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The Choice between Bank Debt and Market Debt

Theoretical review and Empirical Illustration

Bachelor's thesis, 15 credits

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ABSTRACT

When a firm needs additional capital it faces a choice between issuing debt and issuing equity. The choice also includes whether the firm should turn to the bank or to the market. This bachelor's thesis aimed at exploring the theoretical choice between bank debt and market debt from the perspective of the borrowing firm. When the fundamental characteristics of bank debt and market debt had been outlined, the second objective of this thesis was to implement an empirical illustration by examining the debt structures among public, non-financial companies active in Sweden 2013. Our theoretical review shows that the theory concerning the choice between bank debt and market debt is extensive and quite ambiguous at the same time. The topic includes many different aspects, which makes the theory rather complex to apply to reality. Additionally, the results from our empirical illustration demonstrate that the various theories differed in their success at predicting the debt structures among the listed firms in Sweden.

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1. INTRODUCTION

When firms are choosing their capital structure they can turn to different types of financing. One strategy is to raise capital from the market by either issuing bonds or issuing equity, and another approach is to borrow from banks. In the choice of leverage, two well-renowned theories are common in the discussion of capital structure: the Trade-Off theory and the Pecking-Order theory. The Trade-Off theory states that firms evaluate the benefits and costs of taking on additional leverage, while the Pecking-Order theory considers choosing the type of debts that minimises the problems associated with asymmetric information.

With these theories in mind, this bachelor's thesis aims at exploring the theoretical differences between bank debt and market debt, and shed further light on the choices that companies face when determining its debt structure. By studying these differences, our first objective is to highlight the fundamental characteristics that separate bank debt from market debt. When the theoretical differences have been outlined, our second objective is to implement an empirical illustration by examining debt structures of public, non-financial companies listed in Sweden.

1.1 PURPOSE

The purpose of this thesis is to explore the theoretical differences between bank debt and market debt by emphasising the fundamental characteristics of the types of debt. We also want to apply an empirical illustration by examining the debt structure among public, non-financial companies listed in Sweden. In our thesis, we will therefore focus on the following:

- Explore the theoretical differences between bank debt and market debt
- Compare our theoretical findings with the debt structures of public, non-financial companies listed on the Nasdaq Stockholm in 2013

2. BACKGROUND

2.1 CAPITAL STRUCTURE

When a firm stands in front of a possibility to invest in a project, they can choose either to finance through retained capital, equity from the market, bond financing or debt through bank

loans. The mix of these financing sources is more known as the capital structure. There is no perfect theory regarding the optimal choice of capital structure, but there are several conditional theories that explain a certain approach to the capital structure. The main objective of this paper concerns the theoretical difference between market debt and bank debt; the former including bond financing or directly placed debt, and bank loan representing the latter (Myers 2001).

2.2 EQUITY

When equity purchase is mentioned we refer to the type where individuals outside of the company have the possibility to exchange capital for control rights and become a shareholder. As a shareholder one is “a part” of the company due to sharing the ups and downs together with the other investors. In that sense, equity can be seen has a strategy of spreading the risk among many investors. If the stock price increases, shareholders assets increases, but if the stock price declines, as do the shareholders assets (Hiller et al 2013).

2.3 BOND FINANCING

When an investor purchases a corporate bond, he or she is lending the firm capital with the promise of regular interest payments and the principal amount in return. One can easily think it is the same as investing in company stocks, but there are major differences; A bondholder does not own a piece of equity in the company as a shareholder does. No matter how high the stock price increases, a bondholder would still only receive its regular interest payments, and not take part in the increased value of the firm. But this also applies the other way around, during financial distress; the company has a legal obligation to make its payments to the bondholder, where a missed payment can lead to bankruptcy. Even during bankruptcy the bondholder has a “priority over shareholders in claims on the company’s assets” (U.S. Securities and Exchange Commission n.d.).

2.4 BANK LOANS

As in bond financing, bank loans require a regular repayment, an agreed interest on the capital borrowed. Instead of an investor lending the company capital, a financial institution goes in as an investor. The bank has often a substantial amount of influence over the borrower, while

bondholders don't. In our paper we will focus on the term long-term bank loans, which excludes all bank loans that has maturity lower than 12 months (Hiller et al 2013).

2.5 THEORIES ON THE CHOICE OF DEBT

Before exploring the fundamental characteristics of bank debt and market debt, and examining the debt structure of Swedish public companies listed in Sweden, there are some classical theories on the choice of leverage that provide some useful ways to think about the choice of debt: The Trade-Off theory and the Pecking-Order theory.

2.5.1 TRADE-OFF THEORY

The main idea of the term trade-off theory is that firms evaluate costs and benefits of possible leverage alternatives to find their optimal balance debt, by comparing marginal costs and marginal benefits. According to an article by Myers (2001), the trade-off theory predicts that companies will have moderate debt ratios and borrow until they have maximised the benefits of their tax-deductions on leverage. This optimum level of debt is reached when the marginal value of the tax shields equals the present value of the increased costs associated with enhanced financial distress (which increases with the firm's level of debt). In other words, the optimal debt ratio is a trade-off between the costs and benefits of borrowing Myers (1984).

2.5.2 PECKING-ORDER THEORY

This theory aims to minimize the asymmetric information problem. According to Myers (2001), managers can take advantage of information only known to them. For example if a firm is overpriced, investing in new issued shares can seem riskier than usual. Investors take this asymmetric information problem into account and discount the new and risky shares. Although managers knows about this problem, financing through risky capital could be the only way, even though it could cost them a price drop. To avoid this type of decisions, firms prefer to obtain financing through retained earnings, where the asymmetric information problem will cease to exist, or through low-risk debt where it's not even significant. The pecking order theory suggests a certain hierarchic way to finance projects the problems associated with asymmetric information. The first step is to finance through retained earnings, then with debt that is considered to be safe, then with debt that is risky, and finally, as a last resort, with equity.

3. THEORETICAL REVIEW

When a firm needs additional capital it faces a choice between issuing debt and issuing equity. The choice also includes whether the firm should turn to the bank or to the market. According to the Trade-Off theory, a company should take on leverage up to an optimal point where it maximises the financial tax benefits of taking on additional debt (Myers 2001). Additionally, the Pecking-Order theory focuses on the costs of asymmetric information and implies that a company benefits most from using its internal funds, then issuing debt, and lastly by issuing equity (Myers 1984). But neither the Trade-Off theory nor the Pecking-Order theory considers the theoretical choice between bank debt and market debt. Our purpose of this theoretical review is thus to focus on the fundamental characteristics of bank debt and market debt from the perspective of the borrowing firm.

