes the distinction between effects of family ownership and presence in the management on the financial performance. Anderson and Reeb (2003) discover that family firms' positive performance in terms of profitability mostly can be explained by the family's involvement in the decision making process. Lee (2006) detects a favourable impact also on the employment, revenue and income growth when family members serve in the management board. However, the positive influence is often observed only while the founder himself serves as the CEO (Burkart, Panunzi & Shleifer, 2003; Perez-Gonzalez, 2006).

In Latvia, every year the local editorial office of business magazine Forbes compiles a list of 15 biggest family businesses and presents an overview of the yearly developments, indicating the relevance of the particular topic within the society (Db.lv, 2015).

The contribution we bring to the existing fieldwork is the particular focus on non-listed companies. Our research is based on private Latvian family firms' financial performance in the time period of 2006-2014, comparing them with foreign and widely-held private companies. Moreover, the chosen time frame includes the Global Financial Crisis allowing us to examine firms' financial performance during different economic conditions. We believe that findings of our research would be applicable for stakeholders involved in the particular businesses. Private investors and banks could make use of the findings when evaluating potential projects; also, the results might be valuable for clients and suppliers when deciding on their cooperation opportunities.

We focus the analysis on the following research questions:

- (1) Whether there exists a difference in financial performance between family-owned and non-family companies during the sample period?
- (2) Whether the founder family's involvement in the management board has a positive influence on firm's profitability?

The methodology employed in the research consists of a financial ratio comparison across the different ownership groups. Particularly, the sample companies are evaluated from 4 perspectives: leverage, growth, asset structure and liquidity, and profitability. The latter we analyse in more details by applying OLS regressions. The first set of regressions examines the ownership effect on the profitability. Further on, we employ additional regressions to distinguish the effect of the owner family's involvement in the management.

Results reveal a significantly positive family ownership effect on the firm's profitability in comparison to widely-held and foreign-owned firms. However, after a deeper analysis we find that this outcome is solely driven by the family-managed enterprises. Thus, we infer that the family ownership itself does not have a significant positive relationship with the firm's profitability.

The structure of the paper is the following: Section 2 reviews the existing literature about the relation between the family ownership and management and firm's financial performance. In Section 3, we explain the methods used in order to answer our research questions. It is followed by a discussion and interpretation of the results. We emphasize the main findings of our analysis in Section 5.

2. Literature review

2.1. Profile of a family-owned company

For a long time period, there has been a debate whether the family control is value-adding or value-destroying for a company. Before reviewing evidence from various research papers, we look on the theoretic description of a family business. The advantages and disadvantages of a family-ownership revealed by the professor Manfred F.R. Kets de Vries (1994) are frequently mentioned in academic publications and they often serve as hypotheses for research.

| <i>ADVANTAGES</i> | <i>DISADVANTAGES</i> |
|--|---|
| <i>Long-term orientation</i> | <i>Less access to capital and slower growth</i> |
| <i>Greater independence of action</i> | <i>Confusing organization</i> |
| <i>Family culture as a source of pride</i> | <i>Nepotism</i> |
| <i>Greater resilience in hard times</i> | <i>Spoiled kid syndrome</i> |
| <i>Less bureaucratic</i> | <i>Internecine strife</i> |
| <i>Financial benefits</i> | <i>Paternalistic/autocratic rule</i> |
| <i>Knowing the business</i> | <i>Financial strain</i> |
| | <i>Succession dramas</i> |

Table 1 Advantages and disadvantages of family firms. Made by the authors. Source: de Vries, 2004.

Two theories essential for the topic are agency theory and stewardship theory. The first one explains the linkage between the owner (principal) and the manager (agent) and problems, which can occur when goals of the two parties are not aligned (Donaldson, 1990). The definition states that the agent undertakes specific actions entrusted by the principal and, as a result, receives a certain degree of authority (Jensen & Meckling, 1976). The stewardship theory, on the contrary, assumes an absence of a conflict between the owner and manager. Managers are believed to be responsible stewards and act in the interest of the principal. (Donaldson & Davis, 1991)

A long-term orientation benefits the business performance in form of closer relationships with stakeholders, particularly with employees, suppliers and customers (de Vries, 1994). Other authors have defined these relationships as implicit contracts

(Lins, Volpin & Wagner, 2013; Sraer & Thesmar, 2007). Moreover, it has been found that the insurance provided by family-managed firms reduces the required remuneration (Sraer & Thesmar, 2007). Long term orientation incorporates also the fact that the family-businesses are believed not to pursue short-term financially sound projects if there is a likelihood of hurting the family name and image (de Vries, 1994). Long term focus is connected to the stewardship theory, which, on the contrary to agency proposition, implies an absence of clashes between owners and managers (Donaldson & Davis, 1991). It is assumed that family members have a much stronger sense of commitment towards the company than the owners of other firms because of the strong linkage between company's and family's well-being (Hasso & Duncan, 2013).

Family-firms imply a greater independence of their decisions and actions because of limited pressure from stock markets. Also, as a result of the control and management being concentrated in a family, there is a lower disclosure of corporate decisions and plans to the public and, thus, competitors (de Vries, 1994).

The organizational structure and culture is a reflection of the family's values and traditions; the succession is certain and the political atmosphere is relaxed as a result. Because of the lack of bureaucracy and easier access to management a faster decision-making process is facilitated. Moreover, the successors of the founder in many cases have been in the business environment and learning since their childhood, as a result they are familiar with all the processes regarding the firm and the industry while also being able to provide innovation and fresh ideas (Bertrand & Schoar, 2006; de Vries, 1994).

Family owners frequently have developed strong reputation and good relationships with the government, sometimes even pushing family members into politics to ensure favourable actions taken towards the company or its industry. The reputational benefits might play a beneficial role also in economic decisions by partner companies, since a family is often linked with a quality and solidity (Bertrand & Schoar, 2006; Burkart, Panunzi & Shleifer, 2003).

On the other side, family-owned firms face greater difficulty to access capital markets because of the potential minority shareholders' awareness of the low influence on company's decisions that they would have. Consequently, the family companies are placed in a disadvantageous position as they have to rely mostly on internal sources to finance their growth (de Vries, 1994). Moreover, until nowadays the investor protection has remained weak even in the "old" countries like Russia, Italy, not even talking about

the developing ones, which also explain why this concentrated ownership type is still so wide-spread around the world (Shleifer & Vishny, 1997). Family relations act as a replacement for a weak legal framework providing more trust in the business environment in such countries (Bertrand & Schoar, 2006).

In more complex cases, family can make the company's structure more chaotic due to unsettled arguments between heirs or a lack of authority towards some of the managers in the eyes of other members of the family. Besides, often the hiring decisions are ruled by nepotism and not so competent family members are appointed as executives (de Vries, 1994). Perez-Gonzales (2006) finds evidence that companies, in which the new CEO is appointed from the family circle and lack academic education, underperform the ones with the new CEO being an independent professional. These problems tend to become more dangerous with the time and each subsequent generation. As a consequence, the employees not coming from the family are put in an unfavourable position; thus, losing the incentive and dedication to the job.

Concentrated ownership is also associated with higher private benefits of control. The family is able to tunnel the resources of the enterprise, increasing their personal welfare while expropriating minority shareholders (Burkart, Panunzi & Shleifer, 2003). One of the possibilities to measure the magnitude of the benefit is to look at the selling price when the controlling block is exchanged. However, in the family business case the value is hard to measure because the buyer is unlikely to value the control as much as the family members (Dyck & Zingales, 2004). As a result, it is believed that owner family extract also non-monetary private benefits of control. One such benefit is defined as "amenity potential" by Demsetz and Lehn (1985), which implies that the family is willing to preserve its control because of an ability to fulfil their personal desires or to influence some parts of the society with the help of the enterprise. Sports and media industries can serve as an example. This occurrence, however, is not hurting company's profits in most cases (Burkart, Panunzi & Shleifer, 2003).

2.2. Empirical evidence

There is a vast array of literature comparing family-owned companies to other types of firms; however, the ultimate majority is looking on publicly traded enterprises.

The fieldwork can be broadly divided into the leverage, growth, asset utilization and liquidity, and profitability analysis.

2.2.1. Leverage

Villalonga and Amit (2006) find that Fortune-500 family companies use less debt than the non-family businesses over a period of 1994-2000. Consistent results are obtained when examining the main indicators affecting the leverage for listed family companies in Malaysia. The paper provides robust evidence that the concentration of the ownership has a negative correlation with the level of debt; moreover, family owned enterprises can be characterized by lower level of leverage when compared with their counterparts (Lean, Ling & Kweh, 2015). This finding is in line with the evidence revealed also by Santos, Moreira and Vieira (2014). The authors argue that due to a poorly diversified portfolio, family enterprises are more likely to avoid higher debt level. However, the negative relationship between family control and financial leverage can be also explained by the fear to lose the full control or the family dominance within the company (López-Gracia and Sánchez-Andújar, 2007; Mishra & McConaughy, 1999). This can be seen as one of the emotional factors influencing the operational manner of family-owned businesses.

Contrasting evidence, however, is found in Canada where listed family firms are more leveraged. The authors provide evidence, that family owned companies with single class shares are more eager to have a higher debt level as the increase in leverage does not directly affect their ownership rights. On the contrary, companies having dual class shares experience an opportunities to issue equity without giving away a part of their control. (King & Santor, 2008)

Hypothesis 1: *Family firms have a lower level of leverage than non-family companies.*

2.2.2. Growth

Villalonga and Amit (2006), when studying Fortune-500 companies over a time period 1994-2000, detect higher growth for family firms. This result contradicts with the theory stating that difficulties of new capital attraction may slow down the expansion. However, in the particular sample, family firms are noticeably younger on average, implying that the finding could be driven by the disparities in firm development stages (Villalonga & Amit, 2006). Also, Lee (2006) in his study of S&P

500 firms during 2000-2002 finds higher revenue and employment growth for the family firms. In line with the theory, Canadian family firms face lower sales growth compared to non-family enterprises (King & Santor, 2008).

