



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Capital Structure in Sweden

- An Investigation of the Differences between Listed Non Family-Owned Companies and Private Family Businesses

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Department of Business Administration
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TUTOR

Andreas Hagberg

AUTHORS

David Andrén
Jonna Forsell

ABSTRACT

Title: Capital Structure in Sweden – An Investigation of the Differences between Listed Non Family-Owned Companies and Private Family Businesses

Authors: David Andrén and Jonna Forsell

Tutor: Andreas Hagberg

Problem discussion: The choice of capital structure and its dependencies on ownership and other determinants has been discussed intensively for a couple of decades. Many opinions concerning the subject have been raised in several directions and many variables have been considered to have an impact on capital structure. Since family business make up for a large share of the world economy, it is interesting to study whether ownership has an effect on leverage levels. Myers (1984) presented two of the largest theories regarding capital structure: the static trade-off theory and the pecking order theory, but none of these points out ownership structure as an important variable when determining capital structure. Contradictory, the third of the major theories, agency theory, states that family businesses will have less debt since none or only a small agency cost will exist (Jensen, Meckling, 1976). Studies made on foreign market have supported the agency theory

Purpose: Since most previous research is made outside of the Swedish market, the purpose of this thesis is to investigate and present an analysis of the possible correlation between capital structure and ownership structure in Swedish companies.

Delimitations: This study is limited to be valid to the Swedish market and to companies that are listed, or equal in size to firms listed, on the Small- and Mid-Cap of the Nasdaq OMX Stockholm Stock Exchange. Further, the study is limited to comment on ownership, liquidity, return on assets and return on capital employed as variables that affect capital structure.

Methodology: With a cross-sectional quantitative study we have researched private family businesses and listed not family-owned firms. Empirical data was collected from annual reports covering a five-year period between 2006 and 2010 and thereafter statistical testing was performed.

Conclusion: No statistically significant difference in capital structure can be found between family-owned private and not family-owned listed firms. This result is not in accordance with most theories but could be explained by the fact that Sweden is a bank-oriented economy (Lööf, 2004). According to Antoniou, Guney and Paudyal (2008), this fact implies a high leverage level independent from ownership.

Proposals for further research: Since the study behind this thesis was not in line with what the theories would suggest, it becomes even more interesting to investigate the field further. There is a lack of research performed on the Swedish market and therefore, additional research is needed. We suggest that both additional quantitative and qualitative research is performed.

Key words: Capital structure, Family ownership, Debt-ratio, Capital determinants, Ownership structure

PREFACE AND ACKNOWLEDGEMENTS

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We wish you a pleasant reading!

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David Andrén
david.g.andren@gmail.com

Jonna Forsell
forselljonna@gmail.com

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1. Introduction

1.1. Background

In a more and more globalized world where capital travels the globe in only a matter of seconds and competition gets even more intense, it becomes important to understand the capital market and how it might help companies (Dicken, 2007). If the international capital market can relocate its resources easily and companies can attract all sorts of capital from different types of investors, the capital structure becomes a choice.

The choice of capital structure and its dependencies on ownership and other determinants has been discussed intensively for a couple of decades. The questions surrounding the issue have also taken a central part in the recent financial crisis when responsibility and highly leveraged companies have been discussed (Kalemli-Ozcan, Sorensen, Yesiltas, 2011). Many opinions concerning the subject have been raised in several directions and many variables have been considered to have an impact on capital structure.

When discussing capital structure we have chosen to base our perception of the subject on the definition used by Ampenberger et al. al. (2009). It is stated in the study of Ampenberger et al. that debt is identified as all types of liabilities. Hence, no difference is made between long- and short-term debts, or between interest bearing and not interest bearing liabilities. Ampenberger et al. argue that this assumption is motivated since these types of debts and liabilities also have a major impact on the choice of capital structure. Ampenberger et al. (2009) further explain that equity is the residual of total assets minus debt and both preferred shares and common shares are included in the equity.

Modigliani and Miller (1958) were the first to add a major contribution to the capital structure subject when they wrote that the leverage of a company does not affect its value. They explained that with perfect capital markets the value is not determined by the choice between debt and equity. The problem is that such a perfect capital market does not exist and that the world economy is more complex than the theory suggests (Modigliani, Miller, 1958).

Since research recognised that the perfect market had just been an illusion there has been several attempts to develop new theories about capital structure. For example, Myers presented the *Trade-off theory*, in which he points out that an investor's valuation of a firm depends on several factors. For example, an extended risk for bankruptcy and financial embarrassment might require a higher expected return on invested capital. Hence, Myers suggests that a company needs to take several variables into account when capital structure is decided on (Myers 1984). Myers (1984) also presented the *Pecking order theory*, which proposes a preferred type of capital instead of an optimal capital structure.

The development of research within the relevant area and, to some degree, the recent financial crisis, suggests that preferred or actual capital structure depends on ownership, management and financial situation. Current research confirms the old theories, however, opinions still varies. On the one hand it is believed that family businesses have higher levels of leverage because of control reasons (Ellul, 2009), and on the other hand that they have lower levels of leverages due to, for example, agency costs (Gallo, Tapies, Cappuyns, 2004). Hence, the old discussions withstand and additional research is needed.

Furthermore, family businesses are interesting to examine since they make up for a large share of world GDP and of the number of businesses around the globe. In a report presented by the auditing bureau PwC (2008) the number of family businesses was stated to be on the rise. Notably, the numbers speak for themselves; in 2007 family-owned firms made up for about

50 % of registered companies within the European Union (EU) and about 35%-65% of the EU GNP (PwC 2008). In Sweden the numbers were even higher in 2006 when family businesses accounted for 76% of the total number of firms, 25% of the total employment and 20% of Swedish GDP (Bjuggren, Johansson, Sjögren 2011).

Since companies, according to the theories, have to consider different aspects of leverage and consequences these aspects bring, it becomes an active choice to determine the capital structure. The decisions have to be based on some sort of information that is understandable for all parties involved. The large fraction of the economy, both worldwide and in Sweden, that family businesses constitute also make the differences in capital structure significant on a larger scale than just for the single company (PwC 2008). Clearly, investors, academics and company leaders themselves are interested in understanding the capital structure and its underlying reasons in order to achieve greater results in each of their respective areas. With this background, capital structure becomes an interesting subject to many parties.

1.2. Discussion

Roughly, it can be said that all assets within a company have to be financed either by debt, i.e. loans from a bank or creditor, or by equity, i.e. retained earnings or from external shareholders. At least this is the case if other alternatives that mix several forms of capital are not taken into account (i.e. leasing). The distribution between these two different forms of funding represents the capital structure and technically it can be found, and specified, on the liabilities side of the balance sheet of a firm (Thomasson et al. 2006). The underlying reasons for different choices of capital are debated and there are, as mentioned briefly above, different theories explaining the actual indebtedness of a company.

As stated previously, it is important to understand the magnitude of and the impact family businesses have on the society of today, both globally and in Sweden. Worldwide, family businesses make up for the majority of registered firms and in the United States, the world's largest economy, family businesses make up for as much as 95% of registered companies (PwC 2008). The Swedish situation is a bit different but follows the general pattern. In 2006 family businesses made up for 76% of all the registered firms in the country, an increase from earlier years (Bjuggren, Johansson, Sjögren, 2011). With these figures in mind, we recognize the importance of family businesses and the significance of how they see and use different forms of capital.

One can say that three major theories have been created within the capital structure field since Modigliani and Miller laid the foundations. Later, other researchers have further developed these. Different results have been found and there is no clear consensus that family businesses have a lower level of leverage in comparison to public companies. The different theories explain the found variance in capital structure with different underlying reasons.

The first theory would be the *trade-off theory*, originally developed by Kraus and Litzenberger (1973), which suggests that debt is superior to equity and that companies will chose their capital based on this statement and the closeness to bankruptcy. The idea is that there is a natural balance between the advantages and the disadvantages of financing with debt. When the disadvantages outweigh the advantages, the company is perfectly leveraged. If debt is increased the company will trade off some of its profitability for higher leverage, hence not optimizing its resources.

The trade-off theory was questioned, for example by Myers, who as a complement presented the *pecking order theory*, the second major theory that explains capital structure (Myers 1984). The ideas regarding the theory were already presented but by naming it the pecking order theory Myers tries to explain how companies prioritize different sources of capital. Internal financing is preferred but if external funding has to be considered, debt is favoured and equity is seen as a

last resort. This theorem implies that businesses will use debt before new equity, exactly as the trade-off theory, but rather due to asymmetrical information than gains from a tax shield (Fama, French, 2002).

The third major theory that has had a major impact in the capital structure area is the *agency theory* presented by Jensen and Meckling (1976). The theory explains that certain costs will arise if owners use agents to run their companies. Both parties are rational and will try to optimize their own benefits and the result is an increased indebtedness. The agency theory therefore suggests that family businesses will have a lower leverage than public companies because they lack both agency problems and the need for control through leverage. The theory has been considered to be general in its approach and therefore applicable in a lot of different areas (Jensen, Meckling, 1976).

Ever since Modigliani and Miller (1958) presented their *irrelevance theorem* there has been a strong interest and an intense debate about the variables and ideas that determine capital structure. A lot of research has been conducted with various results and there are some variables that are generally recognized as influencing factors. A further development of the major theories and a narrower example of examination of the different variables affecting capital structure is the study of Harris and Raviv (1991). In their article they showed how there is a clear negative correlation between profitability and leverage. This would support Myers' pecking order, as companies prefer to use their own funds to keep control and communicate sound signals to the market. If a company has funds available through profits it will use these before leveraging itself (Harris, Raviv, 1991). Another accepted variable affecting leverage-level is the asset structure, Rajan and Zingales (1995) argued that companies with high levels of fixed assets normally have more debt.

In more recent years new research has confirmed the old theories, family businesses show a different capital structure than listed companies. The underlying reasons, however, are still discussed and derived from different ideas with different results. Since different aspects are of various importances for companies, the capital structures that ensue should also be different, and possibly follow a certain pattern. It has been argued by Daily and Dollinger (1992) that family businesses should be more risk averse than public companies, consequently they should therefore use less debt. This was later supported by the findings of Gallo, Tapies and Cappuyns (2004) and by Ampenberger et al. (2009). However, the opposite has also been supported, for example by Poutziouris, Sitorus and Chittenden (2002) when they argue that the main fear of family businesses is to lose control to foreign equity, which would lead them to prefer a higher level of debt.

Lastly, most research has been conducted on the American and major European markets with results of a different capital structure depending on ownership. There are also differences between studies conducted in America and Germany. The US has showed lower levels of debt than Germany and one reason for this is said to be the development of the capital market. Germany is considered to be a bank-oriented economy while the US is said to be a market-oriented economy with a highly developed capital market (Antoniou, Guney, Paudyal, 2008). The Swedish economy is regarded to be a bank-oriented economy and more alike the German one than the American one (Löf).

