GRA 19502

Master Thesis

The risk-performance trade-off in Norwegian family firms

Navn: Arne Torjus Wist Lauvdal, Marius Børke

Start: 01.01.2018 09.00

Finish: 15.01.2018 12.00

Preliminary Thesis Report

‹‹The risk-performance trade-off in Norwegian family firms››

By

Arne Torjus Wist Lauvdal & Marius Børke

Supervisor

Bogdan Stacescu

BI Norwegian Business School, 2018

Abstract

This thesis seeks to investigate the relationship between risk taking and performance in Norwegian non-listed family firms. We define three different groups of family firms: the entrepreneurial, and the classic family firm both with and without CEO from the family with largest ownership. We will use a unique dataset from Centre for Corporate Governance Research on all Norwegian family firms in the period 2000 to 2015. As literature mostly covers the difference between listed family and non-family firms, we hope to contribute by investigating the inter-family dimensions in non-listed family firms.

Table of Contents

Introduction and Motivation

Family firms account for two thirds of all firms globally and is estimated to create 70-90% of the global GDP (FFI, 2018). The expression "family firms" is often used for different family owner structures where typically one family is majority owner. Further, how owner structure and corporate governance are affecting the firms is a quite broad field within research due to all its dimensions. However, how different types of family firms perform relative to the level of idiosyncratic risk is not very well explored, especially not in Norway. Our contribution will broaden the understanding of exactly this topic.

The existing research on the topic, mainly has focus on the differences between listed family firms and non-family firms. This is probably due to missing public data in most countries regarding non-listed firms' market value, accounting statements, ownership structure, and board composition (Berzins, Bøhren, & Rydland, 2008). By having access to high quality corporate finance and -governance data on all firms in Norway in the period 2000 to 2015, we are able to contribute to the literature on non-listed family firms in Norway. The data is provided by Centre for Corporate Governance Research.

In our research, we will define three different types of family firms. The purpose is to investigate the risk-return trade-off for the different types of family firms in Norway. We separate family firms into two main categories, namely entrepreneurial and classic family firms. The latter is then divided between firms where the CEO is a member of the owning family and the firms where the CEO is non-family. We will look into performance in terms of return on assets and equity, but also in terms of sustainable growth. The idiosyncratic risk will be captured by the proxies debt to equity ratio and volatility in sales and earnings over 5 years.

The thesis has the following research question:
Is performance relative to level of idiosyncratic risk different between the three groups of non-listed family firms in Norway?

Related Literature, Theories, and Hypotheses

Definition of Family Firms

In the literature, definitions of family firms are varying in order to serve its purpose. Indeed, a study by Chua, Chrisman and Sharma (1999) on defining family firms, found 21 different definitions. Further, Miller, Le Breton-Miller, Lester and Cannella (2007) finds no less than 28 different definitions, and emphasizes how sensitive analysis are to the definition. However, family business attributes are often related to one of three components: family, ownership and business. The definitions depend on the overlap between the three components (Gersick, Davis, Hampton, & Lansberg, 1997; Rettab & Azzam, 2011).

Due to the nature of our data and the scope of our thesis, we wish to make concrete definitions which distinct between four different types of firms: the entrepreneurial family firm, the non-entrepreneurial family firm with family CEO, the non-entrepreneurial family firm without family CEO and finally a control group of non-family firms. The three different components family, ownership and business and how they overlap are indeed carving out the distinctions between the groups.

Entrepreneurial family firms
- Firm ownership consists of one family member with total ultimate firm ownership and that person is also the CEO.

Non-entrepreneurial family firms with family-CEO
- Firm ownership consists of more than one family member with an ultimate ownership above 50%, and the CEO is from the family with the largest ultimate ownership.

Non-entrepreneurial family firms without family-CEO
- Firm ownership consists of more than one family member with an ultimate ownership above 50%, but the CEO is not from the family with the largest ultimate ownership.

Control group – non-family firms
- Firm ownership consists of a larger share of non-family members, than family members. The ownership of non-family members is above 50%.

Theory on the differences between family firms and non-family firms are relatively new and somewhat under development. As a result, there are different definitions of family firms and what are the reasons that family-firms are different than non-family firms. Meaning that risk preference, agent theory, capital structure, growth, behaviour in recessions, entrepreneurial risk, stock return, succession and performance are some of the scopes the literature covers. However, the literature is not too rich regarding the differences between family firms and the differences in risk-return trade-offs.