3.1 ASYMMETRIC INFORMATION AND DEBT

One important aspect that can affect the choice between bank debt and market debt is information symmetry. When information asymmetries exist between firms and investors, there is a possibility that firms who know that their market value is overvalued can take advantage of the situation by issuing equity (Stiglitz 1991). On the other hand, higher levels of information asymmetry also incur greater informational dilution costs to firms raising equity (Myers & Majluf 1984), which may turn to other financing alternatives. One of the main problems with asymmetric information, thus complicating the relationship between borrowers and investors, is that it may lead to moral hazard. As stated by James (1987), higher levels of asymmetric information can increase the occurrence of immoral managerial behaviour of the borrowing company since lenders have less information about the real activities of the firm.

Depending on the type of debt, asymmetric information between a borrowing firm and its lender(s) may increase or decrease. According to Stiglitz (1991), there are theoretical characteristics of market debt that worsens the information symmetry. First, the issuance of equity does not create any fixed commitments for the borrower (the issuing firm); when times are good, the firm may choose to share their profits with the shareholders that have provided them with capital, but when times are not as great, the firm does not have any payment obligations at all. Consequently, even if equity can be beneficial in times of financial distress, the issuance of equity may thus reduce management's motivation to act in ways that

maximise stockholder value by engaging in activities that benefit themselves, such as managerial privileges and acquisitions that strengthens their positions within the company (Stiglitz 1991).

Secondly, the issuance of bonds creates some fixed commitments for the borrowers, such as interest payments and repayment of principal, but this type of market debt is also subject to moral hazard. Since lenders are not able to withdraw the funds if they are not satisfied with the firm, immoral behaviour can become a problem if the management chooses to engage in activities that negatively affect the bondholders' interest (Stiglitz 1991). In contrast to issuing equity or issuing bonds, bank debt can have a greater impact on a firm's behaviour since the borrowing firm is subject to interest payments and because the lending bank can request its funding back. Therefore, bank loans may in theory attract those firms who are less inclined to immoral behaviour, whereas market debt, may appeal to firms with immoral motives (Stiglitz 1991).

3.2 MONITORING COST AND EFFECT

In order to screen out firms who act in their self-interest or take on riskier projects than optimal for the provider of capital, lenders can monitor the actions of borrowers. But there is a central difference between bank debt and market debt when it comes to monitoring. Because there are usually many equity owners and since bond owners are not able to withdraw their funds (Stiglitz 1991), the issuance of market debt generally creates fewer incentives for lenders to monitor the actions of the borrower. This is not the case with bank debt since a firm commonly has one or sometimes a few providers of capital, which increase the monitoring incentives for the lender(s) (Diamond 1991). Also, financial intermediaries, e.g. banks, have a cost-advantage in collecting information (Diamond 1984), which may be an effect from the complementary intermediary services (James 1987, Lummer & McConnell 1989, Rajan 1992).

So, how may the monitoring practice affect a firm's decision between bank debt and market debt? First of all, the monitoring practice is a costly activity, and because these costs are passed over to the borrower, bank loans are usually more expensive than attaining capital from the market (Diamond 1991, Rajan 1992). The implication of these costs is that smaller firms and lower-quality firms may find bank financing too expensive, i.e. the benefits of a

bank loan is outweighed by its costs, and thus may turn to market debt instead (Bolton & Freixas 2000, Denis & Mihov 2003). The same reasoning holds for higher-rated firms, which will borrow directly from the market to avoid these costs (Diamond 1991, Bolton & Freixas 2000). Although, one significant difference is that lower-quality firms may find it harder to raise capital on the public market because of the moral hazard problems discussed above (Petersen & Rajan 1994), where bond issuance implies high liquidation costs and the issuing of equity leads to high informational dilution costs (Bolton & Freixas 2000). However, even if higher-rated firms have the opportunity to issue market debt to avoid monitoring costs, they can also enjoy lower costs of capital since they are seen as less likely to default on their debt. According to Diamond (1991), these firms with higher ratings do not default since it would reduce these benefits. Thus, monitoring of higher-rated firms is not necessary because of the reputation these firms have, which is called the “reputation effect”. On the other hand, monitoring of lower-rated companies may not be suitable either since these borrowers have less to lose if getting caught or default on their loan. Consequently, the monitoring of lower-rated firms do not provide any incentives for these borrowers, and the monitoring activity would only serve to screen out those firms who act in their self-interest (Diamond 1991). The benefits of monitoring companies with lower ratings may therefore become smaller than its associated costs. The assumption is that the only companies worth monitoring are the middle-rated companies with insufficient credit ratings to benefit from any reputation effects, unlike higher-rated borrowers, but with large enough ratings to remove moral hazard by encouraging investments in safer projects (Diamond 1991).

Secondly, there is another effect of the monitoring activity that can affect a firm’s external funding decision. When raising capital by issuing market debt, companies may gain increased flexibility to carry out long-term policies that does not require immediate results (Stiglitz 1991). But when borrowing through a bank, firms have fixed commitments, such as interest payments and to deliver an expected return on the capital the lenders have “invested” in the firm, net of monitoring costs (Diamond 1991). Also, banks have the abilities to extend or renegotiate loans, which can play an important role in capital markets and further encourage firms to satisfy the requirements from banks (Lummer & McConnell 1989, Rajan 1992, Stiglitz 1991). As a consequence, these characteristics of bank debt may increase the lender’s influence over the operations of the borrowing company, but management of some companies may prefer to avoid being scrutinised by the lender and choose to issue market debt instead of

borrowing from a bank (Denis & Mihov 2003). According to the findings of Denis and Mihov (2003), firms with management that has lower equity ownership are more likely to avoid this inspection and thus use market debt to a higher degree, whereas management with higher ownership are more likely to avoid bank debt for two reasons: first, because high-ownership managers are more prone to issue the type of debt that maximises firm value, and second, high-ownership managers mostly possess greater control of the firm and can withstand pressure from debt holders.