An analysis of French SMEs reveals evidence towards slower economic growth for family companies when compared to ones without an ultimate owner. However, firms totally owned by a family do better than those in which the family do not have a complete ownership. The author presents two factors explaining the difference: family ownership affects the financing possibilities, but the firms also pursue conservative growth behaviour on purpose because of their nature (wealth under-diversification, non-financial goals, tax -evasion incentives) (Hamelin, 2013).

Hypothesis 2: *Family and non-family enterprises possess different patterns of growth.*

2.2.3. *Asset structure and liquidity*

Family companies are found to be smaller, measured by assets and the number of employees, than those with different ownership structure in a sample of the US companies (Chu, 2011; Villalonga & Amit, 2006) and French listed companies (Sraer & Thesmar, 2007); reversely, a greater amount of total assets is discovered for family firms in Canada (King & Santor, 2008). Gill and Kaur (2015) detect higher asset tangibility for family companies.

There is evidence that family firms invest a larger share of their revenues back into the company than non-family companies, capital expenditures represent 3.6% and 2.6% of the revenues respectively (Lee, 2006).

As the founding family mainly holds an undiversified portfolio, it has a strong incentive to avoid risky investments. However, the long-term perspective is related to higher investment efficiency. In order to eliminate the risk even further, family companies tend to protect their position either by financial or operational hedging. Kim, Pantzalis and Park (2014) in their research find that the firm's value does not increase when the hedging policy is employed by the founding family. Thus, it allows inferring that this behaviour can be explained by other rationales and personal benefits.

In order to perform the enterprise's day-to-day operations smoothly, the optimal liquidity level should be maintained embodying efficient current asset and liabilities management. Since the family owners are frequently characterised as risk-averse and

long-term oriented, it should imply that they will accumulate higher cash balances as a safety net for harder times or to maintain their independence by having savings available to invest in new projects when the opportunities emerge (Lozano, 2015). The evidence provided by Steijvers and Niskanen (2012) implies that the size of cash holdings varies among different types of CEOs. For instance, when comparing an heir and founder CEO, the latter is expected to keep a lower level of cash holdings. Another factor having an influence on the cash holding size is the level of legal protection, meaning that more cash will be accumulated in the countries with weaker legal protection (Lozano, 2015).

Company's overall liquidity plays a crucial role also during the financial distress periods. Due to the fact that one family is likely to own more than one company, this type of ownership might provide additional liquidity position for the enterprise in financial squeeze (Lins, Volpin & Wagner, 2013).

Hypothesis 3: *Family firms have higher liquidity ratios than non-family companies.*

2.2.4. Profitability

Numerous authors have questioned the relationship between the profitability and family involvement in the ownership. Anderson and Reeb (2003) have captured a nonlinear relationship between the two variables when testing the S&P 500; moreover, they provide evidence that profitability is higher in cases when the CEO position is occupied by family members. Their findings are similar with the ones proposed by Sraer and Thesmar (2007) when executing a research based on the data available in the French stock market; respectively, family owned companies over-perform non-family competitors. A higher profitability compared to non-family firms is also found for Fortune-500 family enterprises (Villalonga & Amit, 2006), S&P 500 family businesses (Lee, 2006), and Canadian public family firms employing one share-one vote system (King & Santor, 2008).

An inverse effect is found regarding non-listed companies. Sciascia and Mazzola (2008) have proposed a hypothesis including a conjecture that the interrelation might be reflected by an inverse U-shape. However, when examining as set of panel data including private companies based in Italy, the authors do not find evidence that there exist a correlation between family ownership and financial performance.

Due to the contrasting evidence, we propose the following hypothesis.

Hypothesis 4: *Family ownership has a distinctive impact on profitability compared to other ownership types.*

2.3. Management

Several studies discover that an active family involvement in the management has a favourable influence towards the firm's financial performance.

Anderson and Reeb (2003) provide evidence that when the CEO comes from the owner family, the company is likely to have a higher profitability measures. This finding is in line with the one presented by the study of French public companies. It reveals that when the founder occupies the CEO position ROA is by 1.8 percentage points higher than for widely-held firms. Also, heir-managed firms outperformed the subsample of widely-held companies by 1.9 ROA percentage points. Founder CEOs possess higher labour productivity in their companies, while descendant CEOs are able to retain the implicit contracts with employees better than professional executives, as a result, they can pay lower wages to their workers. Professional CEOs, on the other hand, have a tendency to be more efficient in the capital management (Sraer & Thesmar, 2007). Lee (2006) also detects a strong positive relation of the level of family's involvement in the management board and the growth in firm's revenue, income and employment.

However, a number of papers provide an evidence of positive influence towards the financial performance only when the founder is still in the management team of a company. The appointment of descendent as a CEO lowers the ROA by 18% and market-to-book value by 14% when compared to a professional CEO (Perez-Gonzalez, 2006). Similar results are also obtained by Burkart, Panunzi and Shleifer (2003). Negative effect of the family involvement in the management board is also revealed by Sciascia & Mazolla (2008) when testing the sample of private Italian companies. They find that family's participation in the management team affects the firm's financial performance to a more considerable extent than the ownership; the link is negative and non-linear.

Westhead and Howorth (2006) have also attempted to investigate the effect of owner family's participation in the management team on different firm's performance measures. However, they reveal that these factors have an insignificant influence on the dependant variable.

Considering a tighter control of firm's operations being an important driver of better profitability, we propose the following hypothesis.

Hypothesis 5: *Owner family's involvement in management is positively associated with the firm's profitability.*

2.4. Unfavourable economic conditions

During financially unstable times, companies usually adjust their strategies to withstand the difficult period with lowest possible costs (Sudarsanam & Lai, 2001). Since the analysed sample period includes severely distressed years, we do a slight review of topic related literature.

Because of the long-term focus and family commitment it is expected that family firms have stronger intention to survive the crisis and preserve the company in order to pass it on to the next generations. This includes also maintaining the control and taking actions that are not in line with other shareholders' desires.

In particular, The Global Financial Crisis influence on public family firms worldwide has been studied by Lins, Volpin and Wagner (2013). The analysis concluded that family-owned firms were underperforming other businesses, and it was mainly because of serious underinvestment during the crisis period.

Another finding disclosed that the family companies with high expected agency costs underperformed more than non-family businesses, while those with low expected agency costs on average had the same performance level. Moreover, the authors found no evidence towards the assumption of a more accessible financing at the time of liquidity shock and the presence of implicit contracts with employees, since the lay-offs amounted to approximately the same figures as for non-family firms (Lins, Volpin & Wagner, 2013).

We do not propose a separate hypothesis regarding the Global Financial Crisis impact on the sample firm performance. However, we take into consideration the evidence presented above when analysing our attained results.

3. Methodology

The following section describes the analytical methods employed in the research. We develop a methodology which incorporates the data analysis techniques applied in previous, on quantitative analysis based, researches. Longitudinal comparative research design is chosen as the most appropriate approach to provide a plausible and consistent analysis. It implies that the data are collected over a certain period of time and includes various subsamples. Thus, reflecting the possible effect of ownership structure on company's performance during the sample period.

3.1. Data

For a more convenient and structured analysis of the financial performance indicators, the 9 subsequent years are subdivided in 3 periods. More precisely,

1. 2006-2007: pre-crisis period;
2. 2008-2010: crisis period;
3. 2011-2014: post-crisis period.

Limited data availability is the main determinant of the exact time frame chosen.

From the Orbis database we collect the relevant financial data for ratio calculations (Appendix B). Afterwards, ratios are winsorized at 5% and 95% levels to minimize the effect of outliers. In case of interest coverage ratio and the revenue growth figure, 10% and 90% levels are used as the initial procedure was not able to remove the extreme values.

Before calculating ROE and interest coverage ratio, we search for cases when both, numerator and denominator, are negatives and remove the values to get rid of misleading figures. More precisely, we exclude companies with a negative equity.

It is important to note that often companies lack data of some particular financials and/or particular years; therefore, the observation number varies across ratios and years.

3.2. Sample

The data set, obtained from the Orbis database, includes companies registered in Latvia and having an annual turnover of more than 300 thousand EUR at least in one of the sample period years, considered as a general benchmark allowing companies to apply for a bank credit. The financial and public insurance and defence sectors are excluded, as well as the companies which have been incorporated after 2005 or lack

data about shareholder structure. We consider only firms with the last available year 2014 or 2015 (in Orbis).

The sample is subdivided according to the ownership structure. Respectively, it includes family, foreign, widely-held and firms owned by 2 shareholders with equal stakes. The breakdown is determined by the decision-making process in private companies. Only the current data of ownership and management structure is available and, thus, taken into consideration.

Family companies are considered those which have a private ultimate owner, meaning that the shareholder owns more than 50% of the company; thus, having full control over decision making process in the firm. As a common practice in family ownership studies, the stakes of shareholders with the same surname are aggregated.

Companies with foreign firm ownership are separated, as they follow the principles of their parent company and are guided by their recommendations and policies.

We denote a company as widely-held if it does not have an ultimate owner and approval of company decisions requires a compromise among several parties.

A special case of widely-held companies is distinguished: two private persons or families own the firm with equal stakes (50/50 ownership). This ownership structure is expected to yield interesting conclusions diverging from the family and widely-held firm subsamples.

| Ownership type | # of companies | Proportion in the sample |
|-----------------------|-----------------------|---------------------------------|
| Family | 8970 | 74% |
| Widely-held | 1086 | 9% |
| 50/50 | 1082 | 9% |
| Foreign | 972 | 8% |
| Total | 12110 | 100% |

Table 2 The company breakdown in subsamples by the ownership type. Made by the authors.

Sample companies are subdivided according to their industries using the U.S. two digits SIC code. Further on the SIC codes are allocated in broader sections representing 14 industries. The specific breakdown is proposed by Campbell (2003) and adjusted by excluding the financial sector and including some additional industries, specific for Latvia (Appendix A).

3.3. Description of the analysis

Based on Pajuste (2003) approach, the financial performance within an industry is examined from five different perspectives. Respectively, liquidity, profitability, asset utilization, leverage and growth. These measures enable us to make a decent comparison between different ownership structures and indicate the areas where the contrast is the most substantial (Appendix B). All of the financial ratios are calculated using closing values for each year.