Entrepreneurial Firms and Risk Preference

Research by Hans K. Hvide and Georgios A. Panos (2014) suggest that risk tolerant people are more likely to become entrepreneurs but perform worse. The reason being that less risk averse individuals would be willing to accept lower expected entrepreneurial risk. The study uses proxies to capture risk preference and compares this to performance of firms started up by individual with high risk tolerance. And indeed, they find evidence that these firms perform worse. This suggests that "more risk tolerant individuals are more inclined to start up a firm but of poorer expected quality than less risk tolerant individuals" (Hvide & Panos, 2014). Frank H. Knight (1921) states that less risk averse individuals are more likely to start up a firm. Further, Kanbur (1979) and Kihlstrom and Laffont (1979) supports the hypothesis that less risk averse individuals become entrepreneurs and more risk averse individuals become workers. The workers are paid risk free fixed wages, while the entrepreneurs are receiving a risky return.

As we in this thesis will define the entrepreneurial family firm as one person being only owner and CEO of his company, the previous theory is highly relevant and will serve as the backdrop for our hypothesis. More specifically, is the risky return justifying the level of risk? This leads us to the first two hypothesis in this thesis:

> **H1**: Entrepreneurial family firms take on more risk than non-entrepreneurial family firms.

> **H2**: Higher level of risk in family firms is rewarded by higher returns in terms of performance.

Family Versus Non-Family Firms

Sraer and Thesmar (2007) wrote a paper that empirically documents the performance and behaviour of family firms listed on the French stock exchange between 1994 and 2000. Their main findings in the paper was that family firms outperformed non-family firms (Sraer & Thesmar, 2007). Which is in consensus with other infant literature that founder-managed firm, as well as family firms run by an outside CEO outperform non-family firms comparing profitability in the North-America region. Among the various contribution to the consensus on the subject is Anderson and Reeb (2003), Amit and Villalonga (2006) and Perez-González (2006) for United States.

Jaskiewicz and Klein (2005) reported in their family business performance overview that of 41 studies, family firm outperform non-family in 25 studies, in 5 studies it was opposite and 11 studies gave no significant result. Dyer (2006) suggest that this difference comes from different approaches and definitions of family enterprises. This we keep in mind, when deciding our approach and how we define the family firms.

Further other studies suggest that family CEO could perform better than an outside manager due to their exposure to higher non-monetary rewards associated with firms success (Davis, Schoorman, & Donaldson, 1997; Kandel & Lazear, 1992), more firm-specific knowledge and trust from key stakeholders (Donnelley, 1964) and more long-term focus (Cadbury, 2000). In contrast, other studies suggest that family CEO might underperform due to conflicting interest between family and business (Barnes & Hershon, 1989; Levinson, 1971).

When Sraer and Thesmar (2007) looked at accounting profitability, all family firms did better than non-family firms. The founder-managed firms were the most profitable ones and did better in terms of profit and growth. That also is consistent with extensive literature on the *founder effect*, as can be seen in the literature by Adams, Almeida, and Ferreira (2009) and Fahlenbrach (2004). Even without the founder in the firm, family firms were still more profitable than non-family firms, but to a lesser extent when assessing the accounting performance measures return on assets (ROA[1]) and return on equity (ROE[2]).

---

[1] ROA is defined as the ratio of EBITDA to book value of total assets
[2] ROE is defined as the ratio of earnings to book value of equity.

Succession and Family CEO in Family Firms

Bennedsen, Nielsen, Perez-Gonzales and Wolfenzon (2007) conducted a study on Danish family succession decision and performance by assessing the operating return on assets (OROA). Their main findings are that family successions are significantly negatively correlated with firm performance around CEO successions. The relationship between family successions and firm performance is extremely strong and economically large: family CEOs cause an average decline in firm profitability on assets of at least four percentage points (Bennedsen et al., 2007).

In our study, we will control for succession as a control variable by looking at the age of the family CEO compared to company age. Earlier studies have found age of CEO to be significantly negatively correlated with risk taking and innovation (Stewart, Watson, Carland, & Carland, 1999). As CEOs of family firms age, they may naturally become less innovative and risk taking because they become more focused on succession issues and maintaining family wealth, thereby reducing their entrepreneurial behaviour (Kellermanns, Eddleston, Barnett, & Pearson, 2008). Hence, it might be interesting to both control for, but also interpret the relationship between age of CEO and the risk-performance trade-off.

When investigating alternative performance measure like ROA the results underscore the negative impact of family CEOs on firm performance. The paper also find evidence that relatively less profitable firms that are managed by family CEOs are more likely to file for bankruptcy or be liquidated, relative to comparable firms that are headed by non-family CEOs (Bennedsen et al., 2007).