3.2 CREDIT RATING

To what extent does credit rating affect the capital structure decision? One theoretical assumption made by Diamond (1991) states that new borrowers use bank debt as a strategy to acquire credit ratings. When the borrowing firm has acquired credit ratings, this “life cycle” effect claims that the firm will turn to issue market debt instead of borrowing through financial intermediaries (Diamond 1991). In contrast to this theory, empirical findings by Kisgen (2006) show that firms that are near an upgrade or downgrade of their credit rating seem to take on less debt relative to equity compared to firms that are not in the scope of a rating change. Firms want to decrease their debt proportion for the sake of the credit rating. Kisgen introduces with examples of how EDS (Electronic Data Systems) issued more than 1 billion in new shares just to avoid a downgrade in their credit ratings, and Lear Corp reduced their debt to achieve a higher bond rating. This supports the earlier findings of Denis and Mihov (2003); firms with the highest credit ratings turn to equity due to being more profitable, firms with medium credit ratings turn to bank debt, and firms with the worst credit ratings turn to non-bank private debt (institutions that gives bank-like services but are not banks). Both of these papers discuss about two sides of the same coin; having a high (low) credit rating must in turn result in a lower (higher) leverage. According to a survey made by Graham and Harvey (2001), 392 CFOs believed that credit ratings are among the top concerns for firms when making decisions regarding capital structure. When investing in bonds, financial institutions and other investors have strict policies that are directly tied to credit ratings; it can be the ruling variable whether a particular investor group is permitted to invest in a firm’s bond or not. For example, since 1936, speculative-grade bonds (bonds that are low rated by Moody’s and S&P) are forbidden for banks to own. Since 1951 investments made by insurance companies demands capital requirement based on a rating score system. So, even if

a firm itself is safe to invest in relative to its peers in the rating “group”, it may be forced to pay a higher interest rate on its debt just because of its credit ratings (Kisgen 2006).

The credit ratings can also provide some sort of information of the firm that is not publically available. Credit agencies can act as “screening agents” and thereby provide a more reliable source of information due to its strong expertise in information gathering and evaluation process. This provides lower degree of asymmetric information. Earlier in the paper we mentioned how EDS issued equity just to lower their debt proportion for the sake of the credit rating, even though the proportion of the bank debt is decreased, issuing equity can have an opposite effect due to the cost of increased asymmetric information between firm and investors (Myers & Majluf 1984). Bolton and Freixas’ (2000) paper revolved around two observations: (1) dilution costs (asymmetric information cost) due to issuing equity to reduce debt (just as EDS did). (2) Borrowing from a bank increases flexibility but is more expensive due to the evaluation process. Their conclusions supported their observations. The ones that chose bank debt was the ones with high enough demand of flexibility, which also concurs with stylized facts, i.e. empirical findings, but oppose the trade-off theory. Stylized fact says that start-ups which are associated with higher risk has a tougher time to obtain funding and are forced to issue equity while safer firms has the possibility to receive a bank loan, while the trade off theory says that smaller firms will rely on bank for debt due to the lack of access to the market, or face extreme costs while trying. When ratings are crucial for investment opportunities, getting downgraded could have serious adverse affect. Even though a firm has a slightly “worse” rating then its previous peers, it would be pooled into the group of other firms with the current lower rating that possibly could be much riskier than the firm itself (Kisgen 2006).

As mentioned in the background, the trade-off theory evaluates costs and benefits of possible leverage alternatives to find their optimal balance debt. Does this affect the credit rating? The effect of a rating change may change the preferred capital structure that is presented by traditional theory aspects, or it could be the other way around, the trade off theory aspects may compensate the credit quality concerns (Kisgen 2006). For example, if a firm today has a investment-grade rating but faces speculative-grade status due to the effect of credit rating. Their optimal choice would be to decrease debt relative to equity to maintain the investment-grade rating (just as EDS did), however, the tradeoff theory could in fact suggest that the debt

level is not enough and advise to increase debt to reach the optimal level. As mentioned, the firm will choose to lower its debt rather than increase it due to the outweighed benefits of the higher credit rating relative to the trade off theory.

3.3 RELATIONSHIP LENDING

Cayseele and Degryse (1999) investigated 18,000 bank loans to small firms in Belgium. The findings showed the importance of a relationship with a bank and focuses on two aspects, which are duration and scope. Duration emphasize on how long a firm has maintained its relationship with the bank, surprisingly there are different results of the effect of the duration, is rather contradictory. There is empirical evidence of different type of outcomes: (1) The relationship has an effect, (2) it does not have an effect or (3) it doesn't even matter. The initial predictions of the theories indicate that as the length of the relationship increases, the firm reveals more and more information about itself, which leads to a declining loan rate. Boot and Thakor (1994) and Berger and Udell (1995) provided material, which supported the prediction that as the length of the relationship grew, the loan rate decreased. Greenbaum et al. (1989), Sharpe (1990) and Wilson (1993) showed the opposite with the argument that increased knowledge and insight within a firm strengthens the banks bargaining power due to the dependency that the firm has with the banks. Petersen and Rajan (1994, 1995) reveals through US data that the duration has no influence at all at the loan rate. However, Cole (1998) did a research of mid-sized firms in Germany and stated that the relationship is only important the first year, which underlines that the benefits of a bank relationship is diminishing over time, something Ongena and Smith (1997) presents with findings from Norway. The second aspect from Cayseele and Degryse (1999), scope, focuses on the width, which indicates the number of different services the firm has within the bank. The cost of monitoring can then be spread among the services, which in turn can extend the availability and reduce the loan rate (Cayseele & Degryse 1999). The probability of a lender wanting to lend again is higher when a relationship already exists (Cole 1998).

3.4 GROWTH OPPORTUNITIES, CAPITAL STRUCTURE AND COVENANTS

The relationship between growth opportunities and financial policy and between growth opportunities and debt maturity has been quite different. With additional findings along the years, the conclusions are rather inconsistent. For example, a negative relationship between

growth opportunities and leverage has been found (Rajan & Zingales 1995), this implies that a high-levered firm will have lower growth opportunity and vice versa. This finding can be associated with Kisgen's findings regarding credit ratings. As a firm faces a decrease in ratings, the firm gets rid of debt to keep the current quality of the rating. The quality of the rating in turn can have advantageous effect on growth. In addition to Rajan's and Zingales' (1995) findings, Barclay and Smith (1995) found that it's not just the leverage that matters, it is the maturity of the debt that has the effect on growth; a debt that has a long maturity will have an adverse effect on growth. Looking even closer on debt maturity, Johnson (2003) concurs with Barclay's and Smith's (1995) findings regarding growth opportunities and leverage but not about the maturity of the debt. He rather finds that short-term debt reduces the negative effect leverage has on growth opportunity.