With results differing to such an extent, further research is clearly needed in order to explain the subject and the variables it is affected by, and even though some variables are generally accepted but family control is not one of them. In addition, despite that Ampenberger et al. (2009) examined the German market and found a negative correlation between family ownership and debt-ratio that could be applied in Sweden, extensive research has not yet been done on the Swedish market. It is therefore of interest to examine which aspects that are important, to what extent these aspects influence decision-making and why differences exist.

Considering the theories, old and recent research in addition to the fact that Sweden is a bank-oriented economy, we predict a negative correlation between degree of family ownership and indebtedness. In other words we believe that a decrease of the family-owned share leads to a higher degree of leverage.

1.3. Research question

Based on presented background and our discussion above, we have formed the following research question:

Is there a difference in capital structure between not family-owned companies listed on the Small- and Mid Cap section of the Nasdaq OMX Stockholm Stock Exchange, and Swedish family-owned private companies of similar size?

1.4. Purpose

Since most previous research is made outside of the Swedish market, the purpose of this thesis is to investigate and present an analysis of the possible correlation between capital structure and ownership structure in Swedish companies.

1.5. Contribution

With this thesis we will contribute to further knowledge within the fields of capital structure and family businesses. This is an area without a lot of conducted research on the Swedish market since an increased knowledge can help to better explain the behaviour of managers and firms clearly this is of importance to people and organizations. Previous research is focused on for example American or German firms, this thesis will therefore contribute with extended knowledge and future recommendations about capital structure in Sweden. This study might therefore assist companies and their owners in their strives towards the optimal capital structure. Also, this thesis will contribute to the parties of the Swedish capital market since further research is needed and will be proposed. Hence, our hope is to provide a better foundation for further academic research and practitioners, i.e. investors and managers, when they try to understand capital structure.

1.6. Disposition

The rest of this thesis follows the succeeding disposition; after the introduction, a theoretical framework is presented with relevant theory and explanations on the subject. Thereafter the methodology is explained and it is shown how data is collected. Also, studied variables are defined and reasons for our choices are presented. After the methodology chapter, our empirical results are presented, explained and analysed. The last chapter consists of our conclusions regarding our results as well as some final remarks and suggestions for further research.

2. Theoretical framework

In order to fulfil the purpose of this thesis, we have studied existing theories regarding capital structure and family ownership. This chapter will present the framework utilized when developing our study.

2.1. The Irrelevance Theorem

The modern theory of capital structure can be seen primarily developed by Modigliani and Miller (1958) with an article in *The American Economic Review*. Their irrelevance theorem states that the value of a firm is independent from its capital structure. Instead, the value is determined on the active side of the balance sheet and is given by earning power and the risk of underlying assets. In other words, it does not matter if capital is obtained from borrowing, the issuance of new stocks or a restrictive pay out-ratio.

Modigliani and Miller developed two propositions in order to support their theorem; the first one stating that the market capitalization of any firm is sovereign from its capital structure. The second proposition then ties expected rate of return to the debt-ratio of a firm and shows a linear, positive relation between debt-ratio and expected return (Modigliani, Miller 1958). When considering these propositions, one has to bear in mind that several assumptions has been made when developing the theorem. Markets are assumed to be perfect, all stakeholders are believed to have the same information and there are no transaction costs or conflicting interests.

Since there is no such economy as the one described above, Modigliani and Miller (1958) developed their theory further. In a world with taxes and transaction costs, capital structure does matter because the criteria above are not fulfilled. Since taxes are deductible in most countries, the value of the levered firm should exceed the value of the unlevered firm. The effect from leverage creates a *tax shield* with the same value as the deductible interest of debt. This fact gives a new conclusion saying that companies should be financed only by debt in order to maximize their value. The propositions were therefore extended to include this tax shield, affecting both the market capitalization and the expected return on equity. (Modigliani, Miller, 1958)

2.2. The Static Trade-off theory

In reality, no firms are financed only by leverage as the Irrelevance theorem suggests and therefore more factors have to be considered when examining the capital structure of a firm. One alternative theory is the Static Trade-off theory that Kraus and Litzenberger (1973) developed the first version of and Myers (1984) advanced even further. Myers explains in the article *The Capital Structure Puzzle* (1984) that increased debt comes with various costs of bankruptcy or financial embarrassment that affect the choice of capital. These "*costs of financial distress include the legal and administrative costs of bankruptcy, as well as the subtler agency, moral hazard, monitoring and contracting costs which can erode firm value even if formal default is avoided*" (Myers 1984, s580).

The market capitalization has to be altered when risk increases and capital becomes more expensive because of that. Therefore, an optimal debt-to-equity ratio must exist where the interest tax shield meets the costs of the risk of financial distress (see Figure 1). This means that the firm should set a goal for its capital structure and then work towards it. The theory described above is called the static trade-off theory and the only imperfections allowed are corporate taxes and transaction costs associated with financial distress (Lindblom, Sandahl, Sjögren).

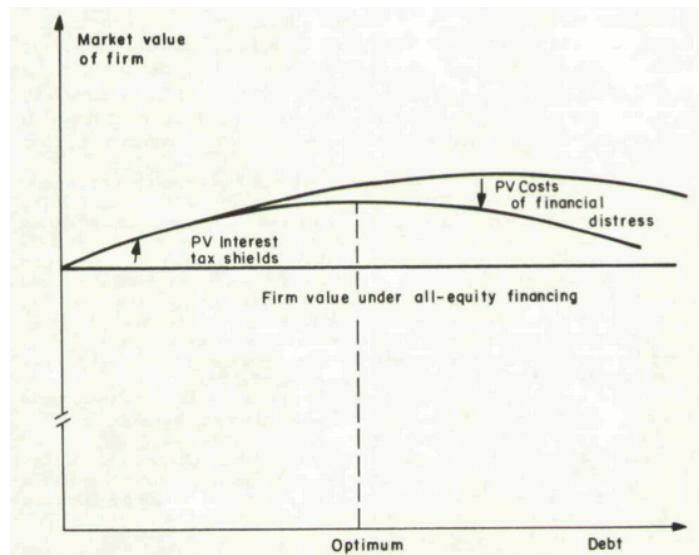


Figure 1. Source: *The Capital Structure Puzzle*, Myers, S.C., 1984)

It is commonly agreed that average debt-ratio varies across industries (Harris, Raviv, 1991) since companies within different industries need different types of assets and these assets can be financed with various types of capital. This is, for example, argued by Rajan and Zingales (1995) as they find that companies with high levels of fixed assets normally have more debt. Despite this fact, companies within the same industry do not have the exact same level of leverage. It is further agreed that the capital structure's optimal ratio also differs because of reasons as tax regulations, accounting depreciation, depletion of allowances and investment tax credits (DeAngelo, Masulis, 1980). Myers (1984) also suggests that one explanation might be that there are costs of adjustment due to lags when adjusting to the optimum. These costs can explain the actual dispersion of capital structure between companies with similar risk.

2.3. Pecking-Order Theory

In his paper *The Capital Structure Puzzle* (1984), Myers also describes, as a contrast to the trade-off theory, the pecking order theory. Instead of having an optimum debt-to-equity ratio, all financing decisions are made according to a pecking order (see Figure 2). Basically, internal capital is preferred to external, and debt is preferred to equity (Myers 1984).



Figure 2

The reason for this order of preference is that there are costs related to both debt- and equity-funding. Issuance of new securities comes with both transaction costs and costs related to asymmetrical information since the management know more about the company's expected return and risk of bankruptcy. As a result, if internal funds are not available, firms primarily fund themselves with safe debt, then with risky debt and only as a last resort by equity. This preference for retained earnings also helps avoid distorted investment decisions due to the asymmetric information problem mentioned (Fama, French 2002). The result of all this, and the main idea of the pecking order theory is that the capital structure of a firm reflects its cumulative requirements for external funding (Myers 1984).

Donaldson mentioned the main ideas behind the pecking order theory already in 1961. His study consists of both descriptive statistics and interviews with the borrowers to the American companies participating in the study. He noticed that managers intensively preferred internal funding and only occasionally, when necessary, turned to external financing alternatives. The majority of investigated firms regulated their rate of investment to match internal funds available to avoid the need of excess funds over a longer period of time. (Donaldson, 1961)

An interpretation of the Pecking Order theory and family businesses can be found in the study by Belenzon and Zarutskie (2012) in which they find that family-owned companies rely less on debt and finance more of their assets with earlier profits than not family-owned businesses do.

2.4. The Agency Theory

The Agency theory examines the relationship between a principal, i.e. the owner of a firm, and an agent, i.e. the manager (Jensen, Meckling 1976). It tries to explain what kind of problems and costs that occur if a person hires another person to perform services for him. An example would be when owners hire a manager to lead a company. The theory is deeply rooted in rationality theory and states that both the owner and the manager can be expected to self-maximize their benefits of the result, if this is true one has reasons to believe that managers will act in ways that do not benefit the owner all the time (Jensen, Meckling 1976). This means that when ownership and leadership are separated, some control-functions are needed in order to obtain the best possible result. If no efficient control is used, one can expect that agents will exploit company assets to their own advantage.

Since an agent (i.e. the manager) holds less than 100 per cent of the residual claim but bears the entire risk, a natural conflict emerges. Managers might try to receive as many benefits as possible (i.e. an expensive car, flight benefits, a luxurious office), and this fact creates inefficiency in the attempt to maximize firm value (Harris, Raviv, 1991). From the owner's point of view, debt payments can therefore be seen as a control-function since free cash flow is reduced when the company is obligated to pay interest on a bank-loan.

A conflict of interest, and therefore costs, may also arise between debt- and equity holders. Since an investor or shareholder only can lose what he invested, and the bank bears the consequences if an investment turns out badly, equity holders might profit from bankruptcy. With an increasing debt-ratio in a firm, riskier investment might be undertaken since the risk lies with the bank and this may reduce firm value. This is called the asset substitution effect and is defined by Harris and Raviv (1991) as an agency cost of funding by debt.

2.4.1. Agency costs and family businesses

From the view of Jensen and Meckling (1976), family businesses are supposed to have lower agency costs and be more efficient since the owner and the manager is often the same person. The idea that family businesses have low agency costs has been supported in later research, for example by Ang, Cole and Lin (2000). Ampenberger, et al. (2009) suggests that family businesses have lower agency costs, as they do not deal with the same ownership- and leadership issues.

According to Mischra and McConaughy (1999), the risk of losing family control is an important factor when determining the capital structure in a family-owned firm. The authors describe a conflict of interest between shareholders, whose main goal is growth that can create more dividends, and the family in control. This conflict results in agency costs due to that the DuPont-formula suggests a positive correlation between leverage and growth. A family would not risk losing control over increased growth opportunities and is therefore more averse to the risk of indebtedness (Mischra, McConaughy 1999).

2.5. Bank- vs. Market-Oriented Economies

In an article published in *The Journal of Finance* in 2008, Antoniou, Guney and Paudyal investigate the impact of availability of external capital on capital structure. The existence of bank- and market oriented systems is discussed and examined, it is described that these two forms of economic systems have different sources from where capital can be obtained (Antoniou, Guney, Paudyal, 2008).