Economic- and Sustainable Growth in Family Firms

A different angle in the family business literature is a study on "Influence of family ownership on small business growth. Evidence from French SMEs", by Anais Hamelin (2013). The study seeks to generate empirical evidence on the relationship between family ownership and small business growth, and to determine through which channel family ownership influences small business growth (A. Hamelin, 2013). She investigate if family business could deliberately limit their growth, adopting conservative growth behavior or if ownership might affect firm growth through its direct and indirect effects on firm financing capacity (A. Hamelin, 2013).

The central contribution of the study is that firms with greater family ownership are prone to below-potential rates of economic growth, given their internal financing

resources. This emphasizes that family ownership is associated with conservative behavior toward growth, i.e. firms do not fully exploit their growth potential (A. Hamelin, 2013). Therefor the study provides empirical support to literature that small business growth depends on growth motivation rather than on a value-maximizing approach, argued by Cassar (2007) and Delmar and Wilklund (2008).

The literature also covers sustainable growth in family firms. In this thesis, we are not going to look at growth isolated, but rather look at it as a measure of performance given a level of idiosyncratic risk. As previously defined by Higgins (1977), sustainable growth is the rate of economic growth that maintains unchanged debt leverage and avoid increase in shares of outside shareholders. Hamelin´s (2013) study uses maximum rate at which the firm can grow without altering the firm`s financial structure as a measure for sustainable growth, i.e. not taking on more risk.

In our thesis, we want to use the motivation from Hamelin`s (2013) work when exploring if there are any significant relationships between the level of risk, in terms of capital structure, and economic growth in terms of sales growth as defined by Hamelin (2013). Again, we are strictly investigating Norwegian family firms. Moreover, we will explore if the growth actual is sustainable by assessing whether the firms alter their financial structure or not. This leads to our third and fourth hypothesis:

H3: Entrepreneurial family firms have higher economic growth than non-entrepreneurial family firms, due to higher risk tolerance.

H4: Non-entrepreneurial family firms have more sustainable growth than entrepreneurial family firms, due to higher risk aversion, i.e. less altering of its financial structure.

Ownership Concentration in Family Firms

One explanation on why the family firms have retards growth is that higher ownership concentration relates to under-diversification, i.e. the family investors are increasingly exposed to firm-specific risk with increasing concentration. This in turn give investors incentive to increase return required on new investments or they deliberate limit growth since the non-financial goals might not coincide with a value-maximizing approach (A. Hamelin, 2013).

Fama and Jensen (1983) argued that high concentration of ownership in hands of one entity may adversely affect the performance, which is later backed by Pound (1988). By pursuing personal goals, the controlling the largest shareholder entity might expropriate funds from other stakeholders including employees and minor shareholders, hence compromise the performance of the company (Crama, Leruth, Renneboog, & Urbain, 2003). Berzins, Bøhren and Rydland (2008) analyzed a wide range of corporate finance and governance characteristics in the data on active Norwegian firms with limited liability over the period 1994-2005. This sample includes about 77,000 non-listed firms and 135 listed firms per year. They found that Ownership concentration is much higher in non-listed firms, particularly when persons control them. Concentration decreases with firm size, but is still very high even in large non-listed firms (Berzins et al., 2008). Secondly a contradiction to Fama and Jensen, that the operating performance (ROA) is higher when personal ownership is high and if the firm is non-listed. In addition, Che and Langli (2015) contribute in their study on Norwegian non-listed family firm. They show that family firm performance measured by ROA is higher for firms with low family ownership (50% - 67%) and high ownership (100%) but lower in between. Which makes it interesting for us to look at the ownership concentration in the firms.

Agency Theory

Theory on the topic is necessary to make inference about our quantitative findings. Regarding family firms, agent theory is prominent and almost inevitable. Jensen and Meckling (1976, p. 308) "define an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent". This relation is much discussed due to the problem arising due to conflicts of interest between the principal(s) and the agent, introducing the concept of agency cost. Based on Jensen and Meckling´s definition, Fama and Jensen (1983, p. 304) states that "agency problems arise because contracts are not costlessly written and enforced. Agency costs include the costs of structuring, monitoring, and bonding a set of contracts among agents with conflicting interests. Agency costs also include the value of output lost because the costs of full enforcement of contracts exceed the benefits". In other words agency cost might be defined as the sum of the monitoring expenditures by the principal, the bonding expenditures by the agent and the residual loss (Jensen & Meckling, 1976, p. 308).