As we mentioned before, bank debts and bond debts has one thing in common, which is the "rules" the firm agrees to and must obey by, a more precise word for it is covenants. The stronger the covenants are, the shorter the leash, which in turn leads to smaller flexibility for a firm. Kahan and Yermack (1998) and Nash et.al. (2003) studied the relationship between growth and covenants, both came with the same conclusion that firms with higher growth are less likely to agree to restrictive covenants, this is due to the outweighed benefit of maintaining a high flexibility rather than a lower cost of debt by restrictive covenants. The interesting part is that more recent articles has examined the choice of covenants and the price effect and finds various results depending on if the covenants are for a public debt (Chava et al. 2004) or a private debt (Bradely & Roberts 2004). All findings pointed at the same direction as the predictions did, that the covenants reduced the cost of debt. The topic that set the findings apart was the relationship between growth opportunities and covenants. For private debt the relationship between covenants and growth was positive (Bradely & Roberts 2004), which means that covenants did not have an adverse effect on growth opportunities. However, the opposite occurred for public debt, high growth firms are not so fond of including covenants because the benefits of the growth opportunities is much more profitable than trying to keep the cost of stockholder-bondholder problems low (Chava et al. 2004).

Billett et al. (2007) conducts the first empirical study that accounts for the internal choice of covenant structure, in other words, the degree on covenant restriction is chosen for a purpose. The evidence they present shows that the use of covenants has a benefit when it comes to

controlling stockholder-bondholder conflicts over the opportunity of growth options. The use of this structure seems to be more applicable for high growth firms, due to the higher possibility that they come across stockholder and bondholder conflicts. The decision to take on debt in various forms is basically a tradeoff between costs and benefits. As mentioned earlier, potential conflicts between stockholders and bondholders is consider to be one of the most important costs that can emerge around investment and financing policies.

3.5 SIGNALLING VALUE

The choice of issuing equity to raise capital can have a negative signalling value and thus adversely affect a firm's market value (Stiglitz 1991). As already mentioned, the problems associated with asymmetric information between borrowers and lenders and the lack of incentives for equity owners to monitor the actions of the issuing firm (Diamond 1991, Stiglitz 1991) may partially explain why announcements of equity issuance can negatively impact stock prices. Another explanation may be that the companies willing to issue equity are the ones with the riskiest business projects, who are not able to get bank loans or issuing bonds (Bolton & Freixas 2000). Moreover, some firms who believe or know that their shares are overpriced may chose to sell more shares to take advantage of the situation and increase their profits (Stiglitz 1991). This theoretical finding is also consistent with Myers and Majluf (1984), who demonstrates that asymmetric information give managers incentives to issue overpriced equity due to their greater information about their company, which, in turn, explains why share prices decreases after announcement of new issuances. Empirical evidence also seem to favour the theoretical assumption that some managers take advantage of their superior knowledge by selling shares before the announcements of new issues take place (Karpoff & Lee 1991). This idea is also supported by Lee (1997), who studies the relationship between insider selling and long-term results of issuing firms, and finds out that top executives who sell shares before a new issuance seem to be deliberately selling overpriced shares. On the other hand, it could be the case that insiders sell their shares simply because they believe that forthcoming new issue announcements will negatively influence share price, not because they have superior knowledge about the firm that they use to profit themselves (Karpoff & Lee 1991). However, according to Baker and Wurgler (2000), issuing firms on the U.S. stock market in the between 1928 and 1997 issued higher rates of equity than debt just before the market entered periods of lower return. Therefore, their main finding

rejects the notion of efficient markets and suggests that firms have been able to consistently time the market when issuing equity.

In contrast to market debt owners, banks are able to collect extensive information about their borrowers during the lending process, which implies that banks gain valuable information about its borrowers that is not available to other investors (Diamond 1984, James 1987). As a consequence, a bank loan agreement can be a positive sign of a borrowing firm's quality and creditworthiness, which positively impacts the firm's share price (James 1987). If firms are aware of the potential positive effect bank loan agreements have on their market value, the financing choice between bank debt and market debt may be influenced by this notion.

The positive effects of bank loan agreement on share price are also supported by Lummer and McConnell (1992), however, their findings suggest that only the renewal of existing loan agreements positively influence share price, not the announcements of new credit agreements. A possible explanation is that when new agreements are taking place, the bank in question does not have any information advantage over other investors about the borrower. But when the bank has gathered private information of the borrowing company over time, the agreement of a renewed loan, created on more favourable terms to the borrower, can be interpreted as a positive sign by the market (Lummer & McConnell 1992). Since the bank obtains a greater insight into the operations and prospects of the borrowing firm, a renewal of credit thus confirms that the bank must like the information it has acquired during the initial lending process. On the contrary, the reverse seems to hold if the bank cancels the loan, raises the interest rate, or strengthens protective covenants rights, which tends to negatively influence the market value of the firm in question.

However, more recent studies by Fields et al. (2006) suggests that the positive effect of bank loan agreements on market value has decreased since the early findings by James (1987) and Lummer and McConnell (1992). In fact, during the period 2000-2003, the effects of both renewed loan agreement and new loan agreement were statistically insignificant and did not have any influence on stock prices (Fields et al. 2006). The authors argue that there may be several reasons for this change. The first reason is that commercial banks may be of less importance in financial systems that have become increasingly market-based. That is, positive stock price reactions from bank loan agreements may have a greater effect in bank-centred systems, whereas increasingly developing market-based financial systems decreases the

importance of banks in the credit flow process. The second reason is that information regarding publicly held companies have become increasingly available and, also, the costs of obtaining this information has decreased. Even though the effects of loan agreements were statistically insignificant, one finding is that the renewal of loan was more likely to positively influence the share price of smaller firms and firms that had negative stock price trends before the bank loan agreement was announced (Fields et al. 2006).

4. STATISTICS ON SWEDISH FIRMS

After describing the main fundamental characteristics of bank debt and market debt, we want to implement an empirical illustration by examining debt structures among public, non-financial companies listed on Small Cap, Medium Cap and Large Cap in Sweden 2013. Using a rather statistical approach, our aim is to investigate some theoretical assumptions that are supported by the findings in our theoretical review. Ideally, we would have tested all the theoretical assumptions that are outlined in the literature. But since many of the findings are very complicated to observe by only examining data on firms, e.g. bank relationships and credit ratings, we are slightly limited in our approach. Nonetheless, there are some theoretical findings that we believe we are able to examine by outlining a few predictions from our theory regarding the debt structure among the listed firms in Sweden.

4.1 DATA DESCRIPTION

To examine our theoretical predictions we have used information from Business Retriever, which is an online database that contains information, e.g. concern structure, complete income statements and balance sheets, regarding all Swedish companies. Due to both time limitation and our theoretical approach of this thesis, our main focus in this section is to examine the predictions about the debt structures of the listed, non-financial firms by the use of this information.