The significance of the results for a particular ratio is verified by applying the t-test and Wilcoxon rank-sum test for mean and median testing, respectively.

After determining the aspects which reflect the most considerable difference when comparing various forms of ownership, we run an ordinary least square (OLS) regression. It allows us to track the linkage between company's performance, its ownership structure and other factors affecting firm's profitability.

The OLS regression applied is as follows:

$$y(\text{profitability measure}) = \alpha + \beta_{0-3}(\text{ownership variables}) + \beta_3 \ln(\text{size}) + \beta_4 \ln(\text{age}) + \beta_5 (\text{growth opportunities}) + \beta_{6-19}(\text{industry indicator}) + \varepsilon, \quad (1)$$

where α denominates the interception, ε reflects the error term and β_{0-19} are the coefficients of explanatory variables. A separate regression is run for each of the sample year; year 2006 is excluded due to the unavailability of the revenue growth ratio for the particular year. Thus, the sample period includes the time frame from 2007 to 2014.

The set of variables chosen is based on the methodology provided by Benjamin Maury (2006). However, we have made some adjustments in order to be able to apply it to the specific sample consisting of non-listed enterprises.

Similarly as Cannella, Jones and Withers (2015), Faccio, Marchica and Mura (2011), Gill and Kaur (2015) and Maury (2006), we use ROA as a profitability measure. It is supposed to be the most appropriate and meaningful measure for the financial performance of private enterprises.

| Variable | Explanation |
|--------------------------|---|
| Ownership variables | Dummy variables including 4 groups of ownership structure. Respectively, family owned firms, widely-held companies, enterprises with 50/50 ownership structure and foreign-owned firms. The variable takes the value of 1 if the company can be characterized by the specific type of ownership and 0 if otherwise. |
| Control variables | |
| ln(size) | Natural logarithm of company's size measured by firm's total assets |
| ln(age) | Natural logarithm of company's age measured by the years of operating |
| Growth opportunities | Measured by revenue growth (%) |
| Industry indicator | Dummy variables indicating the industry in which the company operates |

Table 3 The description of variables employed in OLS regressions. Made by the authors.

In order to scale down the noise regarding the correlation between firm's performance and ownership structure, the regression incorporates additional control variables. They are expected to have a substantial effect on the dependent variable. Particularly, we expect that the size and the age of the firm will have a positive correlation with company's performance. Moreover, we argue that the growth prospects possessed by the company are integrated in revenue growth ratio. Additionally, the 14 dummy variables denoting industries capture the market conditions affecting the specific field (Pedersen & Thomsen, 1999).

In addition to that, we test the sample of family companies separately. In order to capture the relationship between families' presence in ownership and company's profitability, we propose the following OLS regression:

$$y = \alpha + \beta_0(\% \text{ of family ownership within the company}) + \beta_2 \ln(\text{size}) + \beta_3 \ln(\text{age}) + \beta_4 (\text{growth opportunities}) + \beta_{5-18}(\text{industry indicator}) + \varepsilon \quad (2)$$

The equation 2 seeks to provide evidence that also the degree of ownership has a significant influence on company's profitability.

As stated in the literature review, various researches have proven that exactly the family presence within the management team can be seen as a crucial determinant of successful financial performance. Thus, we examine the effect of family involvement in the management team and develop the equation 3. It incorporates the dummy variable *CEO*, taking the value of 1 in case the current Chairman or Vice Chairman of the firm comes from the owning family (Gill & Kaur, 2015). The regression is run for the family subsample exclusively.

$$y(\text{profitability measure}) = \alpha + \beta_0(\text{CEO}) + \beta_1 \ln(\text{size}) + \beta_2 \ln(\text{age}) + \beta_{3-14}(\text{industry indicator}) + \varepsilon \quad (3)$$

Similarly as done by Gill and Kaur (2015) and Lee (2006), we also investigate the degree at which the family is involved in firm's management. Respectively, the variable incorporates the percentage of family members within the management team.

$$y(\text{profitability measure}) = \alpha + \beta_0(\text{family involvement in the management}) + \beta_1 \ln(\text{size}) + \beta_2 \ln(\text{age}) + \beta_{3-14}(\text{industry indicator}) + \varepsilon \quad (4)$$

If the regression captures a significant coefficient for the inspected variables over the sample period, we compare the subgroups by applying t-tests to the previously stated financial indicators. Thus, the 12 ratios are investigated, enabling us to infer which might be the possible causes of differences among the subgroups.

3.3.1. Validity of the results

In order to eliminate the possible issues regarding the regressions, we implement various procedures to control for outliers multicollinearity, serial correlation and heteroscedasticity.

Firstly, the dataset is winsorized at 5% and 95%. It allows us to avoid outliers, which might imprecisely influence the result. Thus, the effect coming from the observations having a substantial deviation from the trend line is avoided.

Secondly, we control for serial correlation and heteroscedasticity by employing the Huber-White sandwich estimator. It is done by adding the command *robust* in Stata after each regression.

Further on, we test for multicollinearity. The result of the regression might be affected by a correlation between the control variables. In order to avoid the possible issues regarding the multicollinearity, we calculate the variance inflation factor (VIF) for the variables involved. If the VIF value is lower than 5, the multicollinearity is assumed not to affect the validity of the results obtained (Studenmund, 2011).

4. Discussion of Results

The data summary over the whole sample period shows that family firms have a smaller employee base and amount of firm's assets, consistently with the previous findings. (Chu, 2011; Srarer & Thesmar, 2007, Villalonga & Amit, 2006) Also, the turnover and net income turns out to be lower for the family companies. The difference is the biggest when compared to foreign and widely-held firms, while the companies with two equally-weighted owners perform similarly to the family ones. In our sample, the average company age is very similar among all the distinguished ownership groups, implying that there are no serious life-cycle differences that might be a reason of divergence in company financial performance indicators. (Appendix D)

Regarding the number of companies, consumer durables proves to be the most represented and largest industry in our sample (18%) (Appendix C, Figure C.1). It is also the biggest in three of our subsamples broken by the ownership type (17% for family-owned, 20% for the 50/50 ownership type, and 24% for companies owned by foreign enterprises) (Appendix C, Figure C.2, C.4, C.5); the only exception being the widely-held company group, in which the consumer durables and service industry is represented equally much (16%) (Appendix C, Figure C.3). Among the largest industries we can also distinguish textiles & trade (13%), construction (12%), and transportation industries (10%). On the contrary, there are few firms in forestry, utilities and capital goods industries and only one company in the petroleum industry (Appendix C, Figure C.1). The industry breakdown by SIC codes can be seen in Appendix A.

Following sections demonstrate a more detailed analysis of the performance indicators taking into account the industry and time periods.

4.1. Leverage

By examining the current liabilities-to-total assets ratio we can make conclusions about the company's reliance upon the short-term liabilities. The results over the sample period are divergent. More precisely, foreign owned firms and widely held enterprises tend to finance the necessary assets mainly by employing the equity; both sub-groups have a significantly lower CL/TA ratio than the businesses run by families. The median for family businesses over the whole sample period is 0.414; for widely held companies and foreign owned enterprises the median values are 0.354 and 0.397 respectively. (Appendix E)

The same trend remains rather stable during all the three sub-periods. A slight deviation can be observed during the crisis period; the only significant difference can be seen between the family and widely held companies. Hence, foreign owned enterprises tend to increase their current liabilities relative to family firms during the financial vulnerability periods. (Appendix F)

This finding is in line with the previously explained implicit contracts, implying that family firms are able to establish a long-term on confidence based relationship with employees and suppliers.

Interest coverage ratio can be seen as a positive indicator for all of the sub-groups; respectively, the companies should not face any problems regarding the interest payments. However, family firms tend to maintain the lowest interest coverage ratio when examining the overall sample period. The profit before the financial expense surpasses the interest more than 3 times, which can still be defined as an adequate indicator. (Appendix E, F)

During the period 2011-2014 the only significant difference in debt-to-equity ratio is observed when comparing family firms with widely held enterprises. More precisely, family firms tend to have a lower D/E (1.812) than the widely held counterparts (2.247). However, the crisis period reflects a more diverse scene; family companies have notably higher D/E ratio than widely-held and foreign owned companies at 5% significance level. A similar pattern can be seen during the pre-crisis period. However, when examining the general trend over the whole sample period, the data provide evidence that the family owned companies possess a significantly lower debt-to-equity ratio compared to other ownership structures. More precisely, the median value of the D/E ratio for family firms is 0.940, 0.976 for widely-held enterprises and 1.123 and 0.993 for organisation with 50/50 ownership structure and foreign-owned firms respectively. (Appendix E, F)

The relatively lower level of debt can be explained by the fact that the owners of the family enterprises might be characterized by undiversified portfolio; hence, they are eager to avoid the risk associated with higher leverage, especially during the vulnerability periods. The possible losses might have a substantial effect on family's personal financial welfare. Moreover, the issuance of debt increases the monitoring and slightly limits family's possibility to make choices regarding company's orientation. These findings are in line with the evidence provided by Lean, Ling and Kweh (2015) and Santos, Moreira and Vieira (2014).

The obtained results reveal that family businesses have lower leverage in terms of debt-to-equity ratio. However, the current liabilities-to-current assets ratio leads to a controversial conclusion. Hence, family firms tend to rely on current liabilities and avoid issuing long-term debt. Thus, we cannot reject the **Hypothesis 1** that family firms have a lower level of leverage than non-family companies. This can be caused by their unwillingness to lose control over the decision making process within the company. Moreover, family firms are less likely to invest in risky projects; they evaluate the possible outcomes more carefully, leading to a lower need for additional financial means.

4.2. Growth

To evaluate whether there are differences in the pace of growth among companies, we look on revenue growth over the sample period. As previously mentioned, companies in the sample do not have substantial differences in their age, allowing to make this comparison.

