The Capital Structure Puzzle of SMEs

- Evidence from the Swedish Security Industry

Authors   **Supervisor**
Caroline Andree   Maria Gårdängen
Christoffer Källberg

Abstract

The purpose of this thesis is to ascertain the main determinable factors of Swedish SMEs capital structure decisions and to investigate whether existing capital structure theories are applicable on Swedish SME financing. We have used panel data to run regressions of various capital structure determinants on three measures of capital structure; short-term debt, long-term debt and total debt. We found that growth opportunities, profitability and age are the most important capital structures determinants for our sample. Firm size shows a small explanatory result but the effective tax rate and the asset tangibility do not seem to explain the capital structure at all. The maturity matching principle is considered significant.

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AUTHORS   Caroline Andree
                     Christoffer Källberg

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PURPOSE   The purpose of this thesis is to ascertain the main determinable factors of Swedish SMEs capital structure decisions and to investigate to what extent existing capital structure theories are applicable on Swedish SME financing.

METHODOLOGY   The capital structure analysis consists of a panel data regression of various capital structure determinants of three measures on capital structure; short-term debt, long-term debt and total debt.

THEORETICAL PERSPECTIVES   The theoretical framework for this thesis consists of the most central capital structure theories discussing the effects of taxes, financial distress, agency cost, information asymmetry and corporate control.

EMPIRICAL FOUNDATION   Regression results of the various determinants of capital structure

CONCLUSIONS   Growth opportunities, profitability and age are important capital structures determinants for SMEs in the Swedish Security Industry. Firm size shows marginal explanatory effects while the effective tax rate and the asset tangibility seems to have no influence on capital structure decisions. The maturity matching principle, however, is considered significant. Furthermore, the pecking order theory is the foundation of theoretical framework and does apply to our sample, partially due to the high level of information asymmetry and agency costs but also due to management experienced control-loss aversion.

Table of contents

1   INTRODUCTION

The introduction aims to provide an overview of the importance of SMEs together with implications of their financing decision. Thereafter a brief introduction to the investigated industry and a discussion of the fundamental research problem will be presented.

1.1   Background

Small and medium-sized enterprises, hereinafter SMEs, are often left out in favour of bigger firms when corporate finance theory is derived. Financial theory is often based upon empirical results from large mature firms, unless otherwise specifically indicated in the purpose of the theory. Zingales (2000) states that since much emphasis is placed upon larger companies, we forget to study the firms who lack direct access to public markets. Their inability to raise capital has several consequences, one being that they suffer from a strong disadvantage in the process of internationalisation (Meyer and Shak, 2002), exemplified through their conclusion that Danish firms have the potential to enter the markets in Eastern Europe but lack the funding.

The vast majority of companies are not large mature companies. According to the European Commission and its definition of SMEs,[1] the number of SMEs in the European Union has increased from 20 million to 23 million in the last decade, accounting for over 99% of all registered enterprises. We define SMEs as enterprises with less than 250 employees. Over 100 million people are employed by SMEs and thus SMEs make up the largest cornerstone of the European economy (European Commission). SMEs are just as important for the Swedish economy as they are for the aggregated European economy since they constitute 99% of all enterprises also in Sweden (Jacob et al, 2003). SMEs accounted for 57% of the value added and 66% of all net investments in 2000. Together with the fact that 60% of the employees in the private sector in Sweden were employed by SMEs the same year, it is obvious that Swedish SMEs are absolutely crucial for the Swedish economy in terms of both employment and economic contribution (Jacob et al, 2003).

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[1] In the definition of SMEs by the European Commission, an SME not only has less than 250 employees, but also an annual turnover of less than €50 million, annual balance sheet not exceeding €43 million and they are enterprises that are independent from larger firms

The Swedish economy is currently facing globalisation, strong technological development and a situation where Swedish firms continue to lose share in their traditional manufacturing markets due to the competitive forces from East Asia and South-America. Consequently, a large part of the future of the Swedish economy lies in the technology sector and the ability to stimulate innovation within high-technological and knowledge-based industries is thus crucial (OECD).

Among the more interesting industries for Swedish SMEs at the moment is the Security Industry. The knowledge-based and high-technological industry has been and still is undergoing sizeable restructuring partially due to the increased opportunities through digitalisation. The industry has moved from being a handcraft-dominated technology to a high-technological and knowledge-intensive business in a rather short-time period. When the industry core competencies have changed so has the possible investment opportunities. As a consequence of the rapid changes and thus the enormous growth potential in the industry, the current Swedish supply cannot meet the increasing demand (Affärsvärlden, 2005-10-11).

In an industry where growth has been such a fundamental characteristic over the last decade, the need for financing this growth is a highly interesting topic. How firms choose their capital structure is thus one of the most central issues of corporate finance, not least in the case of the Security Industry where the capital requirements are growing with the expansion of the industry, as opposed to industries where the firm specific and aggregated capital requirement is constant over time. In order to let the industry develop, the existence of a vast alternative for raising capital for SMEs is essential also for the future of the Swedish economy.

Our interest in the industry and the motivation for choosing the industry can therefore be summarised into the recent restructuring of an old industry leading to immense growth opportunities. Capital structure is a crucial issue in such an industry and should therefore be of much interest to study. Add to this that SMEs are dominant in the industry (Assa Abloy 2007 Annual Report) and thus very important for the industry's growth process.