Within a bank-oriented system, the stock and capital markets are more or less underdeveloped and cannot satisfy the capital demand of the economy. Instead of attracting new risk capital companies have to turn to banks and increase their debt levels in order to receive funds. (Antoniou, Guney, Paudyal, 2008) Since bank loans are used to finance investments on a long-term basis, the importance of the relationship between a bank and a firm is greater. The risk therefore is more equally divided and a higher debt-ratio can be accepted (Löf 2004).

On the contrary, in a market-oriented economy, the stock and capital markets are developed and function very well, it is easy to attract and transfer capital between different parties in the market (Antoniou, Guney, Paudyal, 2008). Retained earnings are used as a primal source of funding, and bank loans are only used as a short-term way of financing (Löf, 2004).

Further, the United States and the United Kingdom are defined as market oriented economies while France, Germany and Japan are considered to be bank oriented (Antoniou, Guney, Paudyal, 2008). According to Löf (2004), Sweden and other Scandinavian countries can also be defined as dominated by debt and banks. Löf (2004) discovers that there is a faster adjustment to optimal debt-ratio in an equity-based economy, but Antoniou, Guney, Paudyal (2008) find in their study that France, which is defined as a bank-oriented company is the fastest among researched countries (Antoniou et al. 2008).

The results of the study of Antoniou, Guney and Paudyal (2008) suggest that leverage ratio is on average higher in bank-oriented economies due to what is described above. Further, it is common for companies within both types of economies that a target debt-ratio exists. Also, it is concluded that debt-ratio is positively related to both firm size and the share of assets that are tangible. Löf (2004) also finds that corporate taxes and deductible interest rates to be among the most important determinants for capital structure in a bank-oriented economy.

2.6. Profitability

2.6.1. Profitability and Capital Structure

The theories mentioned above, but pecking order theory to some extent, all assume that companies have a choice when it comes to determine the capital structure. The fact is though that a certain level of profitability is required. DeAngelo and Masulis (1980) presented a model dealing with the effect of tax systems on profitability and to an extent also the trade-off theory. In order to be able to deduct interest payments, as the trade-off theory suggests, the company has to be profitable. The tax shield discussed above is not valid unless there is a result to tax. This implies that with a higher profitability, a higher leverage is possible since more tax can be deducted (Fama, French, 2002).

The pecking order theory suggests the reversed relationship between profitability and leverage, holding investment fixed. A profitable firm have more internal means to use for investment and therefore the need for external funding is not as large (Fama, French, 2002). Huang and Song (2006) also suggested that there is a strong negative correlation between profitability and leverage. They argue that, in agreement with the Pecking Order, profitable companies will use their balanced results from earlier years to finance their activities. The same was found by Harris and Raviv (1991), as they were able to show in their article how there is a clear negative correlation between profitability and leverage. They argue that companies with more funds

available through profits will use these before turning to external financiers (Harris, Raviv, 1991).

2.6.2. Profitability & Family Ownership

Despite the fact that theories suggest differences in the impact of profitability on capital structure and the suggestion of differences in capital structure between family-owned and not family-owned firms, most research show a positive correlation between profitability and family ownership. For example, McConaughy et al. (1998) find that family firms are more profitable than not family-owned firms due to benefits of family control and the incentives of founding family members.

Also more recent research support this statement. In an article published in *The International Review of Management and Marketing*, Sabanci Özer (2012) presents his case study where he examines differences between family- and not family-owned companies in Gebze, Turkey. He finds statistically significant evidence that proves how not family-owned companies are more successful when it comes to debt-ratio but less successful when looking at ROA-measures (Sabanci Özer 2012).

2.7. Liquidity

2.7.1. Liquidity and Capital Structure

As mentioned above, the Pecking Order theory would suggest that companies with a large amount of liquid assets (cash and cash equivalents) would have a lower degree of debt since they prefer to finance their activities without debt or new equity (Myers, 1984). However, research has shown that a different relationship might exist. Sibilkov (2007) found that there is a positive relation between asset liquidity and leverage. The same was concluded by Im (2012), as he found that companies with a higher liquidity rely on debt during years with high investment activities, Im (2012) also found that companies with more liquid shares have a higher leverage in normal times.

The higher leverage ratio is explained by the fact that companies with high liquidity can borrow to more favourable conditions (Im, 2012). The favourable conditions originate in the fact that credit institutions take the costs of financial distress and inefficient liquidation into account when making lending evaluations (Sibilkov 2007). The companies would then use these favourable conditions when they chose how to finance their operations.

2.7.2. Liquidity and Family Ownership

In a study performed by Belenzon and Zarutskie (2012), liquidity was proved to be in positive correlation with family ownership. In other words, family-owned businesses tend to have greater cash reserves. This relationship is partly explained by the fact that family-owned firms tend to have lower operating costs, in example employee wages, than not family-owned similar companies (Belenzon & Zarutskie 2012).

3. Methodology

According to the theoretical framework presented above, it is likely that all companies will be financed by debt rather than equity. Without considering ownership, this is the conclusion of both the trade-off- and the pecking order theory. The theory that separates bank- and market-oriented economies could also be of significance and would suggest that debt-levels are high in all companies situated in Sweden. Furthermore, the agency theory would suggest that family firms should have less debt than the regular firm.

With this knowledge, we form the following hypothesis:

H0: There is no difference in capital structure between private family-owned businesses and listed not family-owned companies

H1: Family-owned firms have less debt

3.1. Choice of method

The method of research was chosen with the purpose of the thesis in mind. The aim is to examine a sample from the Swedish market and to develop conclusions that can be concluded as valid regarding companies outside of the sample. In order to be able to generalize we have decided to execute a quantitative study, in line with what Eliasson states as possible (2010). She describes how a quantitative study is used when the data can be numeric and for generalization to be possible, she also concludes that results have to be statistical (Eliasson 2010). With these prerequisites in mind our method has been developed.

Moreover, we have chosen to execute a cross-sectional study using the annual reports of 24 listed Swedish companies without large owners and 24 non-listed family-owned Swedish companies. In order to avoid that specific external factors influence our results, the study consists of figures from five years (2006 – 2010). To be able to answer the research question stated in chapter 1.3., we have chosen to examine four key variables that could affect the capital structure: family ownership, liquidity and two profitability measures.

3.1.1. Size of Study

The study consists of information from the annual reports of 48 companies in total, 24 that are listed on the Nasdaq OMX Stockholm Stock Exchange and 24 that are privately owned and that falls within our definition for *family-owned* (chapter 3.3.2.). The selection of listed companies consists of 12 firms from the Nasdaq OMX Stockholm Stock Exchange Mid Cap-list and 12 firms from the Nasdaq OMX Stockholm Stock Exchange Small Cap-list. We examine the solvency, liquidity and two profitability measures and therefore, we will have 960 observations in total.

The study will examine annual reports from 2006 through 2010 in order to give a larger and more thorough data collection. Furthermore, in order to avoid that temporary macroeconomic factors alter the results and to increase the credibility of the study, we have examined annual reports for five years, a time frame that is considered by Kitchin (1923) to be an economic cycle. We are aware of the financial distress that has occurred during this period but a study of the years before the crisis of 2008 could be seen as out-dated and irresponsible.

Finally, we are also aware of that the fact that changes of capital structure during the year may be missed since the balance sheet is a report that only shows conditions at a specific time, in this case the day of year closing. The same is valid for the ownership structure that is also presented in the annual report. In this study we have chosen to not take such potential changes into account since this information cannot be obtained without companies voluntarily giving up information about their accounting and positions, we regard this to be unlikely to happen plus that we do not want to be dependent on the good will of companies.

We chose not to extend the study to include companies listed on Large Cap because of the unsuitability for comparisons. After examining the Swedish market using the website allabolag.se and the databases *Amadeus* and *Retriever* we found that we were unable to identify enough private family companies of equal size in terms of turnover and employees. We have also seen that Large Cap companies often are part of large international groups with international policies and values. Therefore, it can be argued that we lose our focus on the Swedish market and instead end up comparing international consolidated groups and Swedish family businesses.

3.1.2. Industries

When it comes to the industries included in the study, it would be an obvious advantage to include all of them to be able to reach a more generalizable result for the economy as a whole. However, since the size of the Swedish market is relatively small and differently regulated within some industries, we had to make exclusions to gain balance and comparability. In total, the Nasdaq OMX Stockholm Stock Exchange is divided into 10 industries: *oil & gas, basic materials, industrials, consumer goods, consumer services, health care, telecommunications, utilities, financials* and *technology* (www.nasdaqomxnordic.com). This classification of industries has an investor focus, is used worldwide and consists of the ten sectors mentioned above (www.icbenchmark.com).

According to the Central Bureau of Statistics in Sweden, the equity-ratio average differs between industries (Statistiska Centralbyrån). The selection we have made consists of companies from the first six industries mentioned: *Oil and Gas, Basic Materials, Industrials, Consumer Goods, Consumer services* and *Health Care*. This leaves us with four excluded industries: *Telecommunications, Utilities, Financials* and *Technology*. The reason for eliminating *Telecommunications* and *Utilities* are related to selection balance in the sense that the industries only contain companies listed on the Small Cap list. If these were included some industries would be represented in an imbalanced way and therefore give a less comparable result. The financial industry was eliminated due to different regulations than other industries and in addition some laws changed during the surveyed period as a response to the financial crisis (www.opengov.se) (Riksbanken). An inclusion would mean less comparable results since different regulations might create, for example, unjustifiably large differences. *Technology* has been excluded because most companies listed are consulting- or service businesses that show a certain and often extreme capital structure (Statistiska Centralbyrån). In order to get results as close to the truth as possible, that extreme has been excluded.

3.1.3. Selection Process

3.1.3.1 Listed Companies

Our selection consists of all companies on the Mid Cap-list that are listed within the chosen industries and that cannot be defined as family-owned. Family ownership is defined in this thesis as that one person or family owns 20% of a firm's shares, chapter 3.2.2. provides an extended explanation. This means that a company with a large owner still can be included, if the owner is not a person or family but rather another company or institution without family ownership. The explanation to this choice is that we believe that an exclusion of family-owned listed companies gives us a better answer to our research question since we want our comparison to be between not family-controlled listed firms and private family-owned firms.

Furthermore the companies are required to have been listed during all of the years that are chosen to be included in the study (2006-2010). Hence, if a company was not listed during the full period or owned at any time during the period by a family the company was excluded from the selection. The study does not regard figures from 2011 since not all Swedish companies had delivered their annual reports when data was collected. If the chosen period then would have included 2011, an additional exclusion could have worsened the results of the study, in addition we are convinced that additional information concerning 2011 would not have given us

significantly different results. The selection process of the companies listed on the Mid Cap-list is shown in Figure 3.