When compared to family businesses, only foreigner-owned firms show considerably higher growth, respectively 4.73% and 7.63%. The indicator falls rapidly in the crisis period as expected; from 34.5% in 2007 to 8.2% (the average in the crisis period sample). (Appendix E, F)

The obtained results reveal that the family companies have almost analogue growth patterns when compared to the 50/50 ownership structure. One of the rationales behind this observation could be the fact that family firms and the companies with 50/50 ownership structure have a comparable size and resource accessibility. It might be seen as the “closest” ownership group to family firms. The growth pattern associated with the family firms is also similar to the trend for widely-held companies. However, we observe significantly divergent characteristics when comparing family owned businesses to foreign-owned enterprises.

Thus, we do not reject the **Hypothesis 2**, stating that the growth pattern for family firms is notably different than for other sample companies.

4.3. Asset structure and liquidity

The asset tangibility is measured by the fixed-to-total assets ratio, yielding a figure of 37% (median is 31.3%) for family-owned companies over the whole sample

period. The proportion of fixed assets is significantly lower for firms with foreign ownership (27% on average), and somewhat lower for 50/50 ownership type (34% on average). By contrast, the particular ratio is slightly higher for widely-held firms, 39% on average (median – 35.6%) (Appendix E). The measure, in general, tends to decrease in the crisis period (the lowest in 2009, 30.7%), meaning that companies possibly carried out asset restructuring and sold out some of their fixed assets to obtain cash for the distressed period. The largest drop was observed in foreigner-owned companies, 15.3% during the crisis period (Appendix F).

No serious deviations in asset turnover were detected across the ownership groups (2.27 for family firms). The whole-period summary reveals a slightly lower number for widely-held (2.14) and foreigner-owned (2.17) enterprises, but lightly higher for companies with the 50/50 ownership type (2.38). (Appendix E)

Results demonstrate that family firms have smaller cash holdings (5.10% from fixed assets) than widely-held (6.96%) and foreigner-owned (7.12%) companies (the figure is very alike for companies in the 50/50 ownership subsample, 5.46%) (Appendix E). This finding contradicts with Lozano (2015) stating that, in theory, family firms should accumulate more cash as a safety net due to their undiversified portfolio. This result is possibly influenced by the average size of companies in the respective subsamples. However, the same trend has been observed across all ownership groups; namely, the size of cash holdings decreases during the crisis period (Appendix F).

When comparing the short term liquidity position according to the owner-groups, it is possible to infer that family owned firms possess significantly lower indicator of their ability to meet their current liabilities. The current ratio takes the median of 1.27 for family businesses and 1.45, 1.33 and 1.43 for widely held firms, 50/50 and foreign owned enterprises, correspondingly (Appendix E). This can be partly explained by the leverage position, particularly, the trend that family owned companies can be characterized by relatively extensive current liabilities.

The results are consistent when examining also the quick ratio, respectively, excluding the company's inventory (Appendix E).

By analysing the time line, it is possible to reveal that the family owned enterprises manage to maintain a rather stable level of quick and current ratios during the boom and financial distress years (2006-2010). For instance, the change in the current ratio through these periods is 0.1% for family firms and 9%, -6% and 8% for widely-held, 50/50 and foreign owned companies, respectively. However, after the

crisis the enterprises from each of the sample groups increase their quick ratio considerably. More precisely, the change in the ratio is 32%, 22%, 33% and 28% for the four sub-groups, correspondingly. A similar trend can be seen also regarding the current ratio. (Appendix F)

To conclude, we do not support the **Hypothesis 3**; family-owned enterprises have lower liquidity indicators. We speculate that this might be the case due to the fact that the family businesses have established a close relationship with suppliers and banks. Hence, they have the opportunity to change and/or improve the conditions of the contracts. This aspect might lead to a higher reliance on the short-term liabilities.

4.4. Profitability

The three profitability measures reveal contrasting evidence about family-owned business profitability. ROE suggests that these companies outperform widely-held and foreigner-owned firms, while ROA and the gross margin show the opposite trend (Appendix E). However, ROE figures in the “boom” period are very high compared to the following years and they drive up the overall averages. This result also might suffer from survivorship bias since the sample consists only from companies that have survived the financially distressed period.

ROE considerably varies across the three periods looked upon: for family firms it reached 40% in the “boom” years, but consequently dropped to 21% in the crisis period and averaged to 20.7% after the financial distress, which is commonly considered being an attractive level by investors. The pattern is the same in all subsamples, only the 50/50 ownership group reflects slightly higher figures. ROE is the lowest for foreigner-owned firms; in the crisis years it fell to 16%. Interestingly, for widely-held enterprises the ratio continued to decrease even after the financial crisis, averaging to 15.84%. This is the lowest indicator among all ownership groups in the post-crisis period. (Appendix F)

ROA, which explains how efficiently assets are employed to generate revenue, in general, appeared to be quite low across all companies and periods (5%). Results show that this indicator reduces with time, being the highest in “boom” years and the lowest after the crisis. Family firms underperform widely-held companies and 50/50 ownership group, but outperform foreign companies in several periods. More detailed results can be seen in Appendix E, F.

Regarding gross margins, foreigner-owned companies significantly outperform others (30.57%). However, there was also the most severe drop for this group in the crisis period, reaching 17.56%. The average gross margin during the whole sample period for family firms is 23.71% and there are no serious fluctuations. (Appendix E, F)

To conclude, we do not reject the hypothesis that family ownership has a distinctive impact on profitability compared to other ownership types. Although the results are controversial and ambiguous as the three different profitability measures provide contrasting evidence, it is clear that the family firms and non-family enterprises have significantly divergent profitability indicators. This finding serves as a background for a further research of the implication on the firm's profitability arising from the family ownership and management. In order to provide a more extensive and explanatory research, we have developed a regression analysis reflected in the upcoming section.

4.5. Regression results

In this section, we present the regression analysis, which is divided into two parts describing the influence of firm's ownership and management structure on the financial performance. We also include control variables: firm's size (measured as the natural logarithm of total assets), age (measured as the natural logarithm of years since the company's incorporation) and revenue growth (the percentage change from the previous year's revenue). The correlations between control variables over the sample period are negligible (0.0402 between size and age; -0.1105 between age and revenue growth; 0.1047 between size and revenue growth). Moreover, the VIF values do not exceed 5; therefore, we conclude that our results do not suffer from the multicollinearity problem. All regressions include industry dummies to control for the possible effects arising from the industry specific factors; the largest industry, consumer durables, is taken as the reference group. As the main aim of our models is to identify the specific effect on firm's profitability arising from the different forms of ownership structure, we deem that the relatively low adjusted R-square does not cause a misleading interpretation of the results. This indicator would lead to biased conclusions, if the regressions were supposed to detect all the factors influencing firm's profitability measure. However, the scope of our study does not incorporate this aspect. In addition, the explanatory power of the regressions can be validated by the fact that also the

previous fieldworks concerning similar issues face the same trait (Andres, 2008; Gill& Kaur, 2015; López-Gracia& Sánchez-Andújar, 2007; Sciascia& Mazzola, 2008).

4.5.1. Ownership

Conclusions regarding the relationship between the company's profitability and ownership structure are drawn from OLS regressions over the time period 2007-2014 (Table 4). Foreign-owned companies are taken as a reference group.

| Explanatory variables | ROA | | | | | | | |
|-----------------------|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Family | 0.037*** (4.59) | 0.032*** (3.35) | 0.049*** (4.56) | 0.024*** (3.77) | 0.027*** (4.43) | 0.023*** (3.78) | 0.018*** (3.06) | 0.008 (1.34) |
| Widely-held | 0.041*** (4.34) | 0.044*** (3.70) | 0.057*** (4.10) | 0.023*** (2.84) | 0.016** (2.15) | 0.016** (2.14) | 0.013* (1.74) | 0.010 (1.31) |
| 50/50 | 0.062*** (6.16) | 0.041*** (3.33) | 0.077*** (5.23) | 0.041*** (4.89) | 0.037*** (4.50) | 0.041*** (5.07) | 0.030*** (3.78) | 0.016** (2.01) |
| Revenue growth | 0.069*** (13.39) | 0.087*** (10.45) | 0.106*** (10.40) | 0.074*** (23.48) | 0.079*** (22.20) | 0.098*** (25.61) | 0.094*** (21.87) | 0.104*** (24.12) |
| In Assets | 0.0056*** (3.00) | 0.0106*** (4.31) | 0.0116*** (3.97) | 0.0189*** (14.61) | 0.0172*** (13.50) | 0.0167*** (13.76) | 0.0178*** (14.46) | 0.0159*** (12.90) |
| In Age | 0.0278*** (5.78) | 0.0217*** (3.07) | 0.0149 (1.61) | 0.0012 (0.25) | 0.0016 (0.31) | -0.0102* (-1.91) | -0.0022 (-0.38) | -0.0099 (-1.61) |
| Constant | -0.0173 (-0.89) | -0.0817*** (-3.15) | -0.1363*** (-4.26) | -0.1278*** (-8.02) | -0.1004*** (-5.98) | -0.0505*** (-2.93) | -0.0692*** (-3.73) | -0.0353* (-1.80) |
| Observations | 5320 | 3008 | 2108 | 11485 | 11646 | 11629 | 11535 | 11432 |
| adj R2 | 8.58% | 8.63% | 10.91% | 11.20% | 9.80% | 11.93% | 10.78% | 10.92% |

Table 4 The table presents the OLS regression results regarding the ownership effect on the firm's profitability. Made by the authors. The dependent variable is ROA. The ownership groups are expressed as dummy variables; the foreign-owned firms are taken as a reference group. The control variables are revenue growth, size (log of assets) and age (log of years since the firm's incorporation). We control for industry-specific factors, by including industry dummy variables. Calculations are based on closing values. *, **, *** corresponds to the 10%, 5%, 1% significance level. The respective t-values are indicated in the brackets.

The 50/50 ownership group demonstrates the highest coefficients associated with the ownership type, meaning that during the sample period it has had the most positive influence on the firm profitability (measured by ROA). The coefficients are significant at the 1% level in all years except 2014 (when it is significant at the 5% level). Also, the factors related to widely-held and family companies are positive. In 2007-2009, figures are slightly higher for widely-held firm subsample; however, in both cases they are significantly positive at the 1% level compared to the foreign subsample. Later on, the pattern reverses. In 2014, the coefficients of the two subgroups are not

statistically meaningful anymore, implying that the effect of family, widely-held and foreign ownership on ROA converges. Consequently, it can be concluded that over the sample period the effect of foreign ownership on the profitability measure is the lowest.