1.2   Problem discussion

Corporate finance theory in general, and the capital structure question in particular, is often based upon large firms with access to public capital markets. Such firms are presented with several alternatives when raising capital as they can replace classical debt or equity with lease financing, issue convertible bonds, use warrants, sign forward contracts or trade bond swaps. Hence, the number of combinations of capital is almost infinite from the vast supply of distinct securities. Therefore, the question of capital structure for such a firm should rather be phrased as "Which capital structure maximises the value of the firm" or "Can the value of the assets be increased by an optimal financing policy of the firm?" instead of simply focusing on a theoretical optimal capital structure. These questions are, however, often answered from the perspective of larger firms with a broad public base of shareholders, thus focusing on shareholder value maximisation, as opposed to smaller privately held firms where the other focal points might be considered. But the questions are the same for any firm, no matter its size, and answering the questions for SMEs is just as interesting, if not more.

Sogorb-Mira (2005) undertook a study of all SMEs in Spain between 1994-98 and found that, confirming DeAngelo and Masulis (1980), (i) non-debt tax shields are negatively correlated to leverage, (ii) SMEs follow the matching maturity principle, trying to finance their fixed assets with long-term debt and their current assets with short-term debt, (iii) firm size and (iv) profitability show a positive and negative relation respectively with leverage. Our study is a replica of Sogorb-Mira's study applied on the Swedish Security Industry.[KH2] Since Sogorb-Mira's study is based upon previous studies and theories and since it has generated reliable results, the methodology used is provides a good framework for our study. Therefore, we use the hypotheses suggested by Sogorb-Mira as our base. We do, however, explore the theoretical reasoning leading to the hypotheses to a greater extent and we also add one hypothesis.[CK3]

Several of the most renowned finance theories concerning capital structure, such as Modigliani and Miller's (1958) optimal capital structure theory in a world without taxes and Myers' (1984) Pecking Order Theory, are as previously discussed, based on empirical results from studies containing large firms with apparent access to public financial markets. SMEs are not always faced with the same opportunities as their larger counterparts, suggesting that the capital structure decision could be depending on other factors than those suggested by, among others, Modigliani and Miller (1958) and

Myers (1984). We assume that the factors of the demand equation of SMEs is identical to those of larger firms but that solving for an equilibrium will generate a different capital structure due to the different supplies available for the two categories of firms.

Landström (2003) argues that a large part of this financial gap is a consequence of an information asymmetry between the financier and the entrepreneur. The information asymmetry can, to a certain extent, be explained by noticing that it is more common for larger companies to be listed than for SMEs. The immense information from publicly held companies should theoretically eliminate the information asymmetry and thus the financial gap.

A central theme of a study of this character is the extent to which the sample is representative of the bigger sample, i.e. SMEs in general. The Security Industry can be considered to be representative for Swedish SME financing based on a few industry characteristics. First of all, the Security Industry is an old traditional industry, yet characterised by recent development on both the supply and demand side. That is, the industry is not entirely characterised by start-up investments, nor is it experiencing sustainable growth, both being extremes concerning the capital structure decision. Also, as previously mentioned, the industry consists of several small firms facing a growing opportunity to exploit the industry expansion through a wide knowledge base and high-technological products.

Consequently, SMEs in the Swedish Security Industry face operational risk expansion due to changed core competencies, leading to high financial insecurity. The financing situation described thus contains a large part of information asymmetry between supply and demand, which is, according to SME research, considered as one of the main determinants of SME capital structure decisions. Therefore, we argue that SMEs in the Swedish Security Industry are faced with similar decision-making situations as a majority of smaller firms and can be considered representative for SME financing in Sweden in general.

Even though the theoretical framework for the capital structure decision is founded upon larger firms, research on capital structure for SMEs trying to explain the applicability of the theoretical framework also on SMEs does exist. Van der Wijst (1989) studies the Netherlands and Germany, Holmes and Kent (1991) study Australia, Sogorb-Mira (2005) studies Spain and Van der Wijst and Thurik (1993),

Chittenden et al (1996), Hamilton and Fox (1998), Jordan et al (1998), Michaelas et al (1999) and Hall et al (2000) all study the United Kingdom. There are also industry-focused studies such as Hogan and Hutson (2005) and Hyytinen and Pajarinen (2005). For Sweden the material is significantly less prominent although Cressy and Olofsson (1997) carried out survey-based qualitative study on Swedish SMEs. However, an entirely quantitative study investigating Swedish SMEs capital structure decision in general and the Swedish Security Industry in particular has not, to our knowledge, been conducted and would thus contribute to this financial field of research.

1.3   Purpose

The purpose of this thesis is to ascertain the main determinable factors of Swedish SMEs capital structure decisions and to investigate to what extent existing capital structure theories are applicable on Swedish SME financing.

1.4   Delimitation

The study will be carried out within the Swedish Security Industry. Existing capital structure theories will be tested in the above-mentioned industry and we do not strive to present new theories.

1.5   Thesis outline

The second chapter gives the reader a brief introduction to the global Security Industry and thereafter the Swedish Security Industry. The chapter is kept short and focuses on industry characteristics that are important for the following analysis.

The theoretical framework from which we conduct our deductive study is presented in chapter three. The chapter is structured in order to guide the reader through the various hypotheses and the theoretical background for each of them.

Thereafter, the reader is introduced to the specific methodology of our study. The methods and approach of the research are explained in detail followed by an analysis of the possible problems that can arise during the study.

For the deductive study we found it pedagogical to present the empirical findings and analysis in the same chapter, chapter five, in order to keep the analysis close to the empirical findings while referring back to the theoretical framework from which we stated our hypotheses. The chapter concludes with an overview of our research findings.

Finally, the sixth chapter provides our concluding comments based on our findings and subsequently suggests further and alternative research that could be of interest.

1.6   Audience

Our study should be of interest to corporate finance academics and other individuals with a keen interest in corporate finance. Also, it should interest professionals in the Swedish Security Industry and other national and international industries that have similar characteristics and thus believe that the results are applicable to their context.