In our examination, we have chosen the information from Business Retriever we believe are most convenient in examining our predictions, namely long-term debt, short-term debt, outstanding bonds and total assets. With these values we have created new variables that are explained in table 1.0 below.

Explanation	Variables	Label
Short term debt/Total assets	Short term leverage	STD/TA
Long term debt/Total assets	Long term leverage	LTD/TA
Long & Short debt/Total assets	Long & short term leverage	LSD/TA
Outstanding bonds/Total assets	Market debt	B/TA
Total debt/Total assets	Total leverage	TD/TA

Table 1.0

We will also use the caps on which firms are listed as proxy for firm size. The main lists on the Nasdaq Stockholm are Small Cap, Mid Cap and Large Cap. The term cap comes from the concept of market capitalisation and is supposed to reflect the market value of a firm's outstanding shares. Even though the market value does not always represent a firm's intrinsic value, we still believe it can be a useful estimator of firm size. Therefore we assume that the smallest firms are listed on the Small Cap and the largest firms on the Large Cap.

4.2 PREDICTIONS FROM THEORY

With support from our theoretical review we have outlined four predictions regarding the debt structure among listed, non-financial companies in Sweden. The predictions are outlined below together with a short theoretical explanation.

4.2.1 PREDICTION I

More mature firms will have lower ratios of bank debt

According to Diamond (1991) and the "life cycle" effect, new borrowers take on bank loans as a strategy to acquire better credit ratings and to be able to issue market debt. If making the assumption that less mature (newer) firms are more likely to be new borrowers, i.e. using age as a proxy for the probability of being a new borrower, our first prediction is that bank debt will decrease with the maturity of the Swedish companies. When testing our prediction, we therefore test the relationship between maturity and a ten-year average bank debt ratio, measured as total outstanding long-term debt divided by total assets.

4.2.2 PREDICTION II

Smaller firms are expected to have lower ratios of long-term bank debt

Since the monitoring of borrowers is a costly activity, and because the borrowing firm usually pays these costs, bank debt is theoretically more expensive than market debt (Diamond 1991, Rajan 1992). Consequently, this may imply that smaller firms find bank financing too expensive and thus issue bonds or equity to avoid these costs. With this theory in mind, our second prediction is that smaller firms are less likely to use long-term bank debt than larger firms. To test this prediction we use the cap on which the companies are listed as proxy for firm size and compare the different sizes (small, medium and large firms) to see whether the ten-year average ratios of long-term bank debt, again measured as total outstanding long-term bank debt divided by total assets, differs with firm size.

4.2.3 PREDICTION III

Smaller firms have lower ratios of outstanding bonds

As mentioned in the second prediction, smaller firms may find bank loans too expensive and thus issue bonds or equity debt to avoid the monitoring costs. At the same time, smaller firms may have a harder time issuing market debt if their credit ratings are not good enough (Diamond 1991). Since we believe that smaller firms may be more compelled to issue equity than larger firms, we make a third prediction that smaller firms have lower bond ratios than larger firms. Thus we suggest that the lack of credit ratings among smaller firms leads to lower ratios of outstanding bonds. Again by using cap as proxy for size, we will compare firm size with the ten-year average ratio of total outstanding bonds divided by total assets.

4.2.4 PREDICTION IV

Larger firms have lower costs of debt than smaller firms

The “reputation effect” states that higher-rated firms are less likely to default on their debt and thus enjoy lower costs of capital since monitoring of these borrowers is not needed (Diamond 1991). In addition, the riskiness of a business is also expected to affect the cost of

borrowing (Petersen & Rajan 1994). Even if we are not able to control the credit ratings of the firms included in our analysis, we make the assumption that firms listed on larger caps do, in general, have greater credit ratings than firms listed on smaller caps. We also make the assumption that larger firms are more diversified than smaller firms, which make them less risky. Hence, our fourth prediction is that larger firms do have lower costs of capital than smaller firms. By calculating the ten-year average of interest on debt for all companies, and then taking the average for each cap, that is, the average of the ten-year averages, we are able to observe the average cost of debt for the firms listed on the Small Cap, Medium Cap and Large Cap. If the companies on the Large Cap have greater credit ratings than the companies on the Medium Cap and Small Cap, we expect the average interest on debt to be lower for the Large Cap.

4.3 STATISTICAL RESULTS

In order to test our predictions, we have used ten-year averages of the variables in question and included all public, non-financial firms listed in Sweden. Included are 83 firms listed on the Small Cap, 62 on the Medium Cap and 48 on the Large Cap.

4.3.1 PREDICTION I

When exploring our first prediction, that we expect more mature firms to have lower ratios of bank debt, we tested each of the caps individually and then all three caps together. After acquiring firms-specific information for the years 2004-2013 of all the 83 firms listed on the Small Cap (excluding financial firms), we found a positive relationship between maturity and bank debt ratio, where the latter is measured as a firm's total long-term debt divided by total assets during the ten-year period. The correlation was 0,2547 and thus showed the opposite to what we had predicted (see figure 1.0).