From the chosen control variables, the revenue growth has the highest and the most significant coefficients over the years. Also, the size of the company positively influences the profitability, but the impact is much smaller. However, the influence of the company age is not consistent during the sample period. Until 2011, the coefficients associated with this variable are small and positive, but they become negative afterwards (although, the figure is statistically significant only in 2012). As a result, we conclude that in our sample the variable age is not a noteworthy factor determining the profitability of a firm.

To find the possible explanations we delve into a deeper analysis of the financial ratios already described in the previous section. As we focus our work on the family ownership in particular, the overall comparison is made against this ownership subgroup. The differences in financial ratios among subsamples are checked by employing t-statistics. The table of corresponding results are not enclosed; however, available upon request.

The pattern for coefficients of family and widely-held firms is similar in the first half of the period, but they start to diverge in 2011. In the recent years, family firms decreased their D/E level comparatively more; at the same time, they increased their current liabilities (the gap widened from 0.04 in 2007-2010 to 0.09 in later years). In addition, the revenue growth fell sharply in 2012 to ~6% (from ~14% in 2011) for family companies, while it was more stable for widely-held ones (~13% in 2011; ~10% in 2012). Regarding the liquidity position, the quick and current ratio is slightly better for widely-held businesses over the whole sample period.

During all sample years, the 50/50 ownership subsample has significantly higher coefficients than the family one. On average, companies with two equally weighted owners have 1% higher gross margin. Family firms have moderately higher proportion of fixed assets (3% difference); however, 50/50 group has slightly higher asset turnover (the difference becomes significant in 2014). In this comparison, both subsamples on average have similar leverage levels; however, in 2009 and 2014 for family firms it is considerably lower (3.3 vs. 4.1 and 1.2 vs. 1.6, respectively). Consequently, the interest coverage ratio is higher for family firms in 2009, while the overall trend is the opposite when the entire sample period is taken into consideration.

The effect of the foreign ownership towards the profitability is the weakest in comparison to other ownership subgroups. However, in 2014 the difference between family and foreign firms is no more significant. Therefore, we perform an additional in depth analysis comparing 2014 against the previous years. The gap in liquidity measures remarkably widens (they are greater for foreign enterprises). Gross margins are slightly better for the foreign subsample overall; however, in 2014 the figure increases significantly. Interestingly, family firms employed twice as much fixed assets as foreign firms over 2007-2013, but in the most recent year the ratio converges between both subgroups; in relation to total assets, foreign firms have acquired much more fixed assets.

Further on, we analyse whether the size of the family's ownership stake affects the firm's profitability. The obtained results reveal that the effect is positive; however, it is very small and economically not meaningful (Appendix G). Thus, we can conclude that the control of company's assets as such is an important factor determining profitability, not the extent of ownership.

Although the section provides an evidence of a positive impact of family ownership on the firm's profitability, we do not draw the final conclusions at this stage. Hence, we investigate whether this trend to a large extent does not come from the family's involvement in the management board. Thus, signaling altered driving aspects for the firm's profitability.

4.5.2. Management

In this section, results concerning the owner family's involvement in the firm's management team are presented. Based on a further analysis of financial performance indicators we provide the possible explanations.

In order to analyse the effect of the management team on the company's profitability measure, we run additional regressions. Firstly, we check whether the fact that the current CEO of the firm is the controlling family's member, has a positive effect on company's profitability.

| ROA | | | | | | | | |
|-----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Explanatory variables | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| CEO | 0.034*** (4.52) | 0.050*** (4.70) | 0.028** (2.42) | 0.024*** (4.00) | 0.020*** (3.22) | 0.030*** (4.90) | 0.022*** (3.67) | 0.026*** (4.33) |
| ln Age | 0.027*** (4.50) | 0.028*** (3.10) | 0.018 (1.46) | 0.001 (0.06) | -0.003 (-0.44) | -0.015** (-2.20) | -0.007 (-0.93) | -0.011 (-1.50) |
| ln Assets | 0.008*** (3.13) | 0.017*** (5.14) | 0.019*** (4.73) | 0.023*** (14.12) | 0.019*** (11.76) | 0.019*** (12.17) | 0.021*** (13.44) | 0.019*** (12.39) |
| Revenue growth | 0.063*** (10.42) | 0.082*** (8.17) | 0.098*** (8.09) | 0.074*** (19.83) | 0.079*** (19.1) | 0.095*** (21.68) | 0.091*** (17.97) | 0.101*** (20.37) |
| Constant | -0.022 (-1.00) | -0.148*** (-4.67) | -0.163*** (-3.84) | -0.147*** (-8.08) | -0.090*** (-4.57) | -0.057*** (-2.81) | -0.075*** (-3.45) | -0.066*** (-2.83) |
| Observations | 3633 | 1970 | 1290 | 8390 | 8507 | 8494 | 8418 | 8331 |
| adj R2 | 8.40% | 9.61% | 10.79% | 11.97% | 10.12% | 12.27% | 11.11% | 11.47% |

*Table 5 The table presents the OLS regression results regarding the family's involvement in the management effect on the firm's profitability. Only family firm subsample is considered in this regression. Made by the authors. The dependent variable is ROA. CEO is a dummy variable taking value 1 if a family member is the CEO, Chairman or Vice-Chairman of the Board. The control variables are revenue growth, size (log of assets) and age (log of years since the firm's incorporation). We control for industry-specific factors, by including industry dummy variables. Calculations are based on closing values. *, **, *** corresponds to the 10%, 5%, 1% significance level. The respective t-values are indicated in the brackets.*

When regressing the sample consisting of family companies exclusively, we obtain the results that the variable *CEO* has a positive effect on firm's performance. Thus, the owner family's involvement and presence in the decision-making process can be defined as a positive factor when examining firm's profitability. The result is consistent and significant over the whole sample period; coefficient varies from the lowest 0.0196 in 2011 to the highest 0.0497 in 2008. The average coefficient over the sample period is 0.0292. As in this case the owner and manager represent the same family, the favourable effect on profitability could be explained by the stewardship theory. It suggests that there are no principal-agent conflicts and the two parties share a common vision of the company's path.

The regression also provides evidence supporting the intuitive presumptions that the size of the company (measured by the assets) and the revenue growth have a positive effect on firm's financial performance. Consistent with the results from the previously described OLS regressions, the age of the firms has a significantly negative impact on company's profitability during the recent years.

| | ROA | | | | | | | |
|-----------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Explanatory variables | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| FIM | 0.027*** | 0.059*** | 0.029** | 0.022*** | 0.020*** | 0.025*** | 0.014** | 0.025*** |
| | (2.63) | (5.17) | (2.30) | (3.61) | (3.11) | (3.15) | (2.13) | (3.76) |
| ln Age | 0.029*** | 0.029*** | 0.020 | 0.001 | -0.002 | -0.013** | -0.005 | -0.010* |
| | (4.72) | (3.21) | (1.61) | (0.17) | (-0.37) | (-2.03) | (-0.75) | (-1.37) |
| ln Assets | 0.007*** | 0.018*** | 0.019*** | 0.023*** | 0.019*** | 0.019*** | 0.021*** | 0.019*** |
| | (2.93) | (5.43) | (4.71) | (14.09) | (11.77) | (12.06) | (13.29) | (12.35) |
| Revenue growth | 0.063*** | 0.082*** | 0.100*** | 0.074*** | 0.079*** | 0.095*** | 0.091*** | 0.101*** |
| | (10.43) | (8.13) | (8.20) | (19.84) | (19.09) | (21.68) | (17.94) | (20.39) |
| Constant | -0.017 | -0.163*** | -0.168*** | -0.147*** | -0.092*** | -0.055*** | -0.071*** | -0.068*** |
| | (-0.72) | (-4.99) | (3.88) | (-7.98) | (4.61) | (-2.64) | (-3.21) | (2.90) |
| Observations | 3633 | 1970 | 1290 | 8390 | 8507 | 8494 | 8418 | 8331 |
| adj R2 | 8.23% | 9.89% | 10.97% | 11.95% | 10.13% | 12.19% | 11.03% | 11.45% |

Table 6 The table presents the OLS regression results regarding the family's involvement in the management effect on the firm's profitability. Only family firm subsample is considered in this regression. Made by the authors. The dependent variable is ROA. FIM (Family's involvement in the management) is a variable indicating the % of family members in the firm's management board. The control variables are revenue growth, size (log of assets) and age (log of years since the firm's incorporation). We control for industry-specific factors, by including industry dummy variables. Calculations are based on closing values. *, **, *** corresponds to the 10%, 5%, 1% significance level. The respective t-values are indicated in the brackets.

When substituting the variable *CEO* with the variable *FIM*, which reflects the percentage of the family members within the board (including CEO, Chairman or Vice Chairman), we obtain results supplementing the previously made conclusion. Respectively, the family involvement in the management of the company has a positive effect on its profitability. The relationship between variable *FIM* and ROA is positive and significant at 1% significance level over the whole sample period the average value of the coefficient being 0.0276.

When examining the interrelationship between ROA and either variable *CEO* or variable *FIM* it is possible to infer that the coefficient obtained in 2008 stands out from the overall pattern; it is considerably higher. We speculate that this might be due to a different approach when guiding the company through the financial distress. Thus, family managed companies chose more suitable solutions regarding the company's strategy when entering financially unfavourable conditions. In 2008, family managed and non-family managed companies possess significantly different positions in terms of ROA, current liabilities-to-total assets and revenue growth. More precisely, ROA is higher for family managed enterprises, thus they have succeeded in increasing the profitability during the years when the economic development was high. This might be

explained by the long term investment strategy typical for family managed enterprises. Moreover, in cases when the CEO is a family member, the companies maintain significantly lower level of current liabilities. We speculate that this could be due to the fact that the non-family management team could be overoptimistic during the “high” periods. On the contrary, family members take a risk which would highly influence their personal financial stability, thus, they are more risk averse. However, the reduced number of observations arising from the data unavailability does not allow making generalized and plausible conclusions regarding this phenomenon.