2 THE SECURITY INDUSTRY

In this chapter, the reader is presented with an introduction of the Security Industry, both from an international and a Swedish perspective. The chapter focuses on identifying market trends and key drivers of growth that are of importance for Swedish SMEs, thereby providing the reader with a more thorough knowledge of the future of the industry.

2.1 The Security Industry

The general development of the Security Industry derives from growing welfare, urbanisation and the universal trend towards higher security consciousness. In addition the increased presence of crime, violence and terrorism constitutes important factors with an immense impact on industry structure (Aktuell Säkerhet 2005:5). These underlying trends coupled with growing uncertainty places security concerns high on the agenda, driving the development of more advanced solutions and upgrading of existing security systems.

The Security Industry is barely affected by economic cycles, instead the almost unitary elastically demand is considered to be following the customers' view on fear. Hence, the demand for security installations peaks in close connection to the aftermath of events like September 11 (Gunnesbo). We believe that the effects on capital structure decisions from this industry condition are substantial, especially where the future investment requirement is uncertain due to the time factor. Arguably, SMEs are subjects to a leveraged effect, implicating that the funding needed to capture profitable investment opportunities is highly dependent on their ability to raise capital.

Measuring the Electronic Security Market

		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007*
Revenues	(billions)	$14.8	$16.2	$17.5	$18.9	$18.7	$20.3	$22.0	$23.8	$25.9	$27.1
Systems installed (millions)		2.5	2.7	2.9	3.1	1.6	2.0	2.2	2.4	2.9	3.0
Total monitored population (millions)		26.9	27.0	28.6	30.1	29.6	29.9	30.5	30.8	31.6	32.3
* estimate		*Source: 2007 Security Sales & Integration Installation Business Report*									

Table 1: The electronic security market

2.1.1   Industry overview and Market trends

The Security Industry's major components are security services, electronic and mechanical security products. Security services, being the main drivers of development, represent the major request of full-integrated security solutions that characterise the customer's current and future demand. Furthermore, the apparent trend of convergence between physical and logical access is demanding creative security service solutions to meet customer request. The increasing demand of electronic security is one of the most obvious trends of the industry. Due to various macroeconomic factors, as mentioned above, surveillance and secure identification are two out of vast amount high-technological security products characterising the strategic future of the industry. As a result, the electronic Security Industry has experienced double-digit growth during the last couple of years, which is a trend that is assumed to continue (AssaAbloy, 2007 Annual Report).

2007 Electronic Security Revenues From Types of Business
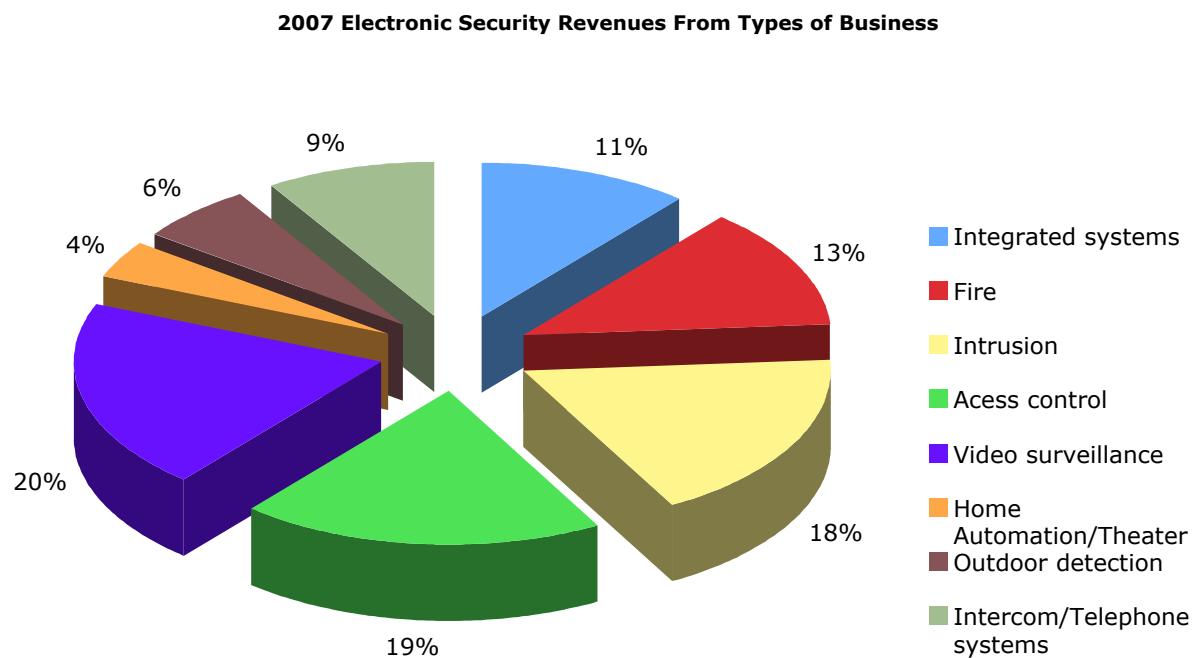
Source: 2007 Security Sales & Integration Installation Business Report

Figure 1: Business specific figures of revenues from the electronic security market