Agency theory will be useful in inference of the analysis regarding the family or non-family CEO distinction between the family firms. In more detail, the agency problem is categorized between different problems. Agency problem one (A1) arises between the owner and the manager of the firm (Villalonga & Amit, 2006). In short the problem is that the manager (agent) does not have the same incentives as the owner (principal), and might use the invested capital in his best interest rather than in the owner´s best interest (Shleifer & Vishny, 1997). Agency problem two (A2)(Villalonga & Amit, 2006) arises between the controlling shareholders (or families) and the minority shareholders (Bhaumik & Gregoriou, 2010). More concretely, majority shareholders might use their voting rights to expropriate private benefits in addition to the dividends which are the only return to the minority shareholders.

Contribution

As our review identifies, earlier studies do not cover what we want to explore precisely. The research is mainly on differences between listed family and non-family firms or entrepreneurial versus non-entrepreneurial firms. However, this strongly motivates us to reduce the gap and investigate differences between different categories of Norwegian non-listed family firms strictly.

Moreover, some of the literature on agent theory and risk preferences are mature compared to literature on the topics of differences between family and non-family firms, which is on a rather infant stage.

Rettab and Azzam (2011) highlights that in the 41 studies examined by Jaskiewicz and Klein (2005), none of the studies controlled for self-selection bias and most do not assess differences within and across industries with respect to performance. This means that observed difference in firm performance might be attribute to different business types and industries rather than types of business structure. In our method we will try to address the problem adjusting for industries across the different firms.

On the basis of existing literature, we have formed four hypotheses. We will shape our methodology and base our research on what we have reviewed in order to conclude how return relative to level of idiosyncratic risk is different or similar between the three groups of non-listed family firms in Norway. In addition, it could be interesting to investigate whether non-entrepreneurial family firms with non-family CEO behave like Entrepreneurial firm.

Definition of Risk

Due to limitations and priorities with respect to variables, we cannot and will not define risk preference to the same extent as Hvide and Panos (2014). Instead we will find proxies for level of risk associated with the different firm types.

Volatility in sales

As a measure of risk we will measure the volatility of sales growth over the last minimum three to maximum seven years (Berzins, Bøhren, & Stacescu, 2017).

Volatility in earnings

As a measure of risk we will measure the volatility of sales growth over the last minimum three to maximum seven years.

Leverage

In finance theory, capital structure is often looked to when assessing the idiosyncratic risk of a company. According to Franco Modigliani and Merton Miller, total risk of the company´s assets, real and financial, must be equal to the financial claims against those assets (Koller, Goedhart, & Wessels, 2015, p. 157). Further, since debt payments have priority over cash flows to equity, adding leverage in the capital structure increases the risk to equity holders. Hence, increasing the required return to shareholders as compensation for the risk added. With this intuition in mind, using debt to total assets as a proxy for risk preference in this study is reasonable. The variable Leverage (debt to total assets) is defined in equation 1.

$$Leverage = \frac{Debt}{Total\ Assets} \qquad \textit{Equation 1}$$

In context of Norwegian non-listed firms, it is interesting to investigate if there is any evidence that is consistent with their findings looking at if one of the family firms in our paper are more prone to alter their capital structure, hence create more financial distress and risk of bankruptcy. This motivate us to use debt-to-equity ratio for capital structure as a risk measurement to look at the trade of between performance and risk but also if the family firms have sustainable growth. Hence, sustainable growth is less altering of the capital structure to introduce more financial distress and risk.

Definition of Performance Measure

We want to define performance measure to look at the trade-off between risk and performance.

Return on assets

ROA measure the profitability for all contribution of capital (Bodie, Kane, & Marcus, 2014) and measure how well the management of the firm generate profit using the assets in operations of the firm (Penman, 2013). As the ROE depends on leverage and ROA does not, we focus on ROA proceeding forward.

$$ROA = \frac{Operating\ Income}{Total\ Assets} \qquad\qquad Equation\ 2$$

Empirical Methodology

We will explore our hypothesis using panel data on a dataset containing accounting and management information on limited liability non-listed companies in Norway in the period 2000-2015. We will do so by applying our own models and regressions to test whether there are grounds for believing the four hypotheses. Before doing so we must apply filters to clean the data from missing and unwanted data. Further we might want to induce instrumental variables to enhance the explanatory power of the explanatory variables in the models. In corporate governance, especially studies from the last 10-15 years, the challenges regarding endogeneity has been more addressed than earlier. Therefore, we want to consider this. Finally, we will also conduct some robustness test of our analysis.