Figure 3

The selected sectors and the given definitions gave us 12 eligible companies on the Mid Cap-list out of the total 75 listed companies (2012-04-10). To achieve a well-balanced study with Mid- and Small Cap companies we chose to examine the same number of companies from the Small Cap-list as from the Mid Cap-list. If this had not would not have been the case, the study would have been majorly affected by Small Cap companies' characteristics and less by the Mid Cap companies. The consequence would have been that the generalizability of the study would have been reduced. The companies from the Small Cap-list are selected from the same sectors and with the same requirements as the ones from the Mid Cap-list. The 12 companies selected from the Small Cap list were randomly selected with assistance from Excel so that no bias towards smaller firms would occur. If the randomly selected company was not eligible for the study a new company was then randomly selected.

To sum up the selection process of the listed companies, two steps were conducted. Firstly, we examined all the companies listed on Mid Cap with a focus on their eligibility. The results of this brief research resulted in that 12 companies were selected. Secondly, a random selection was made out of the companies listed on Small Cap, an examination was then made to see if the selected firm could meet our requirements. This process was carried out until 12 companies were selected.

3.1.3.2 Private Companies

When it comes to the privately owned companies, the selection process had to be conducted in a different way due to the lack of easy accessed information. Unfortunately, there is no list consisting of family-owned firms in Sweden. Firstly, we produced a revenue average for each list with the selected companies. We examined the revenue from the chosen listed companies to get a mean revenue value from each list. This information was then used to narrow down the search and selection among private companies. With the knowledge of comparable sectors and the average size in terms of revenues for each list we were able to create a filter to find comparable companies for both the Mid- and Small Cap lists. The search for companies was made on the website www.allabolag.se and in the databases *Amadeus* and *Retriever*. All these sources contain information about Swedish companies and adequate filtering possibilities. 12 companies were then randomly selected from the acquired lists concerning the size of Mid- and Small Cap companies. If the randomly selected companies were eligible for the study in terms of ownership, they were used.

We recognize that the process might be considered highly selective and this fact could be viewed as a problem for the study. As explained above, the choice of selection process originates in the limited information available for private companies in Sweden. However, we believe that the use

of several databases and our filtering give us companies that are comparable to the listed ones. One also has to recognize the randomness in the selection among comparable private companies and therefore, we do not believe this selection process has affected the study negatively.

3.1.4 Data processing

After the selection and collection the data was labelled and arranged considering ownership structure. The data was thereafter processed and analysed using the programmes Excel, SPSS and StatPlus. These programmes allowed us to make several statistical tests. The programmes also assisted us in transforming the raw data into presentable material.

3.2. Collection of theory

In order to get an understanding of the subject and to collect information when creating our theoretical framework, we started to look for potential references and ways to effectively collect data. In this process and throughout the whole process we used books, previous papers and Internet databases. Databases that are used are *GUPEA*, *Business Source Premier* and the search engine *Google Scholar*. Search words commonly utilized were “Capital Structure”, “Family Business”, “Debt ratio” and “Ownership structure”. Most papers have been found in this way but also through the libraries of Gothenburg University. We have also found books on capital structure and family business theories in the libraries.

3.3. Definitions

When examining the annual reports of the selected companies we have used the definitions below. We have used the numbers for the consolidated groups and not the individual company. This choice is based on the fact that consolidated balance sheets give a better overview of actual financial position of a company and a group (Lönnqvist, 2009). If we had only looked at the individual company, a lot of information and the financial position could have been hard to examine since assets and debt can be moved rather easily among companies within a consolidation (Lönnqvist, 2009).

3.3.1. Solvency

When measuring the capital structure of each company, we have used the term solvency and calculated the leverage by dividing the book value of total equity by the book value of total assets. The term total assets consist of the book value of equity and the book value of total liabilities. If numbers concern a company, not a group, and untaxed reserves are presented, 72% are assumed to be equity and 28% are regarded as debt. Solvency is the measure most frequently used for expressing capital structures in Sweden (Thomasson et al. 2006).

$$\text{Solvency} = \frac{\text{Total Equity}}{\text{Total Assets}}$$

3.3.2. Family Businesses

There is no single definition of a “family business” and hence several different ideas of what a family business actually is. A definition presented by Donnelley (1964) discusses that when a company should be defined as family-owned depends on how the relation between a family and a company develops. This is considered to be of influence for later researchers but it is also considered to be relatively subjective since it tells of no specific ratio (Donnelley, 1964).

For this study, it is important to have a clear definition when conducting our selection and later on, our quantitative approach. For this reason, we have used Berle and Means’ (1932) definition, which states that a company is a family business if one person or family owns at least 20% of the firm’s votes. It is believed that owners with this much influence can exercise control over the company in question, however, we realize that there is no single correct definition of when control generally can be accomplished. Also, the amount of control that an owner with 20% of the votes has might differ among companies (Berle, Means, 1932).

3.3.3. Liquidity

The liquidity measure is defined as the total amount of cash and cash equivalents divided by total assets. This ratio gives a quick overview of how much money the company has in relation to its total size.

$$\text{Liquidity} = \frac{\text{Cash and cash equivalents}}{\text{Total assets}}$$

3.3.4. Return and Profitability

There are two profitability measures of return used in this thesis: ROA and ROCE, the abbreviations standing for “return on assets” and “return on capital employed”. The ROA measure was used more frequently 20-30 years ago while the ROCE measure has become more frequently used in later years (Åkesson, 2008). These key-figures both use the measure “earnings before interest expenses” as numerator but differ on the denominator. The ROA-measure uses the book value of total assets including all debt and all equity, thus this measure does not take ownership into account.

$$\text{ROA} = \frac{\text{Earnings before interest expenses}}{\text{Total assets}}$$

The ROCE-measure uses only the book value of equity and the book value of interest-bearing debt. In other words, the ROCE-measure allows for a comparison between companies with different levels of solvency and their ability to create profit from liabilities that beat interest payments (Thomasson et al. 2006).

$$\text{ROCE} = \frac{\text{Earnings before interest expenses}}{\text{Capital employed}}$$

When calculating capital employed, we have started with all assets and then removed the liabilities that do not bear interest payments, i.e. accounts payable and advanced payments from customers. The same reasoning has been used when excluding tax liabilities from the employed capital. We have made no difference between long- and short-term liabilities, both are included in the employed capital and the selection has only taken into consideration if the liability is interest-bearing or not. It is hard to be more precise about which parts of liabilities that are included since companies place them under different headlines in their balance sheet. Therefore, an individual evaluation has been conducted for each company and the information about which liabilities to include has been found in the notes of each annual report. Untaxed reserves are regarded as 72% equity and 28% debt.

3.4. Delimitations

This study is limited to be valid regarding the Swedish market and companies in the size of the Mid- and Small Cap lists on the Nasdaq OMX Stockholm Stock Exchange. Moreover, the study is limited to the sectors *oil & gas*, *basic materials*, *industrials*, *consumer goods*, *consumer services* and *health care* (www.nasdaqomxnordic.com/). The comparison with privately owned family businesses are also oriented towards these sectors and we will not be able to draw conclusions regarding companies listed within excluded industries. In other words, we will not be able to generalize on companies listed within the industries of *telecommunications*, *utilities*, *financials* and *technology*.

We will investigate the capital structure of the chosen companies with three independent variables in addition to family ownership: liquidity, ROA and ROCE. We recognize that there might exist other variables that can explain the capital structure but they lie outside the frame of this study.

3.5. Claims to Validity

When constructing a study, the concepts about validity and reliability should be taken into consideration and the chosen methodology should be looked upon critically. In order to be able to generalize the results of a quantitative study, validity and reliability are required. In this section these concepts are explained and discussed in relation to our study.

The concept about reliability considers the research method and its trustworthiness. Can the results be defined as reliable in the sense that they are correct? If that is the case then the study in question is to be considered reliable. In our study, reliability varies since the different types of companies are selected in different ways.

In more detail, there are two main sub-concepts to consider when reliability is claimed (Ryan, Scapens, Theobald, 2002). Firstly, inter-rater reliability considers whether the person performing the research creates a bias from the truth. In this study, clear definitions of the variables and of what makes a company eligible are used. In the selection of the listed companies, no reliability was lost since all eligible companies were chosen from Mid Cap and only a random selection from Excel was added when the sample from Small Cap was chosen. Hence, no influence from the authors can be found. When selecting the private companies, some subjectivity had to be accepted since there is no accessible list of family-owned companies in Sweden. The lack of alternatives allows us to define our study as reliable despite this fact.

Secondly, the test-retest reliability discusses whether the same result would have occurred if the same person would make the same selection again. In this case, if the same companies had been examined, the same results would probably occur since clear definitions exist of which variables to consider and how they are produced (Ryan, Scapens, Theobald, 2002).

In the broad sense, the term validity concerns whether the research method chosen gives us information about what we are trying to analyse. In order for a study to be valid, the right and relevant data should be collected. There are three main kinds of validity to consider: face validity, empirical validity and construct validity (Ryan, Scapens, Theobald, 2002).

The face validity discusses whether the gathered data gives us the information we need in order to study the subject in question. In our study, we have used recognised definitions when deciding on which variables to include. Empirical validity is reached when the results agrees well with earlier research. If predicted conclusions can be further proven, empirical validity is reached. In this study, the results were not in correlation with earlier research on the subject and this may be of some proof that the study is not completely valid. Construct validity ties measures to theory or concepts. In finance, there is usually no problem finding the right definition and then to analyse the right variables since they are well known (Ryan, Scapens, Theobald, 2002).

In retrospect mainly empirical validity was lost since our results are not in line with what the theories suggest. Although, measurements are rarely completely valid when it comes to social sciences (Ryan, Scapens, Theobald, 2002). We are aware of that our selection of industries to include in the study could have been made in a different way in order to improve the validity of our research.

With these remarks in mind, we conclude that our study can be defined as credible. Despite this, the ability to generalize our data could be questioned since all companies listed on Mid Cap that falls within our definition are chosen. This fact implies that we will only be able to comment on these firms and not on other public companies on the same list. When it comes to other public companies listed on Small Cap and other family-owned private firms that are not included in our

study, our findings should be able to make statements as long as the company in question would be eligible for our study.

3.6. Alternative Methods

When making our choice of method we considered several alternatives. Since our aim is to find out whether there is a correlation between family ownership and capital structure or not, we chose the quantitative study described above. Obviously, one has to bear in mind that different methods have different advantages. Our study intends to find generalizable results and investigate relationships among different variables; this is what a quantitative study can accomplish (Eliasson, 2010). However, we recognize that quantitative studies have limitations, for example it is considered to be relatively strict as it leaves little space for flexibility during the study (Lindblad, 1998). Another approach to examine the capital structure and our research question could have been through a qualitative study or a mix between qualitative and quantitative.

3.6.1 Qualitative Method

An alternative way to go could have been to examine fewer companies more extensively, either with a case study or with numerous interviews. A qualitative study is deeper and despite that this type of a method does not suit our purpose, we reconcile that it has several advantages. A deeper insight on the factors behind a specific choice of debt-ratio could have been gained and thereby the results could have been more profound. A qualitative study would also help us to gain a better understanding for the underlying theories and their validity. The Swedish companies' reasoning might be different from international theories and a better insight could give us different results that are closer to the truth.