Percentage of 2007 Security Installations by Customer Type
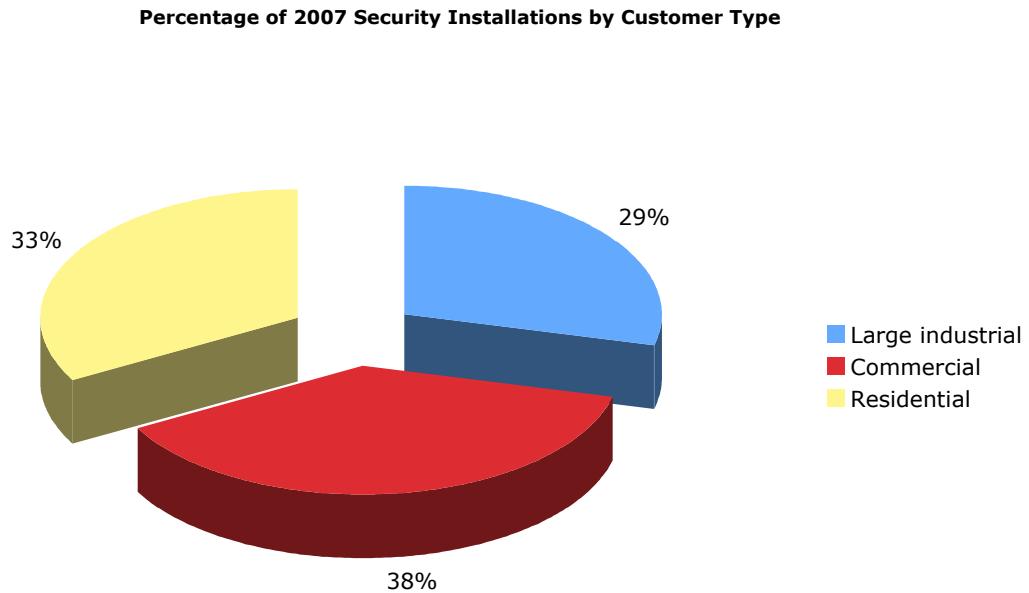
Source: 2007 Security Sales & Integration Installation Business Report

Figure 2. Percentage of Security Installations by Customer Type

The development of mechanical products, on the other hand, predominantly compromises restoration and old product replacements, although new mechanical construction work still is considered applicable today. The expected growth of the mechanical security products is supposed to be related with the aggregated world GDP but is evidently growing only at a two to three times smaller rate than the rate of the electronic products. Noteworthy is that even if new high-technological electronic security equipment has outstanding growth rates, the aftersales still contemplate a majority of the demand. (AssaAbloy, annual report 2007)

Drivers of industry demand
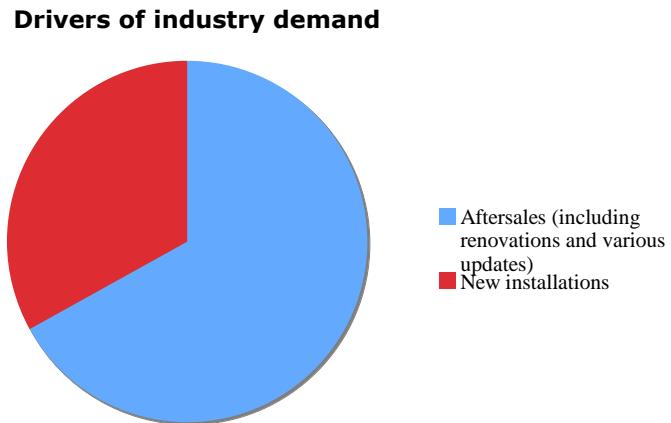
Source: AssaAbloy annual report 2007

Figure 3. Drivers of industry demand

2.1.2   Industry structure

The International Security Industry, as a majority of markets, is faced with greater competitiveness and lower prices being consequences of the opening of national borders not only through the expansion of the EU but also through the overall globalisation. This legacy change is one of the explanatory factors of the ongoing trend of mergers and acquisitions (M&A) between national and international security firms (Kevin Townsend, 2007), especially characterising the traditional mechanical product markets. In spite of the consolidating dominance in both the global and the Swedish security market during the last couple of years, the industry is still in large parts fragmented. The six largest players in the overall Security Industry only control a 20 % global market share while the majority constitutes small local firms, thus letting the market mainly be run by SMEs (Gunnesbo). Arguably, the future progress of the industry is heavily dependent on technological innovation derived from SMEs.

2.2　　*The Swedish Security Industry*

Sweden is a country with a strong tradition within the Security Industry. Large international firms like Assa Abloy and Securitas as well as the innovator Axis and the specialist firm Bewator, now parts of Siemens, all have their origins in Sweden. Even though the majority of these companies cannot be characterised as SMEs anymore, e.g. Assa Abloy possesses 10% global market share within their subindustry and is thus the biggest player in their market, they do enact excellent examples of a well-developed, entrepreneurial Security Industry with long-lasting traditions in Sweden.

2.2.1　　Value chain

The Swedish Security market is characterised by alternative distribution channels. Due to the varying customer needs, leading to specialised integrated solutions, several products are sold in small scales through different distribution channels for different customers, leaving the distribution rather fragmented. This situation has created a big market for *integrators* who supply integrated solutions, using a vast number of suppliers, for specific customer needs. The customers are currently demanding higher quality of products and the suppliers are trying to standardise the technology. The potential outcome of these movements is that the role of the integrators will increase and that the suppliers will become even more specialised in their most competitive field. The direct consequence of this development is that the suppliers loose the contact with the end consumer and thus the ability to affect its own demand. Financial institutions are likely to perceive higher risk due to this effect, which cannot be offset by the decreased risk deriving from the advantages of specialisation. With the financial risk assumed to be most apparent during development stages, the risk of the integrators is perceived to be small – especially since they possess the ability to affect their demand. This situation is more apparent for SMEs who are less likely to remain important players in several vertical and horizontal fields of the industry. Concluding, we argue that specialisation together with the development of integrators will worsen the SMEs' ability to obtain capital.