In order to provide a more explanatory investigation of the alterations caused by the differences in management structure, we perform an additional analysis. It includes the previously mentioned perspectives: liquidity, profitability, utilization of assets, leverage and growth prospects. The sample consisting of family companies solely is subdivided into two groups: enterprises with the CEO coming from the owning family and companies having a professional CEO. Examining the whole sample period, we notice that the difference between the two groups is significant in all the five positions (Appendix H).

Current ratio, thus liquidity position, is significantly higher for family-managed companies. The rationale behind it might be the risk aversion position the owning family is willing to maintain. Due to a strict control and eagerness to have a balanced short term liability proportion, family managed firms are more liquid.

Regarding the profitability, the results show that the firms with non-family CEO are able to maintain higher gross margins for their products/services. However, a controversial aspect arises from the fact that the enterprises with family CEO possess a significantly higher ROA and ROE. Thus, we deem that the family managed companies use the assets in a more efficient way. As the family’s well-being is highly correlated with the company’s financial position, family control in the management ensures a close monitoring of the operations within the enterprise.

The same trend is reflected when analysing the asset utilization for both subgroups. The asset turnover is higher for firms with a family CEO; moreover, they are able to maintain a higher cash-to-total assets ratio, signaling an efficient use of resources and stable position. Having more cash enables the companies to be more liquid and prepared for financial distress periods.

Similarly, in order to avoid risks, family managed companies possess a lower debt level. Respectively, debt-to-equity and current liabilities-to-total assets are

significantly lower for firms with a CEO from the owning family. We speculate that the main reasons for that is their willingness to maintain a close control over the company's decision making process. Simultaneously, it incorporates the risk aversion. Also the monitoring can be seen as a crucial factor for the chosen capital structure and financing decisions. Thus, the family members are eager to limit the financial capital coming from the outside.

Based on the results from the previous regressions, it is supposed that the family's involvement in the management team facilitates company's profitability. Thus, we test whether this type of firms possess a higher coefficient in comparison with the whole sample of family enterprises when regressed against ROA.

| Explanatory variables | ROA | | | | | | | |
|------------------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Family (CEO: family member) | 0.047*** | 0.040*** | 0.053*** | 0.028*** | 0.003*** | 0.029*** | 0.025*** | 0.014** |
| | (5.48) | (4.09) | (4.78) | (4.20) | (5.28) | (4.68) | (4.06) | (2.25) |
| Widely-held | 0.043*** | 0.044*** | 0.057*** | 0.023*** | 0.019** | 0.017** | 0.015** | 0.011 |
| | (4.55) | (3.72) | (4.10) | (2.84) | (2.44) | (2.23) | (1.99) | (1.46) |
| 50/50 | 0.064*** | 0.042*** | 0.076*** | 0.040*** | 0.039*** | 0.042*** | 0.033*** | 0.018** |
| | (6.29) | (3.33) | (5.11) | (4.84) | (4.85) | (5.19) | (4.11) | (2.21) |
| Revenue growth | 0.076*** | 0.094*** | 0.116*** | 0.075*** | 0.082*** | 0.105*** | 0.098*** | 0.105*** |
| | (13.61) | (10.76) | (9.77) | (22.02) | (21.11) | (25.29) | (20.76) | (22.03) |
| ln Assets | 0.007*** | 0.010*** | 0.011*** | 0.019*** | 0.019*** | 0.017*** | 0.019*** | 0.016*** |
| | (3.28) | (3.72) | (3.47) | (13.01) | (13.63) | (13.15) | (14.24) | (12.21) |
| ln Age | 0.024*** | 0.018** | 0.011 | -0.001 | -0.001 | -0.013** | -0.005 | -0.013** |
| | (4.60) | (2.35) | (1.07) | (-0.17) | (-0.15) | (-2.29) | (-0.81) | (-1.96) |
| Constant | -0.019 | -0.068** | -0.120*** | -0.122*** | -0.107*** | -0.049*** | -0.072*** | -0.032 |
| | (-0.92) | (-2.43) | (-3.53) | (-7.19) | (-6.04) | (-2.71) | (-3.69) | (-1.54) |
| Observations | 4705 | 2627 | 1819 | 10183 | 10311 | 10296 | 10215 | 10126 |
| adj R2 | 9.41% | 9.19% | 11.76% | 10.98% | 10.35% | 12.72% | 11.34% | 10.81% |

Table 7 The table presents the OLS regression results regarding the family's involvement in the management effect on the firm's profitability. An additional subsample of only family-managed companies is created. Made by the authors. The dependent variable is ROA. The ownership groups are expressed as dummy variables; the foreign-owned firms are taken as a reference group. The control variables are revenue growth, size (log of assets) and age (log of years since the firm's incorporation). We control for industry-specific factors, by including industry dummy variables. Calculations are based on closing values. *, **, *** corresponds to the 10%, 5%, 1% significance level. The respective t-values are indicated in the brackets.

As it is presented in Table 7, family managed firms significantly outperform foreign-owned enterprises in each of the sample years. Moreover, the average coefficient is 0.030 while in case of the initial family sample it is 0.027. However, having the foreign-owned companies as the default group, the 50/50 ownership structure constantly outperforms the remaining types of companies. The coefficient for

this subgroup is higher with respect to family managed, widely-held and foreign-owned enterprises. We speculate that this pattern can be explained by the fact that the companies with 50/50 ownership structure incorporate the positive characteristics of family businesses while eliminating the negative aspects of concentrated ownership.

From the findings presented above, we can infer that the family involvement has as significantly positive impact on firm's financial performance. Hence, the proposed **Hypothesis 5** that the owner family's involvement in management is positively associated with the firm's profitability is supported. Andres (2008) and Villalonga and Amit (2006) have also provided a consistent evidence. Respectively, they discover a better financial performance for companies actively managed by the founding family. Due to the fact that the companies included in our sample are rather young, we acknowledge that it could be a reason for such positive results, since the firms in most cases are possibly still run by the founder.

This outcome also might be valuable for managers of non-family companies. Some of the positive aspects associated with family presence in management can be implemented in companies possessing other ownership structures. For instance, the long-term orientation, redundant risk taking and maintenance of close relationship with firm's stakeholders.

To exclusively distinguish the ownership effect, we once more run the regression, but taking into account only family firms run by a non-family member; the findings are presented in Table 8.

Regression results allow us to see that previously detected positive relationship between family ownership and financial profitability results from family-managed firms, meaning that the position of CEO is occupied by a family member. This finding is in line with results obtained by Anderson and Reeb (2003). The family companies not run by a family member, however, do not perform worse than foreign firms on average, since the coefficients in most sample years are not significantly different. The only notable outcome is concerning 2014, when the coefficient associated to the family ownership is significantly negative. As previously discovered, the 50/50 ownership group shows the most positive impact on firm's ROA, followed by the widely-held firm subsample.

| ROA | | | | | | | | |
|--|--------------------|--------------------|---------------------|----------------------|----------------------|---------------------|---------------------|----------------------|
| Explanatory variables | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Family (CEO: non-family member) | 0.009 (0.93) | -0.004 (-0.37) | 0.025* (1.91) | 0.003 (0.45) | 0.007 (1.00) | -0.003 (-0.39) | -0.007 (-0.91) | -0.019*** (-2.72) |
| Widely-held | 0.038*** (4.04) | 0.046*** (3.83) | 0.054*** (4.00) | 0.018** (2.29) | 0.010 (1.38) | 0.012** (1.67) | 0.004 (0.54) | 0.001 (0.13) |
| 50/50 | 0.059*** (5.82) | 0.041*** (3.28) | 0.070*** (4.82) | 0.034*** (4.17) | 0.031*** (3.83) | 0.036*** (4.61) | 0.018** (2.27) | 0.006 (0.73) |
| Revenue growth | 0.059*** (7.65) | 0.082*** (6.81) | 0.100*** (7.44) | 0.070*** (14.43) | 0.069*** (12.45) | 0.084*** (14.06) | 0.089*** (13.78) | 0.101*** (15.48) |
| In Assets | 0.005* (1.85) | 0.009*** (2.76) | 0.008** (2.13) | 0.015*** (8.44) | 0.013*** (7.75) | 0.013*** (7.90) | 0.011*** (6.19) | 0.010*** (5.67) |
| In Age | 0.026*** (3.82) | 0.007 (0.75) | 0.010 (0.83) | 0.005 (0.66) | 0.007 (0.95) | 0.001 (0.05) | 0.004 (0.41) | -0.012 (-1.39) |
| Constant | -0.006 (-0.21) | -0.024 (-0.73) | -0.091** (-2.36) | -0.108*** (-4.91) | -0.088*** (-3.72) | -0.059** (-2.40) | -0.041 (-1.53) | 0.015 (0.54) |
| Observations | 5320 | 3008 | 2108 | 11485 | 11646 | 11629 | 11535 | 11432 |
| adj R2 | 8.84% | 8.87% | 11.13% | 10.47% | 8.14% | 9.41% | 8.67% | 9.82% |

Table 8 The table presents the OLS regression results regarding the family's involvement in the management effect on the firm's profitability. An additional subsample of only outsider-managed family companies is created. Made by the authors. The dependent variable is ROA. The ownership groups are expressed as dummy variables; the foreign-owned firms are taken as a reference group. The control variables are revenue growth, size (log of assets) and age (log of years since the firm's incorporation). We control for industry-specific factors, by including industry dummy variables. Calculations are based on closing values. *, **, *** corresponds to the 10%, 5%, 1% significance level. The respective t-values are indicated in the brackets.

Finally, we can conclude that family ownership alone does not have a positive influence on the firm's profitability compared to other ownership types. The coefficients are significantly lower than for 50/50 subsample and widely-held companies (in majority of the sample period). Hence, the **Hypothesis 4**, stating that family ownership has a distinctive effect towards profitability, cannot be rejected; however, it turns out to be less favourable than we expected after regression presented in Table 4.

4.7. Limitations

We acknowledge that the study integrates also some limitations. The sample selection process facilitates survivorship bias as it consists of companies incorporated before 2006; thus, the results obtained might be overstated. However, we deem that this approach enables us to make more plausible conclusions about the changes throughout

the timeframe. In several instances, we had to exclude ratios containing negative equity values (for example, in ROE calculations). Nevertheless, the number of dismissed cases was negligible. Hence, we believe this issue do not decrease the validity of results.