On the other hand, with a qualitative method, it is impossible to generalize. Qualitative research can only say something about the specific object, businesses in this case, that has been studied. One can say that a deeper understanding is achieved at the expense of generalization (Bryman & Bell, 2005). Also, objectivity is lost when a qualitative research method requires interact between author and respondents to a greater extent. As our research question needs numerical data collection and intends to generalize the results it becomes natural not to use a qualitative method.

3.6.2. A Mixture of Qualitative and Quantitative Methods

Another alternative would have been to combine a qualitative and quantitative method in order to attain even better results. This would have made it possible to use both methods' advantages and to give a deeper explanation but still, to some extent, be able to generalize the results.

Even if there are a lot of positive aspects with this approach we have chosen not to use this method since it is outside the frame of this study to give deep explanations for capital structure. It is also unlikely that the results would improve or be reasonably different with this mixture instead of just the quantitative approach we have chosen. We base this assumption on the fact that, as noted before, our study needs numerical data and that need would not change even if we had chosen a different method. Furthermore, the underlying reasons for capital structure in Sweden are not likely to differ from earlier presented theories, i.e. the theory about the bank-oriented economy, hence, a qualitative part would have been excessive.

4. Empirical Results and Analysis

When executing this study, we have examined 48 Swedish companies. Of these, 24 firms are listed on the Nasdaq OMX Stockholm Stock Exchange, 12 on the Small Cap list and 12 on the Mid Cap list. Hence, the distribution of our data is 50% listed companies and 50% private companies. The companies included in this study are listed in Appendix 1.

Raw data have been collected with four variables in mind; solvency, liquidity, return on assets (ROA) and return on capital employed (ROCE). The exact definitions used for each measure are presented in chapter 3.3.. The gathered data covers a five year-period (2006-2010), and consists of 960 observations in total. In this chapter, the results as well as an analysis of our findings in relation with previous research will be presented.

4.1. Descriptive Statistics

In order to provide the reader with an overview of the sampled data, some basic descriptive statistics are presented in the following table. All figures presented are to be read as ratios.

Descriptive statistics										
	Mean		Median		Min		Max		Std dev (σ)	
	Family-owned	Listed	Family-owned	Listed	Family-owned	Listed	Family-owned	Listed	Family-owned	Listed
<i>Solvency</i>	0,450	0,453	0,435	0,407	0,037	0,110	0,800	0,887	0,160	0,183
<i>Liquidity</i>	0,106	0,113	0,065	0,062	0,000	0,006	0,593	0,586	0,113	0,127
<i>ROA</i>	0,114	-0,025	0,092	0,040	-0,191	-1,398	0,669	0,386	0,134	0,236
<i>ROCE</i>	0,178	-0,029	0,136	0,063	-0,281	-3,173	1,001	0,569	0,206	0,428

Mean (Arithmetic mean): The average of a sample
 Median: Represents the numerical value "in the middle" when data is ranked
 Min: The smallest figure in a sample
 Max: The largest figure in a sample
 Std dev (Standard deviation): Describes the average variation from the mean of a sample.

Table 1

We can from Table 1 deduce that when it comes to solvency in investigated companies, there is no substantial difference in mean or median between family-owned and listed companies. In fact, the mean of family-owned companies is slightly smaller than the mean of the listed firms. The Min- and Max-measures show that the distribution is slightly wider in surveyed listed companies and therefore also the standard deviation is larger. That the maximum solvency value is to be found among the listed companies could explain the fact that the mean of listed companies exceeds the mean of private companies despite that the greater median is the private one. A further analysis of possible reasons to our findings is presented later in this chapter.

If looking at liquidity, family-owned and listed mean and median have no major dispersion depending on ownership structure. It appears further that the medians are different from the means. This fact might depend on that the minimum values are close to zero. Additionally, there is a small difference to be noted if looking at the Min- and Max-measures; the distribution of the data is larger among family-owned companies. Despite this fact is the standard deviation describing the listed sample slightly larger.

The only differences between listed and family-owned companies that can be defined as major among the variables researched are to be found if looking at the return measures. Family-owned companies are, if considering the mean of ROA and ROCE, more profitable than the listed ones.

This is expressed further with the fact that the higher maximum and the higher minimum are to be found in the family-owned-column. The standard deviation implies that the data describing listed companies is distributed to a greater extent.

In order to further show the distribution of our data, a box-plot describing the variables is presented below (Figure 4). The measures marked with an asterisk (*) represent the data for family-owned companies. The purpose of the figure is to give the reader an idea of how the spreading differs among the variables.

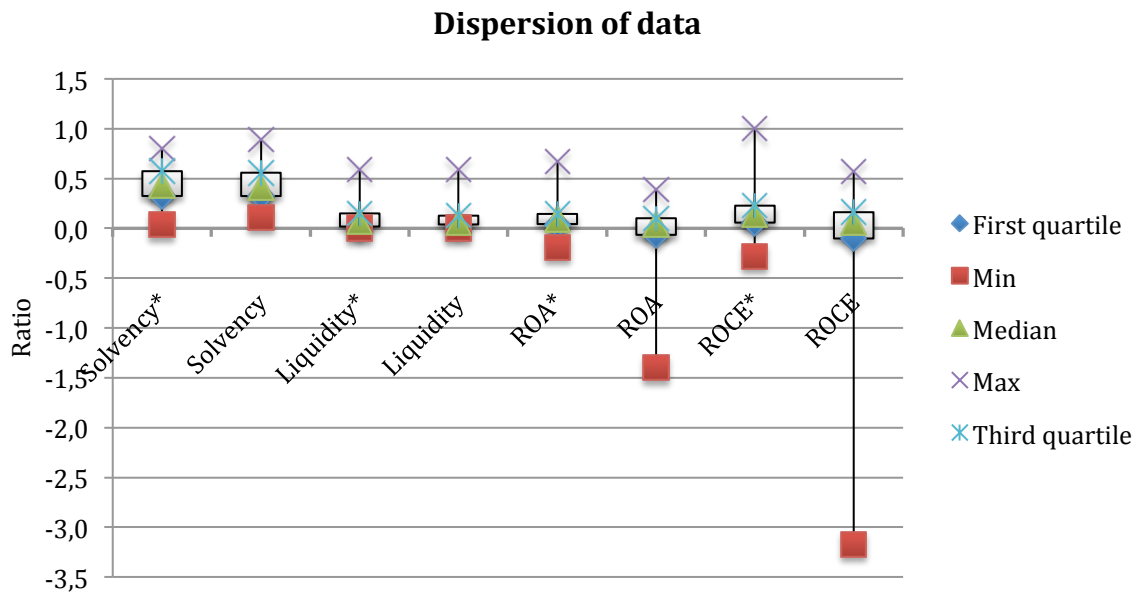


Figure 4

4.2. Correlation

To further evaluate and show the results of our survey we have created a correlation matrix that easily show how the different variables surveyed are related. A correlation coefficient can assume values between -1 and 1; a correlation coefficient of +1 means that two variables are perfectly positively correlated and that if one variable changes, the other variable changes equally. If the correlation is 0 (zero), no correlation exists between the two variables and if the correlation is -1 the variables are perfectly negatively correlated.

Generally, it is said that data with a negative correlation coefficient between -1 and -0,7 or positive correlation coefficient between 0,7 and 1 are *strongly correlated*, that a negative correlation between -0,7 and -0,3 or a positive correlation between 0,3 and 0,7 represent a *weak correlation* and that all other values have little or no correlation.

Further, the significance level of the statistics is presented below the correlation coefficient in each frame. This significance level indicates whether the correlation can be described as statistically significant or not. If the figure falls below 0,05 one can with a 95% confidence say that the correlation indicated by the coefficient is true. The asterisks further highlight which correlations that can be defined as statistically probable.

Correlation matrix (Pearson)						
	Listed	Family-owned	Solvency	Liquidity	ROA	ROCE
Listed <i>Sig.</i>	1					
Family-owned <i>Sig.</i>	-1 #N/A	1				
Solvency <i>Sig.</i>	0,0075 0,9086	-0,0075 0,9086	1			
Liquidity <i>Sig.</i>	0,0299 0,6453	-0,0299 0,6453	0,4602** 5,60E-14	1		
ROA <i>Sig.</i>	-0,3428** 5,10E-08	0,3428** 5,10E-08	-0,0966 0,1355	-0,125 0,0532	1	
ROCE <i>Sig.</i>	-0,2965** 2,90E-06	0,2965** 2,90E-06	-0,0888 0,1704	-0,469* 0,0228	0,9689** 0,00E+00	1
** - Correlation is significant at the 0,01 level (2-tailed) * - Correlation is significant at the 0,05 level (2-tailed) #N/A - Not available						

Table 2

Our correlation matrix suggests that there is no substantial correlation between ownership structure and solvency. The correlation coefficient measures less than 1% and is definitely not statistically significant (90,86% > 5%). This result contradicts most of the earlier theories but could to some extent be explained by the known differences between bank- and market-oriented economies (Antoniou, Guney, Paudyal, 2008). Since the main theories were developed in the US, and most research have been conducted on companies active outside of the Swedish border, different environmental conditions could explain divergence from the prediction.

Liquidity is found to be statistically significant and positively correlated with solvency (46.02%). This indicates that a high solvency is related to a good liquidity. Regarding this relation, the theories are not in agreement; according to the pecking order theory lower leverage is implied when a company is liquid since internal means are used for funding investments, not for saving (Myers, 1984). Contradictory, Im (2012) and Sibilkov (2007) suggest that a liquid company should have more debt since more favourable borrowing conditions are accessible. These ideas in relation with the fact that Sweden is a bank-oriented economy could explain lack of a difference in solvency between family- and not family-owned investigated companies.

Previous findings suggest that there is a negative correlation between profitability and leverage (Huang, Song 2006). This can be explained by Myers (1984) with the Pecking order theory and by Fama (2002) as they both argue that profitable firms have more internal means to finance their operations with. Our findings show that the correlation coefficients describing the relationship between solvency and our two measures of profitability ROA and ROCE are both weak and slightly negative. The correlations cannot be regarded as statistically significant but this is not strange since the connection is weak. These results are not in line with what Huang and Song (2006) state when they maintain a negative correlation between profitability and leverage.

Further, liquidity is significantly and positively correlated with ROCE but not with ROA. To investigate this relationship lies not within the frames of this thesis but could be explained by the definitions of ROA and ROCE. Capital employed excludes liabilities that do not bear interest and therefore the ROCE-measure gives a slightly higher ratio.

The correlations between ownership structure and liquidity and between ownership structure and profitability (ROA and ROCE) are of less importance to this study and are therefore examined in chapter 4.5. below.

4.3. Statistical Hypothesis Testing

In order to further evaluate if our null hypothesis could be rejected by sampled data, two different statistical hypothesis tests were executed. We have chosen not to take a position on whether our data can be described as normally distributed or not, and therefore we have conducted both a parametric and a non-parametric test. This choice is made despite that the histograms produced from our solvency data indicate that the populations are *not* normally distributed (Figure 5).