2.2.1 Key drivers of growth

Johan Molin, CEO of Assa Abloy, identified five main drivers for growth in the Security Industry for Swedish firms to take into consideration at the annual capital market meeting in 2007:

Key drivers of growth
Branding
Innovation
The new Electronic world
Geographical and emerging market expansion
Acquisitions

Source: AssaAbloy annual report 2007

Table 2. Key drivers of growth

To succeed in the traditional Security Industry, reputation and trust are important determinants of a successful brand and thus value creation. Smaller firms, lacking the funding needed to build brand equity, often has no other option than to merge with an established firm, represented as one out of five key growth factors. Consequently, as entrepreneurs chose course for the future, innovation in the new electronic world is a strategic qualitative option, however, an option that is not as appealing to external creditors. The operational risk associated with strategic industry restructuring affects the financial risk experienced by financial institutions and thus the ability of SMEs to obtain funding.

2.2   New and emerging markets – the future?

One of the more interesting trends, perceived as a key driver of growth, is that of the emerging markets. Consisting of 86% of the population and 29% of GDP, these markets are of high importance and security firms worldwide are in the process of positioning themselves. With the strong urbanisation growth and thus the increased need for housing and commercial infrastructure comes a grand growth opportunity for the security industry.

Robert Lundhin form Steria claims that the highest awareness for products relating to identification is found in Eastern Europe (Aktuell Säkerhet 2005:6). The Swedish demand for these products is not growing at a fast enough pace, he argues, thus encouraging Swedish firms to exploit the opportunities derived from the increasing demand of Eastern Europe.

The future of security solution export benefits also from the economic boost in Asia, considering that half of the global population will live in Asia by 2030. The Chinese market, estimated at EUR 2 bn, is still relatively poorly developed. The increased welfare of the Chinese will truly increased the security awareness among private and corporate customers. With the Olympic games, China has become a major customer base, not least for the bigger players of the industry. Furthermore, Paul Holmberg (Aktuell Säkerhet 2006:5) states that the economic development in Asia has provided excellent opportunities for the rise of organised crime, which further has lead to an increased security focus in the region.

Western security companies are clearly finding new markets to enter as the world is changing. This industry trend is of great importance for SMEs, referring back to their disadvantage to enter new markets due to their inability to raise capital, increasing the interest in the capital structure question in the phase of expansion.

3   THEORY

In this section, we start by presenting a brief introduction to the capital structure theory. Thereafter, we explore the theoretical framework that explains the hypothesis used by Sogorb-Mira (2005) in order to provide the foundation of our study. Further, we discuss one additional hypothesis and the theoretical reasoning behind it.

3.1   Theoretical foundation

The genesis of modern capital structure theory arose through the work of Modigliani and Miller (1958) and their famous *Proposition I* – often referred to as the *"irrelevance theorem"* – which suggests that as an implication of equilibrium in perfect capital markets, the choice of capital structure does not effect a firm's market value. Modigliani and Miller argued that the cost of capital is equal to the known yield of bonds, whose rate would be equivalent to the expected return of shareholders and thus the cost of equity, thereby holding the cost of capital fixed with respect to capital structure and thus not letting the capital structure affect the firm's market value. It should be noted that Modigliani and Miller assumes only two forms of financing; bonds and stocks.

Despite the immense theoretical appeal of capital structure, the finance world has not agreed upon a theory for the optimal capital structure. The short-term capital structure is often decided by the need for working capital but the long-term quest for an optimal capital structure remains unanswered. Brealey and Myers (2003) suggest that determining the capital structure is a marketing problem as a firm can issue distinct securities in a huge number of combinations but their overall goal is to maximise the market value – i.e. the market's perception of the firm, also supported by Weston and Brigham (1992).

The theoretical and empirical work is assumed to be similar between countries, as concluded by Booth et al (2002). Their study attempted to relate the capital structure question between countries with extremely different financial markets and they found that the factors affecting the capital structure do not lie in the characteristics of the financial markets.

Today we understand the falseness of Modigliani and Miller's 1958 statement *"the average cost of capital to any firm is completely independent of its capital structure and is equal to the capitalization rate of a pure equity stream of its class"*. Modigliani himself commented on the scrutiny and controversy of his own work by saying that "*I must confess that... my two articles with Miller on corporate finance are written with tongue in check, to really make fun of my colleagues*" (Klamer, 1983). Leaving this somewhat ancient theory behind, Ogden et al (2003) suggest a greater focus on capital structure decisions in reality, presenting theories concerning taxes, financial distress, agency costs, information asymmetry and corporate control.

3.2   Theoretical framework for hypothesis building

The theoretical framework that is used to derive the hypotheses suggested by Sogorb-Mira (2005) and our additional hypothesis is presented below[KH6].

3.2.1   Taxes

The first reason for the falseness and controversy of Modigliani and Miller's (1958) proposal is the neglecting of taxes, which is introduced in Modigliani and Miller (1963). The authors adjust their previous hypothetical stand based on a simplified world by introducing the concept of taxes and thus making their model more adapted to the real world in which firms operate. With interest rates being tax deductible, debt is preferable to equity, and the higher the marginal tax on dividends is, the higher the debt ratio should be (Modigliani and Miller, 1963; Miller and Scholes, 1978). Modigliani and Miller therefore conclude that any tax-paying firm should maximise its debt levels in order to maximise its firm value. Therefore, our first hypothesis states that:

The effective tax rate should be positively related with debt (H1).

Miller (1977) later suggested that for American firms, the decision is more complex than originally stated as he discerned three tax rates effecting the firm value; (i) the corporate tax rate, (ii) the tax imposed on the income of dividends, and (iii) the tax rate imposed on the income of interest inflows. He suggested that the value of the firm depends on the relative level of each individual tax rate compared to the other two tax rates. Following his arguments, we should not expect the efficient tax rate to be a strong explanatory independent variable of the debt level.