The findings might also be influenced by the data unavailability: the information about firms' ownership and management structure could be acquired for 2014 only. However, we assume that these factors do not change substantially during the chosen time period.

5. Conclusions

The aim of the paper is to provide an evidence of whether there exists a notable difference in the financial performance of companies with different ownership structures. The sample consists of private Latvian enterprises; data is collected over the time period 2006-2014. Our primary focus is to compare the family firms' performance to their non-family counterparts. In the analysis, the following four ownership structures are distinguished: family-owned, widely-held, foreign-owned enterprises and companies owned by two shareholders having equal stakes. Moreover, acknowledging the importance of family's involvement in the firm's management, we perform an analysis of this aspect. Consequently, our research inquiries are the following:

1. Whether there exists a difference in financial performance between family-owned and non-family companies during the sample period?
2. Whether the founder family's involvement in the management board has a positive influence on firm's profitability?

An initial ratio analysis of sample companies' financial performance revealed that family firms have less long-term debt, but they possessed a substantially higher level of current liabilities. We speculate that this can be explained by the fact that families have a strong intention to maintain their control over the decision making process; thus, family companies are willing to avoid external financing. The revenue growth was rather similar among all sample companies, only foreign-owned enterprises showed significantly higher figures. After inspecting the liquidity position, we discovered that family firms have lower current and quick ratios, possibly caused by the serious reliance on current liabilities. Our interpretation suggests this is possible due to the implicit contracts with firms' suppliers.

The findings of ownership structure's impact on profitability are drawn from a regression analysis. Firstly, we observe that coefficients measuring the particular ownership structure's effect on profitability are the highest for 50/50 ownership group, followed by family-owned and widely-held firms. Consequently, foreign firms show the lowest impact. Secondly, we find that owner family's involvement in the management is positively associated with the profitability. Moreover, we discover that the firms managed by the family (meaning that the CEO, Chairman or Vice-Chairman of the board is a family member) solely form the previously detected positive effect of family ownership.

Our main finding is that the family ownership is associated with a positive impact on the profitability; however, it should be also supplemented with owner family's involvement in the managing team. This evidence should be considered by investors when deciding their investment strategies as well as clients and other stakeholders of the particular businesses. Non-family companies could also adopt some positive practices of the family management to improve their financial performance, for example, long-term planning, less bureaucratic internal procedures and continuous knowledge sharing.

The study facilitates a wide range of implications for a further research. Particularly, the role of the CEO within a family firm could be examined by segregating heir and founder CEOs. This would allow creating a profile of the best functioning family business type. Moreover, our paper directly provides evidence about the effect arising from family's ownership and involvement in the management board only on the profitability measure. Innovative findings might arise when testing the effect on other performance measures; for instance, sales growth, capital structure, liquidity, etc.

6. References

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7. Appendices

Appendix A. Allocation of SIC codes

| | Industry | Two digit SIC code |
|-----|----------------------|------------------------------------|
| 1. | Agriculture& Fishing | 01, 02, 07, 09 |
| 2. | Basic | 10, 12, 14, 24, 26, 28, 33 |
| 3. | Capital goods | 34, 35, 38, 39 |
| 4. | Construction | 15, 16, 17, 32, 52 |
| 5. | Consumer durables | 25, 30, 36, 37, 50, 55, 57 |
| 6. | Food & Tobacco | 20, 21, 54 |
| 7. | Forestry | 08 |
| 8. | Leisure | 27, 58, 70, 78, 79 |
| 9. | Petroleum | 13, 29 |
| 10. | Real estate | 65 |
| 11. | Services | 72, 73, 75, 76, 80, 81, 82, 83, 87 |
| 12. | Textiles/trade | 22, 23, 31, 51, 53, 56, 59 |
| 13. | Transportation | 40, 41, 42, 44, 45, 47 |
| 14. | Utilities | 46, 48, 49 |

Table A.1 Made by the authors. Source: Campbell, 1996

Appendix B. Ratios applied in the analysis

| Measure | Formula |
|-----------------------------------|---|
| Liquidity | |
| Quick ratio | $(\text{Current assets} - \text{Inventory}) / \text{Current liabilities}$ |
| Current ratio | $\text{Current assets} / \text{Current liabilities}$ |
| Profitability | |
| Gross margin | $(\text{Gross profit} / \text{Revenue}) * 100\%$ |
| ROE | $(\text{Net profit} / \text{Equity}) * 100\%$ |
| ROA | $((\text{Net profit} + \text{Interest expense}) / \text{Total assets}) * 100\%$ |
| Asset utilization | |
| Fixed assets to Total assets | $(\text{Fixed assets} / \text{Total assets}) * 100\%$ |
| Asset turnover | $\text{Revenue} / \text{Assets}$ |
| Cash/ Total assets | $(\text{Cash} \& \text{Cash equivalents} / \text{Total assets}) * 100\%$ |
| Leverage | |
| Current liabilities/ Total assets | $\text{Current liabilities} / \text{Total assets}$ |
| Interest coverage | $(\text{Net profit} + \text{Interest expense}) / \text{Interest expense}$ |
| Debt/ Equity | $(\text{Current liabilities} + \text{Non-current liabilities}) / \text{Equity}$ |
| Growth | |
| Sales growth | $(\text{Revenue}_t - \text{Revenue}_{t-1}) / \text{Revenue}_{t-1} * 100\%$ |

Table B.1 The formulas used for ratio calculations. The closing values are used. Made by the authors.

Appendix C. Industry representation

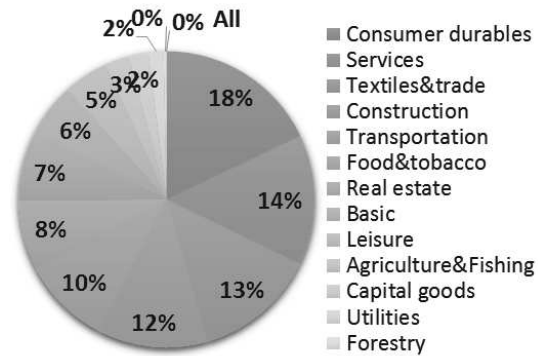


Figure C.1 Industry allocation: the whole sample. Made by the authors.

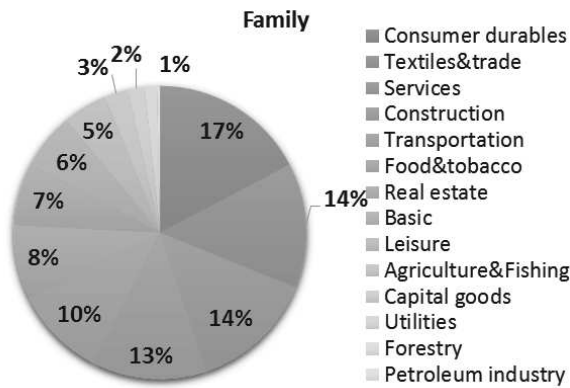


Figure C.2 Industry allocation: the family firm subsample. Made by the authors.

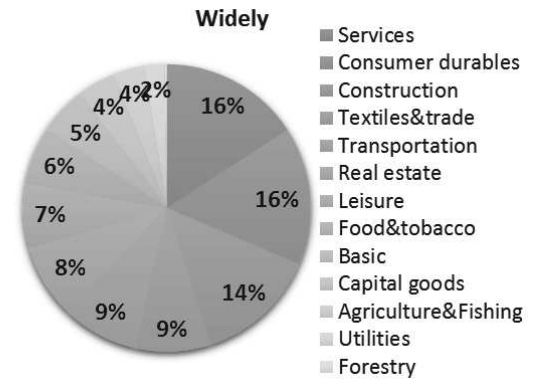


Figure C.3 Industry allocation: the widely-held firm subsample. Made by the authors.

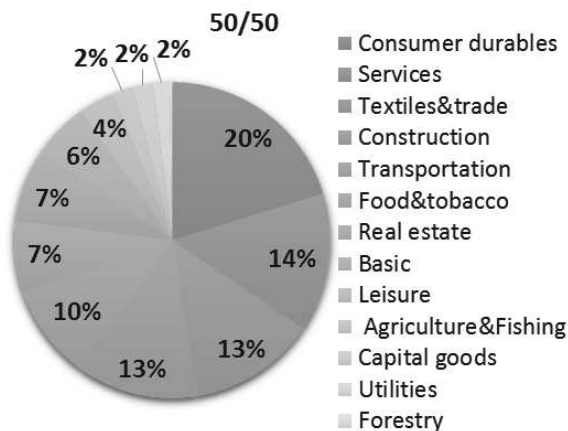


Figure C.4 Industry allocation: the 50/50 firm subsample. Made by the authors.

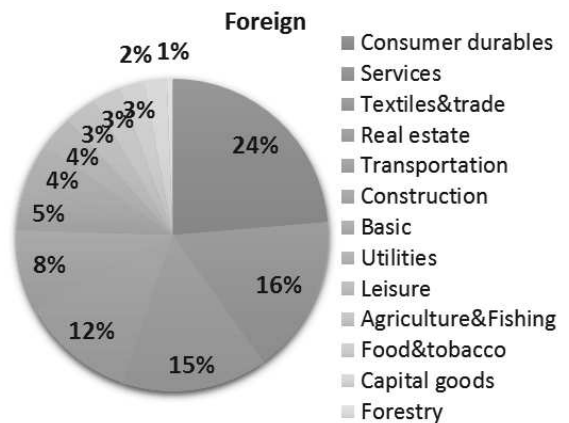


Figure C.5 Industry allocation: the foreign-owned firm subsample. Made by the authors.