Panel Data

Since we have access to the unique data-set from Norway, we wish to take advantage of the possibilities provided by panel data. By using panel data, will be able to explore the complexity of our problems and look how the variables and the relationship between them change dynamically over time. Also, this will give us a lot more data points than using time-series data only. We will present the details of data set in further detail under the chapter regarding data.

Endogeneity

As mentioned, in governance data mechanisms may substitute or complement each other. This might make the mechanisms endogenous relative to each other (Berzins et al., 2008). The mechanisms may also be endogenous relative to performance, which might occur when causation runs from performance to governance rather just the only the other way around. Endogeneity also might arise from correlated error terms due to omitted variable bias. In corporate finance, where the panel data is often highly correlated, the error terms might not be IID (Independent and

Identically distributed). This could be due to the error term might being explained by another explanatory variable, hence imposing a chance that the sign of the explanatory independent variable in the regression can change or the variable to not be significant.

Further, Berzins et. al. (2008) describes two particular challenges when applying single-equation models. First, having governance mechanisms and control variables as independent variable that might be internally related will create multicollinearity. In turn, this might bias the tests and failure to reject the null hypothesis might be due to endogenously related governance mechanisms. Second, single-equation models are not correctly specified when the independent variables are endogenous. This can be addressed through a system of more equations inducing instrumental variables and the 2SLS approach, matching or difference in difference.

Selection bias

Since we use a data set that cover all firms in Norway, the raw data is not subject selection bias. However as mentioned in the literature review and theory part, there are areas that might be subject to selection bias. Depending on how we define family firm alone may generate a lot of different outcomes. Also, how we choose to filter the dataset might change the result.

Control Variables

Industry variable

Since firms in different industries are different by nature, they behave differently in stages of economic cycles and maturity (Kumar, Rajan, & Zingales, 1999). In order to compare apples to apples, we will categorize all firms into nine different industry groups, inspired by the methodology by Berzins, Bøhren and Rydland (2008) and Hamelin (2009).

In 2008, Norwegian regulations decided to change all industry codes to NACE-standard (Brønnøysundregistrene, 2017). In the data, this is clearly observed when firms change organization number in 2009.

Firm Size

Small and large firms have different characteristics with respect to growth, which will need distinction in our analysis. We measure the size as log of sales in NOK similar to Berzins, Bøhren and Stacescu (2011).

Firm Age

As for industry and size, the age of the companies and how mature they are will have influence the analysis. Hence, we will use the control variable company age to control for this.

Age of CEO

As mentioned, previous studies find a significant relationship between age of CEO and risk taking. Hence, we will use the variable AgeCEO as a control variable.

Succession

As reviewed, previous studies find a positive significant relationship between succession and poor performance. We will use the variable Succession to control for this effect. This variable reflects the relationship between company age and age of CEO.

Ownership concentration

In relation to risk taking in family firms, the literature has discussed performance relative to ownership concentration. Herfindal index is calculated based on the ownership stakes in the company, 1 is 100% of the equity. The index estimates the ownership concentration in the firm. If the ownership concentration is lower, it means that the ownership is more dispersed which mean that the company has more diversified financing base. It could also be that more people providing financing to the company making the financing more stable since there are more people involved in the company.

Regressions

Our general research question, as stated in the introduction, seeks to contribute to the research regarding differences in risk-taking between family firms primarily.

Is performance relative to level of idiosyncratic risk different between the three groups of non-listed family firms in Norway?

On this stage in our research, we want to create a story by successive go through the four hypotheses and their respective models. However, we will emphasize that these are preliminary models.

> **H1**: Entrepreneurial family firms take on more risk than non-entrepreneurial family firms.

In this part, we will compare the different family firms with respect to level of risk. By using leverage, sales volatility and earnings volatility as proxies for firm specific risk and dependent variables, we seek support for H1.

$$Leverage = \alpha + \beta_1 Entrep + \beta_2 FamClassCEO + \beta_3 FamClassNotCEO + \varepsilon$$

$$SalesVol = \alpha + \beta_1 Entrep + \beta_2 FamClassCEO + \beta_3 FamClassNotCEO + \varepsilon$$

$$EarningsVol = \alpha + \beta_1 Entrep + \beta_2 FamClassCEO + \beta_3 FamClassNotCEO + \varepsilon$$

H2: Higher level of risk in family firms is rewarded by higher return in terms of performance.