Petit and Singer (1985) suggest a similar approach by arguing since small firms tend to be less profitable and do not generally have abundant funds, they are less likely to be able to take full advantage of the tax shield. The discussion leads to a null-hypothesis stating that there should not exist any relationship between debt and taxes in SMEs (Sogorb-Mira, 2005). Fama and French (1998), however, states that debt levels do not concede tax benefits but instead that high debt levels have other negative characteristics such as higher agency costs since shareholders and creditors predict that higher leverage has a negative effect on profitability. These effects are considered under their respective concepts below and could arguably not be seen as part of the tax-related hypothesis.

DeAngelo and Masulis (1980) argue that there are alternative tax shields based on other factors than interest payments, such as depreciation, R&D, investment deductions etc and that the different tax shields are perfect substitutes for one another. Therefore the marginal benefit of tax shields should be based on the presence of non-debt tax shields. Concluding, our second hypothesis states that:

Non-debt tax shields ought to be negatively related to leverage (H2).

However, opposed to the above-mentioned relation, some researchers suggest a positive relationship between non-debt tax shield and debt ratio. Chaplinsky and Niehaus (1990) propose that firms with a relative large portion of tangible assets both gain non-debt tax shields from depreciation and investment deductions, and at the same time enjoy an interest deduction, which is made possible due to more beneficial external financing conditions. This as a direct result of the fact that a large share of tangible assets creates value as a collateral for the debtor and therefore reduces the risk and cost of the debtor in case of default.

21

3.2.2 Financial Distress

Opposing the debt maximising suggestion presented above is the theory of bankruptcy costs presented by several researchers (Titman (1984), Jensen and Meckling (1976), Myers (1984) etc). We define bankruptcy costs as the directly incurred costs arising when the perceived probability of default on financing for a firm exceeds zero. The expected cost emerges through the risk that a firm will not be able to meet its financial obligations. This perceived transaction cost is highly present in firms' debt financing and thus an important variable in capital structure decisions.

Although, the field of financial research separates different financial distress costs from one another. Ogden et al (2003) argues that it could be divided into at least three different perceived costs. One is the loss of market competitiveness, another a cost arising when the firm is forced to compensate shareholders for the risk of engaging in business with the firm, which is also supported by Titman (1984) and finally one that originates from a decrease in tax shield value in distressed times. Notably, these costs are evidence of indirect bankruptcy costs, arising when there is an overlying threat of financial distress. Direct bankruptcy costs on the other hand are actual costs present when firms are forced into a state of bankruptcy. Direct bankruptcy costs consist of, among others, the legal and administrative costs of the bankruptcy process, a "short fall" in asset value when forced to liquidate them and the value loss of tax credits beneficial for the firm if not gone bankrupt (Ang et al, 1982).

The perceived probability of default is positively correlated with debt levels since the confidence in a firm's ability to generate profits to pay back its debts decreases. According to Warner (1977), Ang et al (1982) and Petit and Singer (1985) larger firms are generally more diversified than smaller firms and therefore tend to fail less often. Furthermore, the direct cost of bankruptcy tends to be a bigger burden for small firms, hence the cost could be described as a concave function of liquidated asset value when going bankrupt (Ang et al, 1982). Consequently, diversification and relatively smaller bankruptcy costs encourage bigger firms to higher leverage. We therefore expect that:

Firm size should be positively related to debt level (H3).

3.2.3   Agency costs

Agency costs derive from relationship maintenance between on the one side managers and shareholders and on the other side between shareholders and debt-holders. These relationships are crucial for capital structure decisions. Concerning SMEs, a minority of the agency costs arise from the relation between managers and shareholders, mostly due to the fact that the owners and the managers often are the same people. Instead, the agency problem develops between management (owner) and debt-holders. Ang (1992) argues that debt-holders find it too expensive to carry out their standard measurements of control with smaller firms leading to a higher price of debt financing imposing these firms. Historically, it is proven that high debt levels increase agency costs as a result of the relationship between managers and shareholders and the relationship between shareholders and debt-holders, which are to be accounted for further on (Jensen and Meckling, 1976).

A further problem derived from agency costs in debt financing is that a firm can experience underinvestment (Myers, 1977). The underinvestment problem originates from a firm in need of financial capital to undertake a positive net present value investment that is left with equity being the only opportunity because of an exhausted debt-capacity. Management, which often has shareholder interest in the firm, are aware that all positive cash flow will transfer to the debt holders, leaving no income for the decision makers. Consequently, managers create dead-weight costs of debt financing, prioritising their own interest over a profitable investment opportunity and thus missing out on value creation. A common solution is to avoid an exhausted debt-capacity, resulting in less leverage for firms experiencing underinvestment.

The underinvestment problem is assumed to be more apparent in firms with sizeable growth opportunities, causing creditors to be more sceptical towards funding these firms. One consequence would be switching from long-term to short-term debt financing and an even more extreme consequence would be switching from debt to equity. This would therefore suggest a negative relation between growth opportunities and leverage (Jensen & Meckling, 1976; Titman & Wessels, 1988; and Chaplinsky & Niehaus, 1990). For SMEs, however, a big portion of the debt financing consists of short-term financing due to the high-risk and growth potential mentioned above, leading to our fourth hypothesis;

Growth opportunities ought to be positively related to firm leverage (H4).

However, long term and short-term debt should be viewed separately since:

Long-term debt should be negatively related to growth opportunities (H4a).
Short-term debt should be positively related to growth opportunities (H4b).

Additionally, the asset substitution problem is suggested to have an influence on agency costs related to debt funding. Brealy and Myers (1991) shows that the cost of debt-financing rises when the debtor experiences that management puts to much emphasize on shareholder interest, e.g. uses debt-finance for the riskiest future investments. To secure themselves from this asset substitution problem, also known as risk-shifting, the creditors could increase the cost of funding or shorten the maturity of the loan.