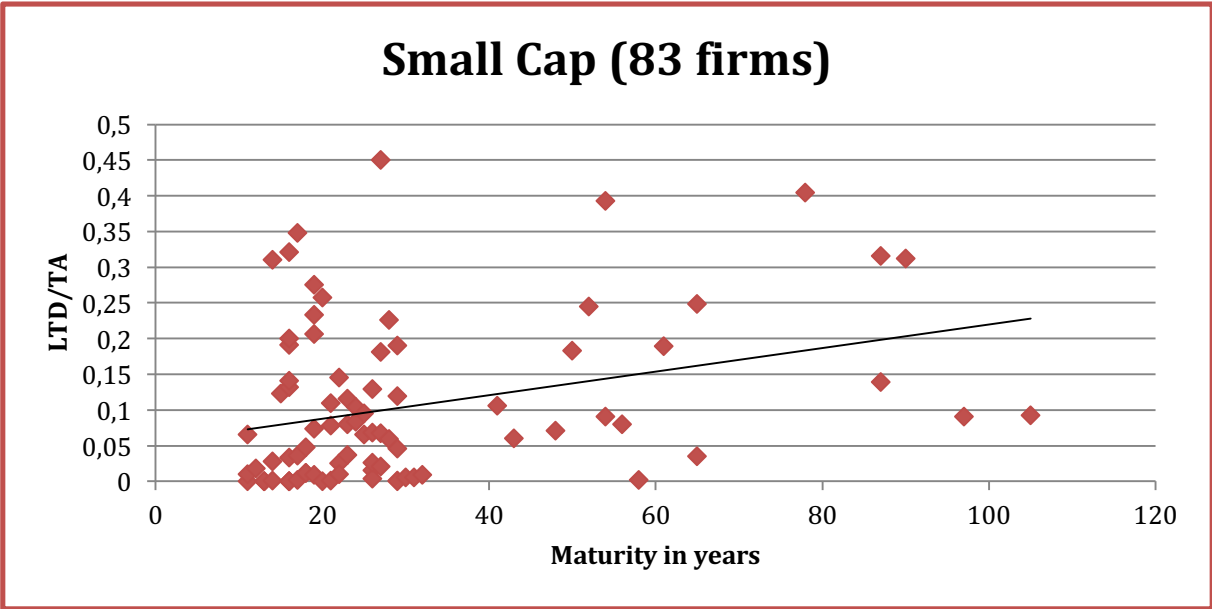


Figure 1.0

In contrast to the previous result, the correlation between maturity and bank debt ratio was -0,3320 on the Medium Cap, which was in line with our prediction. This result demonstrates that the more mature companies appeared to have lower ratios of bank debt (see figure 1.1). Included in the diagram are 62 firms listed on the Medium Cap.

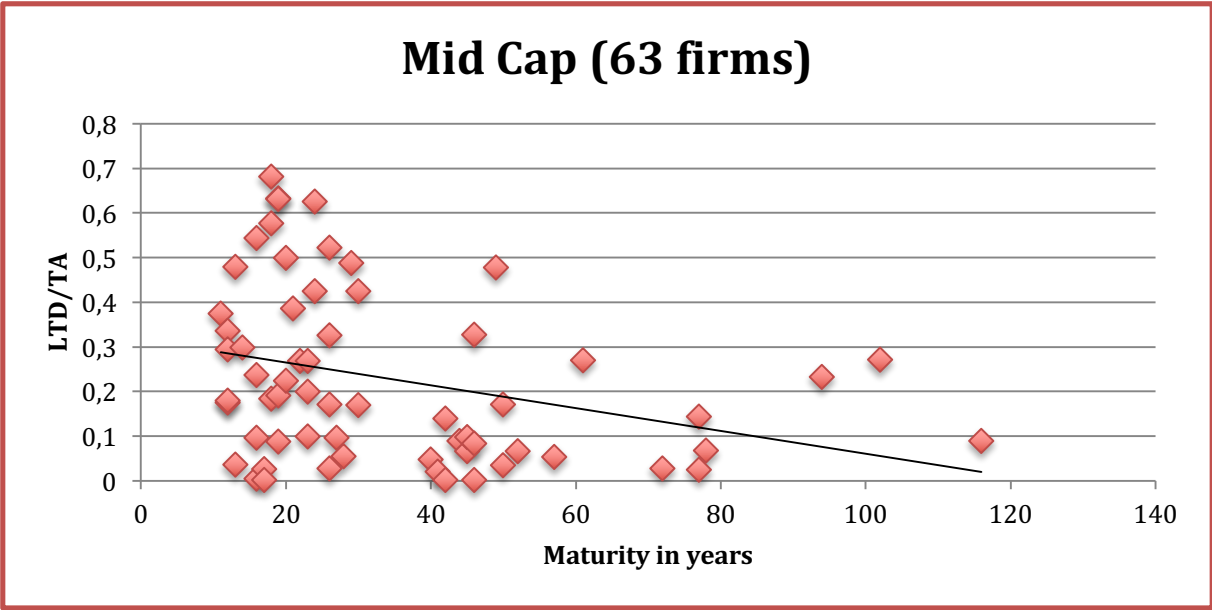


Figure 1.1

For the 48 firms listed on the Large Cap, a negative correlation, $-0,2334$, was also found between maturity and bank debt ratio. Similarly, more mature companies had lower ratios of bank debt than less matured companies (see figure 1.2).

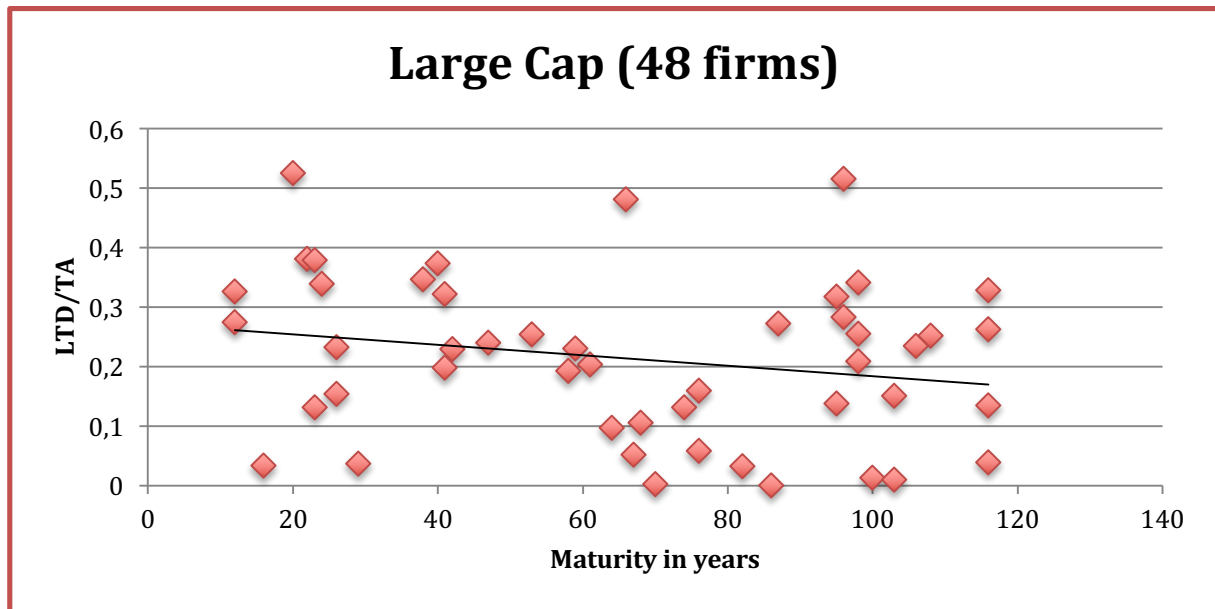


Figure 1.2

After testing each cap separately, we included all the 193 firms and found a positive correlation of $0,0172$ between maturity and bank debt ratio. Only the firms on the Small Cap were consistent with our prediction that more mature firms will have lower ratios of bank debt. When examining the debt structures among all the publicly listed, non-financial companies in Sweden at the same time, the overall relationship demonstrates the opposite result of what we had predicted (see figure 1.3).