Here we will investigate the relationship between performance in the different types of family firms and their level of risk.

$$ROA = \alpha + D_1 Entrep + D_2 FamClassCEO + D_3 FamClassNotCEO + \beta_1 Leverage$$
$$+ \beta_2 SalesVol + \beta_3 EarningsVol + \gamma_1 Industry + \gamma_2 FirmSize$$
$$+ \gamma_3 FirmAge + \gamma_4 Herfindahl + \gamma_5 AgeCEO + \varepsilon$$

H3: Entrepreneurial family firms have higher economic growth than non-entrepreneurial family firms, due to higher risk tolerance.

In this section, we will investigate how type of family firm affects economic growth as measured by growth in sales, in relation to their level of risk.

$$GrowthSales = \alpha + D_1 Entrep + D_2 FamClassCEO + D_3 FamClassNotCEO$$
$$+ \beta_1 Leverage + \beta_2 SalesVol + \beta_3 EarningsVol + \gamma_1 Industry$$
$$+ \gamma_2 FirmSize + \gamma_3 FirmAge + \gamma_4 Herfindahl + \gamma_5 AgeCEO + \varepsilon$$

H4: Non-entrepreneurial family firms have more sustainable growth than entrepreneurial family firms, due to higher risk aversion, i.e. less altering of its financial structure.

The most interesting explanatory variable in this model is change in leverage. If we find that economic growth is caused by change in leverage, we cannot find support for sustainable growth. I.e., the firm takes on more risk in terms of leverage in order to grow.

$$GrowthSales = \alpha + D_1 Entrep + D_2 FamClassCEO + D_3 FamClassNotCEO$$
$$+ \beta_1 \Delta Leverage + \gamma_1 Industry + \gamma_2 FirmSize + \gamma_3 FirmAge$$
$$+ \gamma_4 Herfindahl + \gamma_5 AgeCEO + \varepsilon$$

Test for robustness

In order to control the validity of our models, we will run robustness tests, by inducing alternative specifications of variables and samples. In this preliminary, we will only consider ROE as an alternative performance measure to ROA. Other measures for risk might be relevant.

There are alternative measures of performance covered in the literature, as operating return on assets (OROA), return on capital employed (ROCE) and return on equity (ROE). For the robustness test we consider to use ROE as an alternative proxy, because the it might be likely that it correlates with ROA.

Data

Our research is conducted on data provided by the Centre for Corporate Governance Research (CCGR) on both listed and unlisted Norwegian firms.

The CCGR data consists of seven tables:

- Account_Data: Accounting data from 1994 to 2015.
- Consolidated_Account_Data: Consolidated accounting data for 1994 to 2015.
- Industry_Code: NACE industry codes for the companies from 1998 to 2015. A company can be member of more than one industry.
- Ownership_Control: Governance data from 2000 to 2015.
- Misc_1994: Misc. data from 1994 to 2015.
- Misc_2000: Misc. data from 2000 to 2015.
- Misc_2009: Misc. data from 2009 to 2015.

Data Variables

A complete list of relevant variables used in the thesis may be found in appendix 1 - Variables.

Data filters

In order to explore the most accurate picture from the data, we will apply the following filters before conducting the regressions.

1. Exclude listed firms

2. Industry filtering, excluding:

  a. Non-profit organisations and public services

  b. Financial firms

  c. All firms with "0" or missing NACE code

3. Exclude all firms with at least one missing ownership/control variable:

  a. Largest family ownership

  b. Largest family has CEO

  c. CEO birth year

4. Exclude all firms with

  a. Negative total assets

  b. Negative total equity

5. Exclude all firms with ultimate ownership of largest family >1 (100%)

6. Excluded all firms with average revenue less than 1.000.000

Further, our accounting data is consolidated to avoid the difference between parent and subsidiaries. We find it critical to investigate the data set using consolidated data on the firms, because without them our information on sales, assets would be meaningless, this is also emphasised by Sraer and Thesmar (2007). As an example, a holding company has no sales, but receive dividend payments.