The effect of risk-shifting on SME financing is important (Hall et al, 2000). A smaller, younger firm has great incentives to take on risk to grow and fully exploit its potential. The increased risk results in the debtor carrying a greater risk of the lender going bankrupt but not improving the chance of being rewarded for the same risk. This is due to the fact that creditors do not have the privilege of attaining anything above the value of the loan given, as opposed to the shareholder holding the residual claim. Consequently, smaller, more risky firms with a host of growth opportunities have to rely on short-debt financing to exploit its potential, which creates a positive relation between short-term debt and growth opportunities and the opposite for long-term debt.

As suggested by Bevan and Danbolt (2000b) and Hall et al. (2000), the debt structure of SMEs can, to a certain extent, be explained through the restriction of maturity length of credit forcing smaller firms to substitute long-term debt with short-term debt, also supported by Mesquita and Lara (2003). An extension of the abovementioned triple hypothesis therefore states:

Long-term debt should be positively related to firm size (H5a).
Short-term debt should have a negative effect on firm size (H5b).

Referring back to aforementioned agency problem, firms with high agency costs may be forced by creditors to hold a large amount of tangible assets in case of a bankruptcy (Myers, 1977; Scott, 1977; Harris and Raviv, 1990). This is mainly due to the fact that tangible assets generally reserve value in case of default and thus liquidation of the assets, which secures the debtor and justifies the financing risk. Therefore, the firm's share of tangible assets should be one determinant of the firm's ability to take on debt, as shown in the theories of the Collateral Hypothesis (Schwartz & Aronson, 1967; Long & Malitz, 1985). As a consequent SMEs, possessing a smaller share of tangible assets in their asset structure, would experience a lack of finance supplied from banks and other financial institutions.

As a contradiction, Berger and Udell (1998) present evidence that young firms, often classified as small firms, do exploit external debt from financial institutions. Further proof from small businesses research show that tangible assets are highly financed with loans from financial institutions, and that private equity only exists as SME financing when capital is needed to exploit intangible assets. Furthermore, Ang et al (1992) shows that in the circumstances of institutional financing the owner's private economic situation is closely tied to the firm's economic situation. Regularly, the owner's personal assets serve as guarantees or collaterals for company loans. According to Ang et al (1992), this is a strong characteristic of SME financing, which would incline that asset structure does not affect leverage, due to the fact that smaller firms employs private securities. Although, strong evidence does exist for the Collateral Hypothesis and it is therefore important to test the relation:

The firms leverage ratio should relate positively to asset tangibility (H6).

To extend H6, research shows empirical evidence for maturity matching of capital in firms. The theory intends to explain and uncover the relation between debt and asset structures and suggests that firms try to finance assets with obligations that are similar in age to maturity in order to match cash in-flow with cash out-flow. The inclination for smaller companies, when submitting to this principle, could be difficulties to attain fixed tangible assets due to the lack of long term financing supply (Sogorb-Mira, 2005). Consequently, to test if the maturity matching principle holds in SMEs is important and related to overall evidence of capital structure decisions in smaller firms.

If firms aim to match maturities of assets and liabilities, we should observe a positive relationship between fixed asset ratio and long-term debt ratio, while it would be negative if leverage ratio were short-term (H6a).

3.2.4   Information Asymmetry and Corporate Control

The characteristics of the information asymmetry problem are that in transaction decisions, the part holding the inside position has greater information about the true value of a firm or an investment compared to the contracting part. This creates insecurity and need of financial compensation of the risk attached, as previously mentioned when referring to Myers (1984), Myers and Majluf (1984) and Jensen and Meckling (1977). Following this argumentation, more profitable companies have the benefit of cheaper funding from external capital holders, mostly due to the reduction of the overall financial risk. The creditor perceives a profitable firm as a borrower with less risk of default and hence, a reduction of information asymmetry costs appears. Ross (1977) and Poitevin (1989), among other researchers, have found empirical evidence of higher leverage in profitable firms, supporting the argumentation above.

In his 1984 article, Myers begins a discussion, which he continues with Majluf (Myers and Majluf, 1984), relating back to Jensen and Meckling (1976), focusing on the asymmetric information between the firm and its potential finance providers. Due to the asymmetric information, the costs of different sources of finance will be skew. For instance, new equity holders will have less information than existing internal sources of finance and will thus expect a higher rate of return on their investment than if the firm were to raise more finance from existing finance providers. This means that an equity issue and external debt are expensive alternatives. The authors therefore present the firm's preference when raising finance through a *"Pecking Order"* (Myers, 1984; Myers and Majluf, 1984) where a firm will prefer to rely on internally generated funds, i.e. retained earnings. When more funds cannot be raised internally, the firm will turn to debt and finally equity.

The pecking order of raising finance is a clear reflection of the costs associated with each alternative as a function of the information asymmetry. Hadlock and James (2002) and Champion (1999) also point out that firms prefer debt financing since they clearly believe that they can produce higher returns than the cost of debt and thus the use of debt will improve the firm's performance. Myers (1984) and Chittenden et al (1996) therefore suggests that firms will only prefer issuing equity when the market overvalues the firm, in order to align with the shareholder value maximisation – more specifically; existing shareholder value maximisation. The only exception is if the net present value of the growth generated from the issue will offset the value transfer from existing to new shareholders. Therefore, equity will always be issued at a higher price than the market price. A direct consequence is thus that investors perceive the firm as being overvalued when it issues equity.

Relating back to Myers (1984) and Myers and Majluf (1984) firms will prefer to finance their investments with retained earnings. Clearly, profitable firms will have greater opportunities to do. The pecking order theory therefore implies that profitable earnings-generating firms will use less debt and new equity than unprofitable firms, who are not generating earnings since they have the option to choose internal finance before external (Myers and Majluf, 1984). Studies by Friend and Lang (1988) and Kester (1986) support the negative correlation between firms' profitability and their debt/asset ratios and Rajan and Zingales (1995) and Wald (1999) confirm a strong negative correlation between profitability and leverage, which gives rise to our seventh hypothesis.