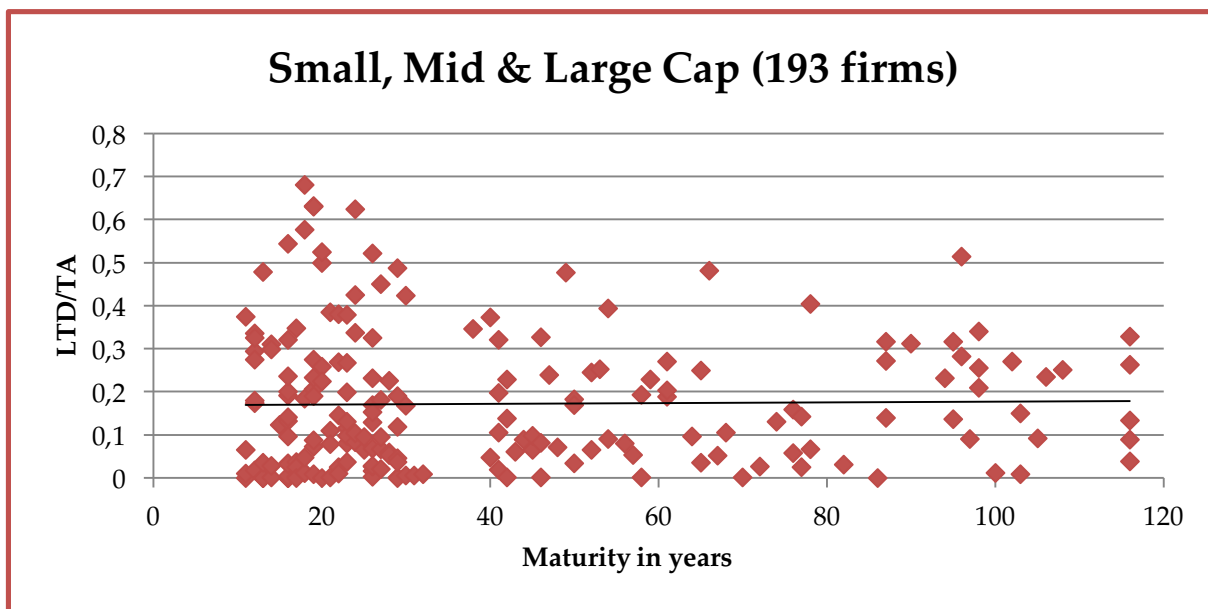


Figure 1.3

4.3.2 PREDICTION II

To examine our second prediction, that we expect smaller firms to have lower ratios of long-term bank debt, we first use the cap on which the company is listed as a proxy for firm size. When calculating the averages of the different caps, again by dividing each firm's total long-term debt by its total assets and then calculating the average of all firms on each cap, we found that the Small Cap had the lowest ratio of long-term debt, 0,1052 (see table 1.1). The ratios of the Medium Cap and Large Cap were more than twice as large, 0,2275 and 0,2136 respectively. This result is to some extent in accordance with our prediction, since we expected smaller firms to have lower ratios of bank debt.

Size	STD/TA	LTD/TA	LSTD/TA	B/TA	TD/TA	ID
Small Cap	35,00%	10,52%	45,52%	21,01%	66,52%	2,56%
Mid Cap	27,95%	22,75%	50,71%	0,83%	51,53%	5,33%
Large Cap	30,61%	21,36%	51,97%	1,21%	53,18%	2,83%

Table 1.1

If we use ten-year average sales instead of cap as proxy for firm size, we see a slightly positive correlation, 0,0325, between sales and bank debt ratio, again, measured as total

outstanding long-term debt divided by total assets. Even though the relationship is very weak, we get a different result when using sales as proxy for firm size instead of using the cap on which the firms are listed. The correlation now implies that the bank debt ratio will increase as a firm's total sales increases.

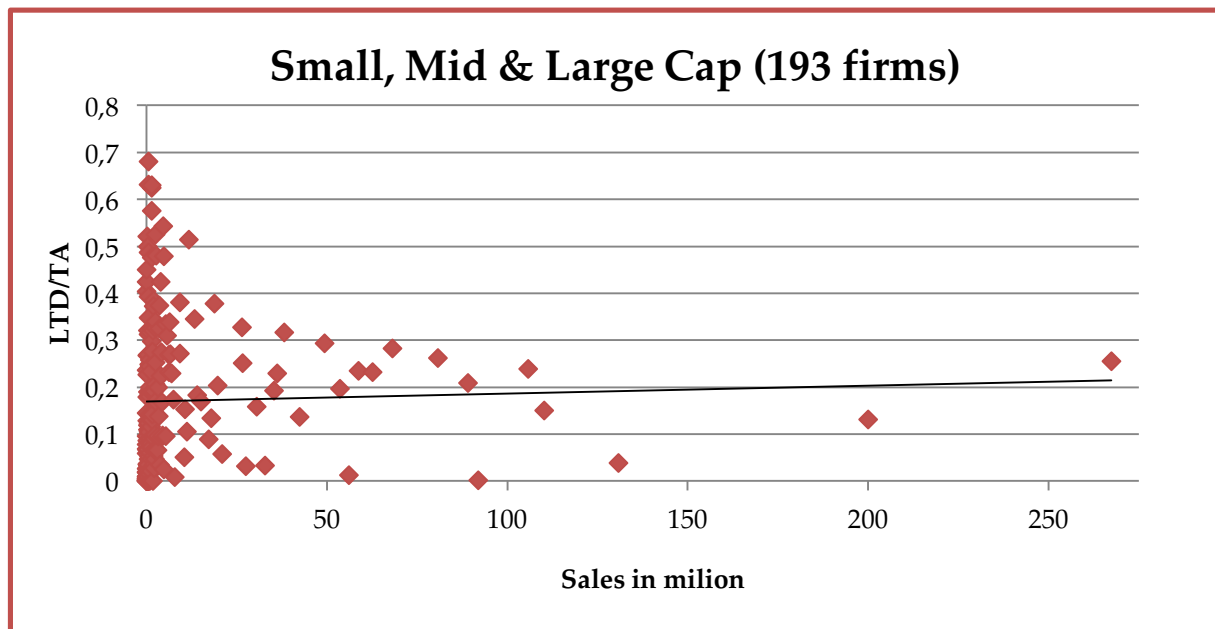


Figure 1.4

4.3.3 PREDICTION III

Our third prediction was that smaller firms have lower ratios of outstanding bonds compared to larger firms due to worse credit ratings. However, the data in table 1.1 shows that the Small Cap firms had an ten-year average bond ratio that is more than 25 times larger than the Medium Cap firms and more than 17 times larger than the Large Cap firms.