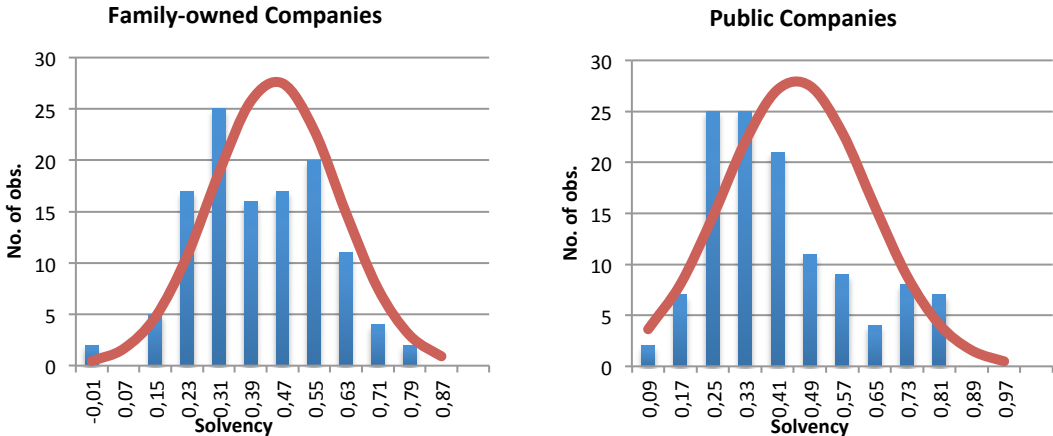


Figure 5

When a variable is normally distributed, the curve of the probability function of the data is bell-shaped and most of the data is clustered around the mean. The probabilities associated with the normal distribution curve are produced using the standard deviation-measure (σ). It is commonly assumed that, when a variable is normally distributed 68,3% of the values lies within one standard deviation from the mean. Moreover, 95,4% of values are to be found within two standard deviations away from the mean and 99,7% of the values lies within three standard deviations away from the mean. The same assumptions cannot be made if data is not normally distributed (Anderson, 2009).

4.3.1. The Normal Distribution-Assumption

When data is normally distributed, a *Student's t-Test* can be used in order to test whether the null hypothesis should be rejected or not. In other words, are two investigated populations statistically different from each other? This is a test that can be performed despite that the exact standard deviation of the population is unknown. The data from the t-test is presented and then follows an explanation of the statistical result.

t-Test: Paired Two Sample for Means: Solvency		
	<i>Listed</i>	<i>Family-owned</i>
Mean	0,453	0,450
Variance	0,033	0,026
Observations	120	120
Pearson Correlation	-0,099	
Hypothesized Mean Difference	0	
df	119	
t Stat	0,110	
P(T<=t) two-tail	0,913	
t Critical two-tail	1,980	

Table 3

Our results show that there is no statistically significant difference between the two groups of data selected and this can be interpreted mainly from the two-tailed P-value. If this value is less than the chosen significance level (5%) the null hypothesis can be rejected (Anderson et al., 2009). In this case the P-value is 0,913, which is much higher than 0,05 and the conclusion is therefore that there is no significant difference in capital structure between family-owned private- and listed not family-owned companies. In other words, the null-hypothesis cannot be rejected.

4.3.2. Mann-Whitney

If we instead assume that our data is not normally distributed, a non-parametric test can be executed. With a Mann-Whitney U-Test all the data is ranked from highest to lowest and then grouped based on the independent variable. The sum of ranks and mean of rank are then used to calculate a Z-value. This Z-value can be transformed into a p-value using a normal distribution table but SPSS gives us the same value labelled Asymp.Sig. (2-tailed). If this P-value falls short of the significance level, the null hypothesis can be rejected.

Mann Whitney U-test				
Ranks				
	Ownership	N	Mean Rank	Sum of Ranks
Solvency	Listed	120	118,21	14185
	Family-owned	120	122,79	14735
	Total	240		
Test Statistics a				
				Solvency
Mann-Whitney U				6925
Wilcoxon W				14185
Z				-0,511
Asymp. Sig. (2-tailed)				0,609
a. Grouping Variable: Family ownership				

Table 4

Our data delivers a P-value of 0,609; a value that greatly exceeds 0,05, which is the significance level chosen. Thus, there is no significant difference in solvency between family-owned and private companies and also if data is abnormally distributed, the null-hypothesis should not be rejected. This fact is also suggested by the similarity of the figures in the *Sum of Ranks*-column since they are similar to each other.

4.3.3. Can the Null-Hypothesis be Rejected?

Neither the parametric nor the non-parametric test can prove that there is a statistically significant difference in solvency when comparing family-owned private and listed not family-owned businesses. This does not ascertain that no such relationship exist but solely that we were unable to prove it with our research. Further, our results are not in line with what most previous research in this area would predict but could to some extent be explained anyways.

The irrelevance theorem focuses on the asset side of the balance sheet and capital structure is irrelevant for determination of firm value. Debt is preferred since a tax shield can be obtained and that will increase market capitalization (Modigliani, Miller, 1958). This theorem says little about differences in ownership structure but suggests that industry affiliation is important (Harris, Raviv, 1991). Our results can with these beliefs in mind be explained by the fact that only a selection of industries has been included in the study. The industries that were thought to have a divergent capital structure therefore were excluded and a similar capital structure in private and listed firms is no surprise.

Also the Pecking Order theory suggests that companies, no matter the ownership, prefer to finance their operations with debt rather than equity (Myers 1984). It was Donaldson (1961) who found that the most preferable financing option for firms is internal funding and this idea was later confirmed by Myers (1984). Myers (1984) did not make any difference between family-owned businesses and listed companies in his pecking order theory, he argues that all companies will face the same problems and therefore gain equally from indebtedness. Also, since costs due to asymmetrical information are one of the reasons for debt being favoured no difference is made depending on family ownership. Thus can our empirical findings be said to be in line with what the pecking order theory suggests.

The ideas of the Agency Theory are not in accordance with the empirical findings we present since it suggests that in companies where owners are not managers the level of debt should be higher. There are several reasons substantiating this statement but the main motive is the agency costs that exist due to conflicts of interest. The owners have a need for control and the managers intend to self-maximize their own outcome resulting in inefficiency (Jensen & Meckling 1976). Our empirical findings are not at all in line with what the agency theory suggests should be the results. One reason for this lack of convergence might be that we do not know whether the companies we define as family-owned are managed by mentioned family or person. The result is that agency problems could exist in our private companies as well.

4.4. Regression

In the correlation matrix presented above, the affect of each of the predictive variables on the dependent variable (solvency) is presented. However, in order to predict how all of the independent variables together, not separately, affect the dependent variable, a multiple linear regression was performed. Below the tables, the figures that can be regarded as important are explained.

Model Summary						
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	
dimension0	1	,468 ^a	0,219	0,206	0,153	
a. Predictors: (Constant), ROCE, Liquidity, Family-owned, ROA						
ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,538	4	0,385	16,464	,000 ^a
	Residual	5,49	235	0,023		
	Total	7,028	239			
a. Predictors: (Constant), ROCE, Liquidity, Family-owned, ROA						
b. Dependent Variable: Solvency						
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0,375	0,017		22,084	0
	Family-owned	0,012	0,021	0,034	0,55	0,583
	Liquidity	0,661	0,083	0,462	7,915	0
	ROA	-0,283	0,202	-0,336	-1,398	0,164
	ROCE	0,144	0,116	0,295	1,242	0,215
a. Dependent Variable: Solvency						

Table 5

In the first table of the regression analysis ("Model Summary") the first statistic is the R-column. This is the multiple correlation coefficient and it describes the association between all of the variables together and the dependent variable. If the correlation is strong, the value is close to 1,0 (as a positive or negative value). The R Square-statistic shows the percentage of the variance in the dependent variable that can be predicted by the combination of the chosen variables. Here too the correlation is strong if the value is close to 1,0 (as a positive or negative value). In this analysis, the R equals 0,468 and the R Squared equals 0,219. Both values are closer to 0 than to 1 and this fact implies that the correlation could be defined as weak, but it means that as much as 21,9 % of the variance can be explained by our variables.

The Adjusted R Square-statistic is based on R Square but takes into consideration the number of observations and the number of predictive variables. The result is that an overvaluation of the measure is avoided. This Adjusted R Square is the measure to focus on and in this case a figure of 0,206 means that as much as 20,6% of the variance of solvency can be explained using the independent variables included in the regression. In other words, the correlation can be defined as weak but explains a significant part of the variance in the analysis.

The Coefficients-table is the most important part of a multiple regression analysis and in particular the figures that are bolded are important when interpreting the model. The B-coefficient expresses the affect on the dependent variable of a change in one of the independent variables. The Constant-figure expresses the value of the dependent variable in the hypothetical state of all independent variables being zero. The values in the Sig.-column indicate whether the B-coefficient can be regarded as statistically significant or not. If the figure is smaller than the chosen significance level, the correlation can be classified as statistically significant

In our results, the Liquidity is the only one of the independent variables that falls short of 0,05. This means that only the liquidity can be seen as significantly correlated with solvency (correlation coefficient of 66,1%). Thus, both return-measures and family ownership appears to not be correlated with solvency. It should be taken into account that these coefficients represent the correlation of solvency and the variable in question but still all independent variables are considered. The effect is that the Sig.-value of the regression differs from the Sig.-value in the correlation matrix in chapter 4.2..

A few possible reasons to why the results of our study did not match our previous assumptions are presented in section 4.3.3 and now additional potential explanations will be examined. Since the Swedish economy can be defined as bank-dominated it is debt dominated (Lööf 2004). It is implied that the capital structure therefore could be highly affected by the economic environment and its institutions (Antoniou, Guney, Paudyal, 2008). This would suggest an agreement between the theory and our empirical results that propose that it does not matter whether the company is a private family business or a listed company with small owners. Our findings could therefore be explained by the fact that the features of the bank economy theory overshadow the different ownership structures. This is in line with that the leverage ratio is affected by the market conditions, no matter if the company is listed or not (Antoniou, Guney, Paudyal, 2008).

Most research that supports the positive correlation between solvency and family ownership has been made in market-oriented economies such as the United States and the United Kingdom. This fact in combination with our findings and the theories from Antoniou (2008) and Lööf (2004) suggest that theories developed in market economies are less valid in a bank economy. The underdeveloped capital market in Sweden could make it more difficult to find financing solutions others than debt, therefore no difference in capital structure is observed.

4.5. Additional Relations to Family Ownership

Since our study did not give us the result we had expected, we decided to try our data for other relationships. We therefore decided to test our independent variables (liquidity, return on assets and return on capital employed) for a significant difference depending on ownership structure. The correlation matrix presented in section 4.2. provides a first glance but in this chapter statistical hypothesis tests are presented.