Implementation plan

January 15th	Preliminary thesis report
February 1st	Feedback from supervisor
February 15th	Ready to start statistical analysis
March 15th	Explore findings and conclude
May 7th	First draft and comments from supervisor
June 1st	Planned finish of the thesis
June 15th	Absolute deadline

Appendix

Appendix 1 - Variables

Variables

Variable Name	Description	CCGR Data Item
Industry	Industry codes	item_11102
Herfindahl	Herfindahl (based on direct ownership)	item_225
ShareCEO	Share owned by CEO (direct ownership)	item_13601
NOwners	Number of Owners (ultimate ownership)	item_14002
NUltFamOwn	Largest family number of owners (ultimate ownership)	item_15307
OwnLargFam	Largest family sum ult. ownership	item_15302
LargFamCEO	Largest family has CEO	item_15304
Revenue	Revenue	item_9
OpIncome	Operating income	item_19
NetIncome	Net Income	item_39
TotTangAss	Total fixed assets (tangible)	item_51
TotFxAss	Total fixed assets	item_63
TotCurAss	Total current assets	item_78
TotAss	Total Assets	item_63+item_78
Equity	Total equity	item_87
Bonds	Bonds	item_93
LiabilitiesS	Liabilities to financial institutions	item_94
LiabilitiesL	Liabilities to financial institutions	item_101
AP	Account payable	item_102
TotDebt	Total Debt	item_93+94+101+102
ROA	Firm Performance	item_19/(item_63+item_78)
Leverage	Total Debt/Total Assets	(item_93+94+101+102)/(item_63+78)
CompAge	Company age	item_13420
CompSize	Company Size (log(Revenue)	log(item_9)
CEObirth	CEO birth year	item_13408

Filter

Extraction filter	Is Independent (ultimate ownership)	item_14507

References

Adams, R., Almeida, H., & Ferreira, D. (2009). Understanding the relationship between founder-CEOs and firm performance. *Journal of Empirical Finance, 16*(1), 136-150. doi:10.1016/j.jempfin.2008.05.002

Anderson, R. C., & Reeb, D. M. (2003). Founding-family ownership and firm performance: Evidence from the S&P 500. *Journal of Finance, 58*(3), 1301-1328. doi:10.1111/1540-6261.00567

Barnes, L. B., & Hershon, S. A. (1989). Transferring power in the family business. *Family Business Review, 2*(2), 187-202.

Bennedsen, M., Nielsen, K. M., Perez-Gonzalez, F., & Wolfenzon, D. (2007). Inside the family firm: The role of families in succession decisions and performance. *Quarterly Journal of Economics, 122*(2), 647-691. doi:10.1162/qjec.122.2.647

Berzins, J., Bøhren, Ø., & Rydland, P. (2008). Corporate finance and governance in firms with limited liability: Basic characteristics. *Centre for Corporate Governance Research*.

Berzins, J., Bøhren, Ø., & Stacescu, B. (2011). Stockholder conflicts and dividend payout.

Berzins, J., Bøhren, Ø., & Stacescu, B. (2017). Dividends and Taxes: The Moderating Role of Agency Conflicts.

Bhaumik, S. K., & Gregoriou, A. (2010). 'FAMILY' OWNERSHIP, TUNNELLING AND EARNINGS MANAGEMENT: A REVIEW OF THE LITERATURE. *Journal of Economic Surveys, 24*(4), 705-730. doi:10.1111/j.1467-6419.2009.00608.x

Bodie, Z., Kane, A., & Marcus, A. J. (2014). *Investments* (10 ed.). McGraw-Hill Education: McGraw-Hill Education

Brønnøysundregistrene. (2017). Næringskoder. Retrieved from https://www.brreg.no/bedrift/naeringskoder/

Cadbury, S. A. (2000). *Family firms and their governance: Creating tomorrow's company from today's*: Egon Zehnder International London.

Cassar, G. (2007). Money, money, money? A longitudinal investigation of entrepreneur career reasons, growth preferences and achieved growth. *Entrepreneurship & Regional Development, 19*(1), 89-107. doi:10.1080/08985620601002246

Che, L., & Langli, J. C. (2015). Governance structure and firm performance in private family firms. *Journal of Business Finance & Accounting, 42*(9-10), 1216-1250.

Chua, J. H., Chrisman, J. J., & Sharma, P. (1999). Defining the Family Business by Behavior. *Entrepreneurship: Theory & Practice, 23*(4), 19-39.

Crama, Y., Leruth, L., Renneboog, L., & Urbain, J.-P. (2003). Corporate control concentration measurement and firm performance. *Social Responsibility: Corporate Governance Issues*, 123-149.

Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management review, 22*(1), 20-47.

Delmar, F., & Wiklund, J. (2008). The effect of small business managers' growth motivation on firm growth: A longitudinal study. *Entrepreneurship Theory and Practice, 32*(3), 437-457. doi:10.1111/j.1540-6520.2008.00235.x

Donnelley, R. G. (1964). The family business. *Harvard Business Review, 42*(4), 93-105.