Appendix D. Data summary by ownership groups

| Owner | # of employees | | Age | | Turnover, th EUR | | Assets, th EUR | | Cash, th EUR | | Net income, th EUR | |
|--------------------|----------------|--------|-------|--------|------------------|---------|----------------|---------|--------------|--------|--------------------|--------|
| | mean | median | mean | median | mean | median | mean | median | mean | median | mean | median |
| Family | 17.86 | 8 | 16.88 | 17 | 1227.57 | 323.87 | 1029.15 | 237.63 | 79.88 | 11.83 | 51.21 | 5.70 |
| Widely-held | 32.75 | 15 | 17.71 | 18 | 3219.31 | 554.41 | 2778.86 | 458.75 | 187.13 | 28.88 | 160.75 | 14.15 |
| 50/50 | 18.55 | 9 | 16.46 | 16 | 1179.02 | 341.34 | 1047.51 | 253.53 | 83.61 | 13.93 | 85.90 | 9.03 |
| Foreign | 60.18 | 13 | 16.11 | 16 | 8489.20 | 1641.71 | 6602.55 | 1554.05 | 525.87 | 96.76 | 287.37 | 42.10 |

Table D.1 Descriptive statistics. Calculations are based on closing values. Made by the authors using data from the Orbis database.

Appendix E. Financial ratio summary by ownership group

| Owner | Quick ratio | Current ratio | Gross margin | ROE | ROA | FA/TA | Asset turnover | Cash asset ratio | CL/TA | Interest coverage | D/E | Revenue growth | |
|--------------------|-------------|---------------|--------------|-----------|----------|-----------|----------------|------------------|----------|-------------------|----------|----------------|--------|
| Family | 1.514 | 2.338 | 23.71% | 21.18% | 4.61% | 37.04% | 2.270 | 12.05% | 0.556 | 17.623 | 1.938 | 4.73% | mean |
| | 0.787 | 1.266 | 18.47% | 16.15% | 3.92% | 31.31% | 1.664 | 5.10% | 0.414 | 3.441 | 0.940 | -0.27% | median |
| Widely-held | 1.698*** | 2.455*** | 23.25%* | 18.97%*** | 5.75%*** | 39.11%*** | 2.143*** | 13.63%*** | 0.462*** | 17.922 | 2.155*** | 4.82% | mean |
| | 0.983*** | 1.448*** | 18.76% | 13.15%*** | 4.59%*** | 35.58%*** | 1.667 | 6.96%*** | 0.354*** | 4.058*** | 0.976*** | 0.64%** | median |
| 50/50 | 1.465** | 2.253** | 24.73%*** | 23.58%*** | 6.43%*** | 34.13%*** | 2.379*** | 12.32%* | 0.553 | 20.358*** | 2.171*** | 4.71% | mean |
| | 0.826*** | 1.331*** | 19.56%*** | 19.41%*** | 5.11%*** | 27.24%*** | 1.808*** | 5.46%*** | 0.428*** | 4.641*** | 1.123*** | 0.26% | median |
| Foreign | 1.811*** | 2.506*** | 30.57%*** | 18.80%*** | 5.93%*** | 27.16%*** | 2.173*** | 13.83%*** | 0.483*** | 20.525*** | 2.120** | 7.63%*** | mean |
| | 1.023*** | 1.427*** | 24.67%*** | 15.35%*** | 5.43%*** | 11.47%*** | 1.817* | 7.12%*** | 0.397*** | 3.881*** | 0.993*** | 3.43%*** | median |

Table E.1 Financial ratio summary over the sample period. Calculations are based on closing values. Made by the authors using data from the Orbis database. *, **, *** corresponds to the 10%, 5%, 1% significance level.

Appendix F. Ratio summary by ownership groups and sample periods

| Period | 1 | 2 | 3 | 1 | 2 | 3 |
|---------------|----------------------|---------------|---------------|--------------------------|---------------|---------------|
| | Quick ratio | | | Asset turnover | | |
| Family | 1.140 | 1.133 | 1.512 | 2.427 | 2.377 | 2.278 |
| Widely-held | 1.331*** | 1.385*** | 1.747*** | 2.388 | 2.439 | 2.073*** |
| 50/50 | 1.146 | 1.041* | 1.491 | 2.415 | 2.398 | 2.423** |
| Foreign | 1.280*** | 1.360*** | 1.868*** | 2.335* | 2.436 | 2.131** |
| | Current ratio | | | Cash asset ratio | | |
| Family | 1.786 | 1.787 | 2.367 | 11.42% | 8.00% | 11.67% |
| Widely-held | 1.929** | 2.096*** | 2.554** | 13.17%*** | 10.44%*** | 13.78%*** |
| 50/50 | 1.835 | 1.719 | 2.288 | 11.44% | 7.35% | 11.93% |
| Foreign | 1.848 | 1.993*** | 2.560** | 13.01%*** | 9.45%*** | 14.26%*** |
| | Gross margin | | | CL/TA | | |
| Family | 22.27% | 21.53% | 23.83% | 0.454 | 0.455 | 0.559 |
| Widely-held | 22.40% | 20.90% | 22.71%* | 0.421*** | 0.402*** | 0.464*** |
| 50/50 | 23.87%** | 21.56% | 24.41% | 0.448 | 0.470 | 0.563 |
| Foreign | 32.42%*** | 17.56%*** | 31.30%*** | 0.496*** | 0.469 | 0.489*** |
| | ROE | | | Interest coverage | | |
| Family | 40.03% | 20.92% | 20.66% | 24.031 | 10.426 | 14.200 |
| Widely-held | 37.03%* | 24.29% | 15.84%*** | 26.623* | 13.417*** | 13.865 |
| 50/50 | 44.58%** | 23.80% | 22.48% | 29.292*** | 10.769 | 14.584 |
| Foreign | 33.96%*** | 16.08%** | 20.63% | 25.631 | 10.866 | 15.057 |
| | ROA | | | D/E | | |
| Family | 13.09% | 8.07% | 3.59% | 3.578 | 3.538 | 1.812 |
| Widely-held | 14.19% | 10.08%** | 3.54% | 2.892*** | 2.841** | 2.247** |
| 50/50 | 15.68%*** | 8.84% | 4.84%** | 3.594 | 4.016 | 1.785 |
| Foreign | 11.98%** | 7.00%** | 4.55%* | 3.202* | 2.903** | 2.045 |
| | FA/TA | | | Revenue growth | | |
| Family | 39.91% | 41.19% | 36.02% | 34.54% | 8.23% | 17.23% |
| Widely-held | 40.07% | 40.07% | 38.49%*** | 32.02%* | 10.33%* | 15.22%* |
| 50/50 | 38.73% | 37.58%** | 33.27%*** | 32.02%* | 8.23% | 18.05% |
| Foreign | 19.30%*** | 15.32%*** | 35.64% | 32.98% | 13.36%*** | 19.11%* |

Table F.1 Financial ratio summary by periods. Period 1: pre-crisis (2006-2007), period 2: the crisis (2008-2010), period 3: post-crisis (2011-2014). Made by the authors using data from the Orbis database. *, **, *** corresponds to the 10%, 5%, 1% significance level.

Appendix G. The OLS regression results of family ownership stake's influence on the firm's profitability

| ROA | | | | | | | | |
|------------------------------|---------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| Explanatory variables | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| % of family ownership | 0.001 (1.13) | 0.001 (0.35) | -0.001 (-0.42) | 0.001 (1.15) | 0.001*** (2.70) | 0.001 (1.55) | 0.001** (2.14) | 0.001** (2.42) |
| Revenue growth | 0.064*** (10.49) | 0.082*** (8.04) | 0.101*** (8.27) | 0.073*** (20.00) | 0.080*** (19.35) | 0.095*** (21.67) | 0.091*** (18.04) | 0.101*** (20.57) |
| ln Age | 0.031 (5.13) | 0.032 (3.61) | 0.021* (1.73) | 0.002 (0.33) | 0.001 (0.07) | -0.012* (-1.85) | -0.003 (-0.42) | -0.007 (-0.92) |
| ln Assets | 0.0063*** (2.60) | 0.015*** (4.47) | 0.016*** (4.03) | 0.023*** (13.89) | 0.019*** (11.53) | 0.019*** (12.03) | 0.021*** (13.56) | 0.020*** (12.58) |
| Constant | -0.013 (-0.44) | -0.115*** (-2.92) | -0.126*** (-2.32) | -0.144*** (-6.22) | -0.116*** (-4.85) | -0.056** (-2.28) | -0.095*** (-3.59) | -0.088*** (-3.24) |
| Observations | 3671 | 1991 | 1300 | 8488 | 8605 | 8587 | 8505 | 8418 |
| adj R2 | 0.0781 | 0.0872 | 0.1034 | 0.1183 | 0.1002 | 0.1212 | 0.1109 | 0.1149 |

Table G.1 The OLS regression results regarding the ownership effect on the family firm's profitability. Only family firm subsample is considered. Made by the authors. The dependent variable is ROA. The % of family ownership indicates the size of ownership stake. The control variables are revenue growth, size (log of assets) and age (log of years since the firm's incorporation). We control for industry-specific factors, by including industry dummy variables. Calculations are based on closing values. *, **, *** corresponds to the 10%, 5%, 1% significance level.

Appendix H. Comparison of financial ratios between family and non-family CEOs

| | Non-family CEO | Family CEO | t-value |
|--------------------------|----------------|------------|----------|
| Quick ratio | 1.480973 | 1.492967 | -0.51 |
| Current ratio | 2.156895*** | 2.343275 | -5.5741 |
| Gross margin | 0.2621466*** | 0.2312892 | 10.9244 |
| ROE | 0.1967031*** | 0.2178136 | -3.3066 |
| ROA | 0.0375334*** | 0.0489773 | -4.7576 |
| FATA | 0.3849796*** | 0.3681919 | 4.6989 |
| Asset turnover | 2.017374*** | 2.329395 | -12.2322 |
| Cash | 0.1055912*** | 0.1225876 | -9.1722 |
| CLTA | 0.5495656* | 0.5396724 | 1.6997 |
| Revenue growth | 0.106934** | 0.0927822 | 2.1174 |
| Interest coverage | 14.67479*** | 17.27675 | -5.1919 |
| Debt-to-Equity | 1.714216*** | 1.582917 | 2.7965 |

Table H.1 The total period mean financial ratios for family companies managed by family and non-family CEO. Calculations are based on closing values. *, **, *** corresponds to the 10%, 5%, 1% significance level.