4.3.4 PREDICTION IV

The fourth prediction was that larger firms have lower costs of capital than smaller firms, but our result does not seem to support this assumption. Again by observing table 1.1, we can see that the Small Cap had the lowest ten-year average of interest on debt, 0,0256, whereas the Medium Cap had an average interest on debt more than twice as high, 0,0533, and the Large Cap an average of 0,0283.

5. DISCUSSION AND ANALYSIS

5.1 DISCUSSION OF THEORY

The theory concerning the choice between bank debt and market debt is well developed but at the same time rather contradicting. Some theories make hypothetical assumptions that support each other's view, but most often the theories are quite contradictory in their conclusions. We believe the reason for this ambiguity is that the literature on the subject is very broad and contains many different aspects, e.g. asymmetric information, credit rating, relationships with financial intermediaries, growth opportunities, and so on, which makes the question of bank debt or market debt very complex. Since there are many different aspects, it maybe would have been more surprising if the theories were consistent with each other. As an example, bank loans are theoretically believed to be too expensive for smaller firms due to monitoring costs, which therefore issue market debt to attain capital at a lower cost. At the same time, asymmetric information and the lack of credibility states that smaller firms will not be able to issue market debt due to the suspicious market participants. In reality, these theoretical ideas would lead to a status quo situation, where no firms are able to borrow capital to expand their business. Therefore another theory is suggested, which emphasises the significance of relationship lending or signalling value. In the end, all these diverse theories verify the complexity of the theoretical choice between bank debt and market debt, and indicate that perhaps no single theory alone can predict a firm's debt structure decision.

5.2 DISCUSSION OF RESULTS

Our first prediction stated that more mature firms would have lower ratios of bank debt since they are more likely to have acquired a better credit rating, which would allow them to borrow at a lower cost by issuing market debt (Diamond 1991). However, in contrast to the "life cycle" effect by Diamond (1991), our results indicate that the correlation between bank debt and maturity is slightly positive (0,0172). This result demonstrates that more mature firms do not have lower ratios of bank debt, which is opposite to our prediction, and that age does not seem to affect the firms' bank debt ratios. It is important to keep in mind that our results only demonstrate the average ratios of bank debt during the last ten years. Thus, variations in debt structure culture, the economic environment, government policies or regulatory changes that took place in the past may also affect the bank debt ratios we observe today.

Secondly, we predicted that smaller firms have lower ratios of long-term bank debt than larger firms since the borrowers usually pay for the monitoring costs (Diamond 1991, Rajan 1992) and smaller firms issue market debt to avoid these costs (Bolton & Freixas, Denis & Mihov 2003). When using the cap on which the companies are listed as proxy for firm size, we found that small cap firms do have lower ratios of bank debt, which was in line with our prediction. The fact that medium cap and large cap firms have more than twice as large bank debt ratios than small cap firms, may be an indication that smaller firms are less willing to borrow through banks or that they are not able to borrow to the same extent as larger firms. In addition, we do observe that small cap firms have higher ratios of short-term debt, which may imply that lenders rather give credit on a short-term basis due to the possibility of renegotiate the debt by re-evaluating the firm each year. However, there can be other explanations for this difference in bank debt ratios between the firms on each cap, e.g. bank relationships, differences in credit ratings and weaker demand of capital among small cap firms. When we instead used average sales as proxy for firm size, we only found a weak positive relationship between firm size and bank debt ratio. Thus, average sales do not seem to have a large effect on the bank debt ratio.

Our third prediction was that smaller firms have lower ratios of outstanding bonds due to the increased likelihood of worse credit ratings (Diamond 1991), and even if they had outstanding bonds, the cost of keeping the bonds would probably outweigh the benefits (Bolton & Freixas 2000, Denis & Mihov 2003). Surprisingly, small cap firms had a bond ratio that was more than 25 times and 17 times larger than medium cap and large cap firms respectively. An explanation why smaller firms have a larger ratio of outstanding bonds could be that the cost of bonds is much lower than the cost of bank debt, in accordance with the findings of Bolton and Freixas (2000). But it could also be that smaller firms have been more successful at raising capital on the bond markets than larger firms. Another reason for the large difference may be that larger firms are in need of greater amounts of capital, which is only attainable through banks and not on the bond markets. Still, this does not explain the fact that smaller firms had fairly high ratios of bond debt, it would only explain the large difference between the caps.

In our fourth prediction, we anticipated that larger firms would have lower cost of debt than smaller firms, due to both their reputation (Diamond 1991) and that larger firms tend to be more stable than smaller firms (Petersen & Rajan 1991). Our results showed quite the contrary since small cap and large cap firms had the lowest interest on debt, while medium cap firms had more than twice as high interest on debt. If larger firms do have better credit ratings than smaller firms, which we expect, this does not seem to affect the interest on their debt. Moreover, neither the “reputation” effect appears to explain the differences between the firms on the different caps. When observing the total debt (short-term debt, long-term debt and bonds) of mid cap and large cap firms, we see that both have a debt ratio just over 50 %. Thus, our question is why medium cap firms are exposed to an interest rate on debt twice as high as small and large cap firms. We anticipate that relationship lending and other factors do affect a firm’s interest on debt, but the large divergence from the other caps keeps us pondering.

6. CONCLUSIONS

The theory concerning the choice between bank debt and market debt is both extensive and quite ambiguous. Even though some theoretical assumptions point towards the same direction, most of the theories demonstrate conflicting assumptions. A possible explanation for this discrepancy is that the subject includes many different standpoints, all representing their view on the matter. Even though the theories on the choice between bank debt and market debt are not hard to grasp, it becomes a complex subject when applying to reality.

After conducting the empirical illustration of public, non-financial firms in Sweden, our predictions from the theoretical review showed mixed results. While maturity did not explain the firms’ bank debt ratios, we found some data supporting the notion that smaller firms have lower bank debt ratios, when using cap as proxy for firm size. Moreover, we surprisingly found far higher bond ratios among small cap firms and notably higher interest on debt among mid cap firms.

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