Dyer, W. G. (2006). Examining the "family effect" on firm performance. *Family Business Review, 19*(4), 253-273. doi:10.1111/j.1741-6248.2006.00074.x

Fahlenbrach, R. (2004). *Founder-CEOs and stock market performance*: Fisher College of Business, Ohio State University.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The journal of law and Economics, 26*(2), 301-325.

FFI. (2018). Global Data Point. Retrieved from http://www.ffi.org/page/globaldatapoints

Gersick, K. E., Davis, J. A., Hampton, M. M., & Lansberg, I. (1997). *Generation to generation: Life cycles of the family business*: Harvard Business Press.

Hamelin, A. (2009). Do small family businesses have a peculiar attitude toward growth? Evidence from French SMEs. In: Working Papers CEB.

Hamelin, A. (2013). Influence of family ownership on small business growth. Evidence from French SMEs. *Small Business Economics, 41*(3), 563-579. doi:10.1007/s11187-012-9452-x

Higgins, R. C. (1977). How much growth can a firm afford? *Financial management*, 7-16.

Hvide, H. K., & Panos, G. A. (2014). Risk tolerance and entrepreneurship. *Journal of Financial Economics, 111*(1), 200-223. doi:https://doi.org/10.1016/j.jfineco.2013.06.001

Jaskiewicz, P., Klein, S., & Schiereck, D. (2005, 2005). *Family influence and performance-theoretical concepts and empirical results*.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics, 3*(4), 305-360.

Kanbur, S. M. (1979). Of Risk Taking and the Personal Distribution of Income. *Journal of Political Economy, 87*(4), 769-797. doi:10.1086/260792

Kandel, E., & Lazear, E. P. (1992). Peer Pressure and Partnerships. *Journal of Political Economy, 100*(4), 801-817. doi:10.1086/261840

Kellermanns, F. W., Eddleston, K. A., Barnett, T., & Pearson, A. (2008). An exploratory study of family member characteristics and involvement: Effects on entrepreneurial behavior in the family firm. *Family Business Review, 21*(1), 1-14.

Kihlstrom, R. E., & Laffont, J.-J. (1979). A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion. *Journal of Political Economy, 87*(4), 719-748. doi:10.1086/260790

Knight, F. H. (1921). *Risk, uncertainty and profit*: Courier Corporation.

Koller, T., Goedhart, M., & Wessels, D. (2015). *Valuation - Measuring and Managing the Value of Companies* (6th ed.): John Wiley & Sons, Inc., Hoboken, New Jersey.

Kumar, K. B., Rajan, R. G., & Zingales, L. (1999). *What determines firm size?* Retrieved from

Levinson, H. (1971). CONFLICTS THAT PLAGUE FAMILY BUSINESSES. *Harvard Business Review, 49*(2), 90-&.

Miller, D., Le Breton-Miller, I., Lester, R. H., & Cannella, A. A. (2007). Are family firms really superior performers? *Journal of Corporate Finance, 13*(5), 829-858. doi:https://doi.org/10.1016/j.jcorpfin.2007.03.004

Penman, S. H. (2013). *Financial Statement Analysis and Security Valuation* (5th ed.): McGraw Hill

Perez-Gonzalez, F. (2006). Inherited control and firm performance. *American Economic Review, 96*(5), 1559-1588. doi:10.1257/aer.96.5.1559

Pound, J. (1988). Proxy contests and the efficiency of shareholder oversight. *Journal of Financial Economics, 20*(Supplement C), 237-265. doi:https://doi.org/10.1016/0304-405X(88)90046-3

Rettab, B., & Azzam, A. (2011). Performance of Family and Non-family Firms with Self-Selection: Evidence from Dubai. *Modern Economy, 2*(04), 625.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The journal of finance, 52*(2), 737-783.

Sraer, D., & Thesmar, D. (2007). Performance and behavior of family firms: Evidence from the French stock market. *Journal of the European Economic Association, 5*(4), 709-751. doi:10.1162/jeea.2007.5.4.709

Stewart, W. H., Watson, W. E., Carland, J. C., & Carland, J. W. (1999). A proclivity for entrepreneurship: A comparison of entrepreneurs, small business owners, and corporate managers. *Journal of Business venturing, 14*(2), 189-214.

Villalonga, B., & Amit, R. (2006). How do family ownership, control and management affect firm value? *Journal of Financial Economics, 80*(2), 385-417. doi:10.1016/j.jfineco.2004.12.005