4.5.1. Profitability and Family Ownership

In chapter 4.2., a positive and statistically significant correlation is found between solvency and the ROA- and ROCE-measures. With this fact and our theoretical framework in mind, we formed the following hypothesis:

H0: Family-owned private companies and not family-owned listed companies are equally profitable
H1: Family-owned private companies are more profitable than listed not family-owned companies

We have not ruled on whether gathered data can be assumed to be normally distributed or not and have therefore carried out the same two tests as for solvency. Firstly, the Students t-Test is presented and then the Mann Whitney U-test. Since ROA and ROCE are both measures of profitability they are included in the same tables.

t-Test: Paired Two Sample for Means				
	ROA		ROCE	
	Listed	Family-owned	Listed	Family-owned
Mean	-0,025	0,114	-0,029	0,178
Variance	0,056	0,018	0,183	0,042
Observations	120	120	120	120
Pearson Correlation	0,076		0,087	
Hypothesized Mean Difference	0		0	
df	119		119	
t Stat	-5,822		-4,962	
P(T<=t) two-tail	0,000		0,000	
t Critical two-tail	1,980		1,980	

Table 6

The parametric Student's t-Test delivers a P-value of 0,000 for both ROA and ROCE. Since that is lower than 0,05 this means that a statistically significant difference is observed. This result implies that the null hypothesis should be rejected and consequently family-owned business can be assumed to be more profitable.

Mann Whitney U-test				
Ranks				
	Ownership	N	Mean Rank	Sum of Ranks
ROA	Listed	120	98,17	11780
	Family-owned	120	142,83	17140
	Total	240		
ROCE	Listed	120	100,79	12094,5
	Family-owned	120	140,21	16825,5
	Total	240		
Test Statistics ^a				
		ROA	ROCE	
Mann-Whitney U		4520	4834,5	
Wilcoxon W		11780	12094,5	
Z		-4,984	-4,399	
Asymp. Sig. (2-tailed)		0	0	
a. Grouping Variable: Family ownership				

Table 7

When examining profitability in relation to ownership structure using the non-parametric Mann Whitney U-test the result is no different from the result of the parametric test. Hence, the null hypothesis can be rejected once again and family businesses can be presumed to be more profitable than their publicly owned equals.

Our result can be found to be in line with presented theories on profitability. McConaughy et.al (1998) argued that family businesses are more profitable than public businesses due to benefits of family control. The same is found by Özer (2012) as he concludes that family businesses are, with a statistical significance, more successful when looking at ROA-measures. These findings are confirmed by our discoveries.

Since a relationship can be found between profitability and family ownership but not between solvency and family ownership, our findings would imply that profitability is not as important for capital structure as the previous theory argues.

4.5.2. Liquidity & Family ownership

In the correlation matrix (chapter 4.2.), no significant correlation is found between the amount of cash or cash equivalents and family ownership. Despite this fact, we form the following hypothesis regarding this relationship:

H0: Family-owned private companies and not family-owned listed companies are equally liquid

H1: Family-owned private companies have more cash or cash equivalents than listed not family-owned companies

The same circumstances applies here as when solvency was discussed, we have not taken a stand on whether the collected data is normally distributed or not and executed both a Student's t-Test and a Mann Whitney U-test. Firstly, the parametric t-Test is presented and commented, and then follows the non-parametric test.

t-Test: Paired Two Sample for Means		
	<i>Listed</i>	<i>Family-owned</i>
Mean	0,113	0,106
Variance	0,016	0,013
Observations	120	120
Pearson Correlation	-0,237	
Hypothesized Mean Difference	0	
df	119	
t Stat	0,415	
P(T<=t) two-tail	0,679	
t Critical two-tail	1,980	

Table 8

The results of the t-Test regarding liquidity and family ownership are similar to the results regarding solvency and ownership. A P-value of 67,9% means that the null-hypothesis cannot be rejected since it exceeds the significance level of 5%. This implies that if our data is normally distributed the null hypothesis cannot be rejected.

Mann Whitney U-test				
Ranks				
	Ownership	N	Mean Rank	Sum of Ranks
Liquidity	Listed	120	124,51	14941
	Family-owned	120	116,49	13979
	Total	240		
Test Statistics ^a				
				Liquidity
				Mann-Whitney U
				6719
				Wilcoxon W
				13979
				Z
				-0,894
				Asymp. Sig. (2-tailed)
				0,371
a. Grouping Variable: Family ownership				

Table 9

Even though the P-value received with the non-parametric test is lower than the one from the Student's t-Test, 0,371 still exceeds 0,05. This means that the result is the same; the null hypothesis should be rejected and hence there is not a significant difference in liquidity between family-owned and listed companies.

When it comes to previous research regarding the relation between liquidity and family businesses, Belenzon and Zarutskie (2012) argue that family-owned companies have higher liquidity levels than companies who are not family-owned. The reason would be that family-owned businesses tend to have lower operating costs, which results in more cash. Our results cannot be said to be in accordance with this theory since we find no correlation between liquidity and family ownership.

4.6. Summary

In the analysis we find no correlation between capital structure and ownership structure. This can be explained by some of the theories presented above. Here follows a small summary of the results presented in chapter 4.

The descriptive statistics show no difference in the mean of solvency or liquidity but for profitability when comparing family-owned and listed companies. These results are further substantiated by the correlation matrix and additional statistical tests conducted. No statistically significant difference in solvency is to be found between family-owned and listed companies. However, the empirics show a significant difference in profitability depending on ownership structure. In the regression analysis presented, the Adjusted R Square is 0,206. This means that as much as 20,6% of the solvency can be explained by ownership structure, liquidity, ROA and ROCE. Furthermore, liquidity can be defined as statistically significant.

These results are not in line with what the majority of discussed theories or previous research would suggest. The irrelevance theorem (Modigliani, Miller, 1958) could explain our findings since debt and equity are assumed as equally good. The pecking order theory (Myers 1984) could also explain the results since all companies should favour debt before new equity, hence, come to the same solutions for capital structure. In addition, the theories concerning bank- and market-oriented economies (Antouniou et al. 2008) could justify our results. It is likely that a bank-oriented economy has equal levels of debt among different ownership-structures since there is no alternative to debt. Therefore, all companies should use the same type of financing and have the same levels of debt. The bank orientation might also explain why other theories not are in accordance with the results. Most research has been conducted in market-economies and

should therefore describe what happens in a market-oriented economy. Sweden, however, is considered a bank-oriented economy (Löf, 2004) and should therefore behave in a different way; hence, the theories might not explain bank economies as well as market economies.

5. Concluding remarks

In this chapter, we intend to comment on and answer our research question. Further, we will explain what we could have done differently and from that give suggestions for further research within the area that we believe could be of interest.

5.1. Conclusion

The aim of this study was to answer the following research question:

Is there a difference in capital structure between non family-owned companies listed on the Small- and Mid Cap section of the Stockholm Stock Exchange, and family-owned private companies on the Swedish market?

The findings of this study give us no right to argue that such a difference exists. Our statistical tests and regressions show no statistically significant difference between private family-owned businesses and listed non family-owned firms. In spite of this result, a difference might still exist but we were unable to prove this difference with our sample.

This result is rather surprising since the main part of previous research would suggest a difference in capital structure depending on whether a company is family-owned or not. In addition, the not family-owned companies partaking in our study are listed while the family-owned businesses are not. This extra difference would further suggest that our results should imply a statistically significant difference in capital structure between the groups.

There can be many explanations for these results, we believe that the most probable reason to why our findings show no difference is the fact that Sweden is to be considered a bank-oriented economy. With an underdeveloped capital market, all companies have to be more open to debt and therefore no difference in solvency is to be found. The empirical findings suggests that the capital structure is the same no matter ownership or listing, this would be caused by the underdeveloped capital market which forces companies to leverage themselves with high levels of debt compared to market economies. The bank economy theory would then overshadow the rest of the theories as less applicable since they were developed in a market economy environment. Furthermore, there could be other reasons for why we did not find any differences. For example, variables such as company size and industry affiliation (Harris, Raviv, 1991) could be important to a greater extent on the Swedish market. These variables have not been examined in this thesis and if they have a large impact, this might contribute to the observed results.

There might also exist other theories why we do not find any difference. Modigliani and Miller (1958) and Myers (1984) are two theories that suggest that there might not be any difference in capital structure since companies face the same problems and valuations no matter the ownership.

5.2. Lessons Learned

Since our results differ from the prediction to such an extent that is presented in this thesis, we were forced to consider whether any part of our study could have been executed differently. In retrospect, we realize that our sample of selected companies could have been made according to different criteria. Even though we excluded some industries that are generally known to have an extreme capital structure, the exclusion could have been extended. The classification of industries used was the one used for listing on Nasdaq OMX Stockholm Stock Exchange and this partition has an investor focus. The result of our selection was that companies with extreme values were included in the study.

Another circumstance that we have to bear in mind is the financial crisis that took place during the examined period. The crisis resulted in exceptionally low interest rates (Svenska Bankföreningen, 2011) and these extreme interest rates could be of vital importance for the leverage companies choose to use. Therefore, our examined period might not have been representative and the extreme financial climate could have contributed to our unexpected results.

5.2. Suggestions for Further Research

Since few studies have been conducted on the Swedish market, we suggest extended research to test the existing theories. Our study could not prove that capital structure is dependent on whether a company is family-owned or not even though it is predicted by most theories. We therefore recommend further research to be performed either with a broader range of companies in order to cover all industries or with a focus on one or two specific industries. With a different selection, other results could be achieved.

In addition, we suggest that more qualitative research is performed on the Swedish market in order to gain a better understanding of how market conditions affect family businesses and capital structure. It is possible that the Swedish conditions are different from the assumptions of the present theories and therefore a more profound understanding is needed. Further, it would be interesting to research the thoughts and ideas behind decisions regarding capital structure with a specific focus on the Scandinavian market.

6. References

A-com AB, Annual reports (2006-2010)

Acne Studios Holding AB, Annual reports (2006-2010)

Addtech AB, Annual reports (2006-2010)

AllaBolag.se, www.allabolag.se

Amadeus (Database), <https://amadeus.bvdinfo.com/version-2012524/home.serv?product=amadeusneo>

Ampengerger, M., Schmid, T., Aschleitner, A-K. & Kaserer, C. (2009), "Capital structure decisions in family firms – empirical evidence from a bank-based economy", Center for Entrepreneurial and Financial Studies (CEFS), Technische Universität München, Munich, Germany

Anders Hedin Invest AB, Annual reports (2006-2010)

Anderson, D., Sweeney, D., Williams, T., Freeman, J., Shoesmith, E., (2009) "Statistics For Business and Economics", Cengage Learning EMEA, London

Ang J.S., Cole R.A., Lin, J.W. (2000). "Agency Costs and Ownership Structure." *Journal of Finance*

Antoniou, A., Guney, Y., & Paudyal, K. (2008). "The Determinants of Capital Structure: Capital Market-Oriented versus Bank-Oriented Institutions", *Journal Of Financial And Quantitative Analysis*

Axel Johnsson Aktiebolag, Annual reports (2006-2010)

B&B TOOLS Aktiebolag, Annual reports (2006-2010)

Belenzon, S., Zarutskie, R. (2012) "Married to the Firm? Family Ownership, Performance, and Financing in Private Firms", Duke University

Berle, Jr., A. A. and Means, G. C., (1932) "The modern corporation and private property"

Bilia AB, Annual reports (2006-2010)

Billerud Aktiebolag, Annual reports (2006-2010)

Bioinvent International Aktiebolag, Annual reports (2006-2010)

Bjuggren, C. M., Johansson, D., Sjögren H., (2011), "A Note on Employment and Gross Domestic Product in Swedish Family-Owned Businesses: A Descriptive Analysis", *Family Business Review*

Bonnierförlagen AB, Annual reports (2006-2010)

Brodd Sweden AB, Annual reports (2006-2010)

Bryman, A., Bell, E., (2005), "Företagsekonomiska forskningsmetoder", Liber ekonomi, upplaga 1, Malmö

Bröderna Börjesson Bil AB, Annual reports (2006-2010)

Business Source Premier (database) - <http://www.ebscohost.com/academic/business-source-premier>

Byggnadsfirma Olov Lindgren AB, Annual reports (2006-2010)

Cision AB, Annual reports (2006-2010)

CTT Systems, Annual reports (2006-2010)

Daily, C. M., Dollinger, M. J. (1992), "An Empirical Examination of Ownership Structure in Family and Professionally Managed Firms", Family Business Review

DeAngelo, H., Masulis, R., (1980), "Optimal Capital Structure under Corporate and Personal Taxation," Journal of Financial Economics 8, 3-29

Dicken, P (2007), "Global Shift" 5th edition, SAGE Publications Ltd, Thousand Oaks, CA, USA

Didriksons Regnkläder AB, Annual reports (2006-2010)

Donaldson, G., (1961) "Corporate Debt Capacity: A Study of Corporate Debt Policy and the Determination of Corporate Debt Capacity", Harvard University Graduate School of Business Administration

Donnelley, R. G. (1964), "The Family Business", Harvard Business Review

Ejvegård, R., (2009) "Vetenskaplig metod", Studentlitteratur, Lund

Eliasson, A. (2010) "Kvantitativ metod från början", Studentlitteratur, Lund

Ellul, A. (2009) "Control Motivations and Capital Structure Decisions", Kelley School of Business, Indiana University

Eniro AB, Annual reports (2006-2010)

Fama, E. R., French, K. R., (2002) "Testing Tradeoff and Pecking Order Predictions About Dividends and Debt", Review of Financial Studies

Gallo, M. À., Tàpies, J., Cappuyns, K., (2004), "Comparison of Family and Nonfamily Business: Financial Logic and Personal Preferences", Family Business Review, Wiley Online Library

Google Scholar (Search Engine), <http://scholar.google.se/>

GUPEA (Database), <http://gupea.ub.gu.se/>

Haldex Aktiebolag, Annual reports (2006-2010)

Harris, M. & Raviv, A (1991), "The Theory of Capital Structure", The Journal of Finance, Blackwell Publishing, USA,

Huang, G., Song, F. M., (2006), "The determinants of capital structure: Evidence from China", China Economic Review Volume 17, Issue 1

Hästens AB, Annual reports (2006-2010)

ICB- Industry Classification Benchmark, <http://www.icbenchmark.com/>

Im, H. J., (2012), "Does Liquidity Increase Propensity to Raise Debt Finance?", Saïd Business School, University of Oxford

Indutrade Aktiebolag, Annual reports (2006-2010)

Intellecta AB, Annual reports (2006-2010)

IQR Solutions AB, Annual reports (2006-2010)

Jensen, M. C., (1986) "Agency Cost Of Free Cash Flow, Corporate Finance, and Takeovers", American Economic Review, Vol. 76, No. 2,

Jensen, M. C. & Meckling, W. H. (1976), "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure", Journal of Financial Economics

Kalemli-Ozcan, S., Sorensen, B., Yesiltas, S. (2011), "Leverage Across Firms, Banks, and Countries", National Bureau of Economic Research

Kinnarps AB, Annual reports (2006-2010)

Kitchin, J. (1923), "The Review of Economics and Statistics", The review of Economics and Statistics, Vol. 5, No.1

Kraus, A. och Litzenberger, R.H. (1973) "A State-Preference Model of Optimal Financial Leverage", Journal of Finance

Lagercrantz Group Aktiebolag, Annual reports (2006-2010)

Lindblad, I-B., (1998), "Uppsatsarbete: en kreativ process", Studentlitteratur Lund

Lindblom, T., Sandahl, G., Sjögren, S. (2010), "Financial structure decisions in large business firms", School of Business, Economics and Law, University of Gothenburg

Log Max International Holding AB, Annual reports (2006-2010)

Lundagrossisten Bo Johansson Aktiebolag, Annual reports (2006-2010)

Lönnqvist, R., (2009), "Årsredovisning i koncerner", Studentlitteratur AB, Lund

Lööf, H. (2004), "Dynamic Optimal Capital Structure and Technical Change", Kungliga Tekniska Högskolan

McConaughy, D., Walker, M., Henderson, G., & Mishra, C., (1998), "Founding family controlled firms: Efficiency and value" *Review of Financial Economics*

Medivir Aktiebolag, Annual reports (2006-2010)

Mellby Gård AB, Annual reports (2006-2010)

Mishra, C. S., McConaughy, D. L. (1999) "Founding Family Control and Capital Structure: The Risk of Loss of Control and the Aversion to Debt", *Entrepreneurship: Theory and Practice*, Vol. 23

Modigliani, F. & Miller, H. M. (1958). "The Cost of Capital, Corporate Finance, and The Theory of Investment", *The American Economic Review*, American Economic Association, USA

Myers, S. C. (1984) "The Capital Structure Puzzle", *The Journal of Finance*, USA

Nasdaq OMX Nordic (<http://www.nasdaqomxnordic.com/aktier/>)

Opengov.se (<http://www.opengov.se/govtrack/sfs/2007:528/>)

Ortivus Aktiebolag, Annual reports (2006-2010)

PGS Group AB, Annual reports (2006-2010)

Poutziouris P., Sitorus S., and F.Chittenden (2002) "The Financial Affairs of Family Companies", Manchester Business School

Pricer Aktiebolag, Annual reports (2006-2010)

Profilgruppen AB, Annual reports (2006-2010)

PwC, (2008), "The PricewaterhouseCoopers Family Business Survey 2007/08"

Rajan, R.G. & Zingales, L. (1995), "What do we know about capital structure? Some evidence from international data", *Journal of Finance*

Retriever (Database), <http://www.retriever.se/>

Riksbanken (<http://www.riksbank.se/sv/Finansiell-stabilitet/Aktuella-regleringsforandringar/Den-nya-bankregleringen-Basel-III/>)

RNB Retail and Brands AB, Annual reports (2006-2010)

Runsvengruppen Aktiebolag, Annual reports (2006-2010)

Ryan, B., Scapens, R. W., Theobald, M. (2002) "Research Method and Methodology in Finance and Accounting", 2nd Edition, Thomson Learning, London

Sabancı Özer, H., (2012) "The Role of Family Control on Financial Performance of Family Business in Gebze" , *The International Review of Management and Marketing* vol 2 no.2

SAS AB, Annual reports (2006-2010)

SCB - Statistiska Centralbyrån, http://www.scb.se/Pages/TableAndChart___294710.aspx

Scapa Capital AB, Annual reports (2006-2010)

SECTRA Aktiebolag, Annual reports (2006-2010)

SIBA AB, Annual reports (2006-2010)

Siblikov, V., (2007), "Asset Liquidity and Capital Structure", Sheldon B. Lubar School of Business University of Wisconsin

SinterCast Aktiebolag, Annual reports (2006-2010)

Stena AB, Annual reports (2006-2010)

Sveba-Dahlén Group AB, Annual reports (2006-2010)

Svenska Bankföreningen, "Bolånemarknaden I Sverige", (2011)
[http://www.swedishbankers.se/web/bfmm.nsf/lupgraphics/Bolnemarknaden_aug_2011.pdf/\\$file/Bolnemarknaden_aug_2011.pdf](http://www.swedishbankers.se/web/bfmm.nsf/lupgraphics/Bolnemarknaden_aug_2011.pdf/$file/Bolnemarknaden_aug_2011.pdf)

Svensk Petroleum Exploration Aktiebolag, Annual reports (2006-2010)

Svenskt Butikskött AB, Annual reports (2006-2010)

Thomasson, J., Arvidson, P., Lindquist, H., Larson, O., Rohlin, L., (2006), "Den nya affärsredovisningen", Upplaga 17:4, Liber AB, Malmö

TradeDoubler Aktiebolag, Annual reports (2006-2010)

Tre Son Förvaltning AB, Annual reports (2006-2010)

Urban Stacke Industri AB, Annual reports (2006-2010)

Venue Retail Group Aktiebolag, Annual reports (2006-2010)

ÅF AB, Annual reports (2006-2010)

Åkesson, J., (2008), "Finansiella mått och mål i svenska börsnoterade bolag 1965 – 2004", School of Business, Economics and Law at University of Gothenburg

Ångpanneföreningens Forskningsstiftelse, Annual reports (2006-2010)

Appendix 1

Selection of listed companies	
<i>Listed on Mid-Cap</i>	<i>Listed on Small-Cap</i>
Addtech AB	A-com AB
B&B TOOLS Aktiebolag	Cision AB
Bilia AB	CTT Systems AB
Billerud Aktiebolag	Intellecta AB
BioInvent International Aktiebolag	Lagercrantz Group Aktiebolag
Eniro AB	Ortivus Aktiebolag
HALDEX AKTIEBOLAG	Pricer Aktiebolag
Indutrade Aktiebolag	Profilgruppen AB
Medivir Aktiebolag	RNB Retail and Brands AB
SAS AB	SECTRA Aktiebolag
TradeDoubler Aktiebolag	SinterCast Aktiebolag
ÅF AB	Venue Retail Group Aktiebolag

Selection of private family businesses	
<i>In comparison with Mid-Cap</i>	<i>In comparison with Small-Cap</i>
Anders Hedin Invest AB	Acne Studios Holding AB
Axel Johnson Aktiebolag	Brodd Sweden AB
Bonnierförlagen AB	Byggnadsfirma Olov Lindgren AB
Bröderna Börjesson Bil AB	Didriksons Regnkläder AB
Kinnarps AB	Hästens AB
Log Max International Holding AB	IQR Solutions AB
Mellby Gård AB	Lundagrossisten Bo Johansson Aktiebolag
PGS Group AB	Scapa Capital AB
Runsvensgruppen Aktiebolag	Sveba-Dahlén Group AB
SIBA AB	Svensk Petroleum Exploration Aktiebolag
Stena AB	Svenskt Butikskött AB
Tre Son Förvaltning AB	Urban Stacke Industri AB