There should be a negative relation between leverage and firm profitability (H7).

Additional research indicates the importance and width of the H7 relation. Taub (1975) found such a relation when using four various measurements of profitability and Nerlove (1968), Baker (1973) and Petersen and Rajan (1994) performed industry-specific studies that also supported previous findings of such a relation. Finally, Roden and Lewellen (1995) identified the same relation when studying the debt levels of Leveraged Buy-Outs and relating it to profitability.

For SMEs, a key issue when studying the Pecking Order Theory is the fact that managers are often also shareholders. They are most likely reluctant to the fact that they will try not to lose control of their firms, which would be the case in an equity issue (Holmes and Kent, 1991; Hamilton and Fox,

1998). This supports the pecking order theory. If then managers are unable of attaining internal financing they will turn to the form of external financing that least reduces their control and managerial flexibility, being short-term debt not including restrictive covenants. Therefore;

SMEs employ predominantly short-term debt as debt financing (H8).

The final implication of the Pecking Order Theory regards firm age. A financial field of research consisting of Petersen and Rajan (1994), Michaelas et al (1999) and Hall et al (2004) suggests that when managers prefer internal sources to external funds of financing, older firms must have benefits to younger firms in the funding of retained earnings. The younger the firm, the less time where to accumulate earnings has gone by; hence a smaller fund of internal resources should exist. The final hypothesis therefore states:

There should be a negative relation between leverage and firm age (H9).

However, Ogden et al (2003) suggests the opposite. They argue that operational risk decreases with firm age, due to the fact that older firms gather knowledge and experience over time. Therefore, younger firms with high operational risk consequently carry higher financial risk and thus intend to decrease their leverage ratio. These arguments support a positive relation between leverage and firm age. A null-hypothesis, however, would suggest that due to the pecking order theory, any firm carrying debt would have exhausted its retained earnings, indicating that age would have no relation to debt, provided that the firm has some debt in its capital structure.

As a conclusion, Berger and Udell's (1998) analysis of American SMEs from a growth-cycle perspective adds important knowledge and is a good theoretical mind-map. They suggest that larger, older companies with more transparent flow of information have more beneficial external financing options in addition to smaller, younger firms. When relating to the growth-cycle principle, SMEs as less information transparent firms initially have to lean on internal funds, short-term credit or business angels. As these firms grow bigger and more transparent, decreasing its operational risk, they are allowed to benefit from external funding as long-term debt or public equity.

3.3 *Theoretical summary*

A summary table of the nine hypotheses, collected as a foundation for regression analysis, is presented below.

H1	The effective tax rate should be positively related with debt	Modigliani & Miller (1963), Petit & Singer (1985)
H2	Non-debt tax shields ought to be negatively related to leverage	DeAngelo & Masulis (1985), Sogorb-Mira (2005)
H3	Firm size should be positively related to debt level	Warner (1977), Ang et al (1982), Petit & Singer (1985), Sogorb-Mira (2005)
H4	Growth opportunities ought to be positively related to firm leverage	Michaelas et al (1999), Sogorb-Mira (2005), Brealey & Myers (1991)
H4a	Long term debt should be negatively related to growth opportunities	Michaelas et al (1999)
H4b	Short term debt should have a positive effect on growth opportunities	Michaelas et al (1999)
H5a	Long term debt should be positively related to firm size	Warner (1977), Ang et al (1982), Titman & Wessels (1988), Bevan & Danbolt (2000a), Hall et al (2000)
H5b	Short term debt should have a negative effect on firm size	Warner (1977), Ang et al (1982), Titman & Wessels (1988), Bevan & Danbolt (2000a), Hall et al (2000)
H6	The firm leverage ratio should relate positively to asset tangibility	Myers (1977), Scott (1977), Harris & Raviv (1990), Schwarz & Aronson (1967), Long & Malitz (1985), Brewer & Genay (1994), Brewer et al (1997), Sogorb-Mira (2005)
H6a	If firms aim to match maturities of assets and liabilities, we should observe a positive relationship between fixed asset ratio and long term debt ratio, while it would be negative if leverage ratio were short term	Brealey & Myers (2000), Sogorb-Mira (2005)
H7	There should be a negative relation between leverage and firm profitability	Myers & Majluf (1984), Krasker (1986), Naryanan (1988), Titman & Wessels (1988)
H8	SMEs employ predominantly short term debt as debt financing	Holmes and Kent (1991), Hamilton and Fox (1998), Sogorb-Mira (2005)
H9	There should be a negative relation between leverage and firm age	Petersen & Rajan (1994), Michaelas et al (1999), Hall et al (2004)

Table 3: Summary of the empirical foundation and hypothesises.

4   METHODOLOGY

In this chapter we present the research approach of this study closely followed by the research method and the arguments of choice. Finally, the methodological problems are discussed.

4.1   Research Approach

The aim of this study is to investigate to what extent the existing capital structure theories, as previously presented, is sufficient to explain the capital structure of Swedish SMEs. Our approach can thus be considered to be deductive (Saunders et al, 2003). Our thesis targets the Swedish Security Industry and thus assembles industry-specific empirical data. Although, with the industry being representative, the data should be a valid indication of the overall Swedish SME financing and therefore believed to contribute to the national field of capital structure research.

To match the criteria of generalisation our study consists of quantitative data, which is believed to bring a more objective vision of reality. A qualitative approach was considered and has been conducted in similar studies of Swedish SME's in the past (Cressy and Olofsson, 1997), but we question the reliability of that sort of data, especially due to the fact that we are not likely to have a high answering ratio. The likelihood that a questionnaire or an interview addresses a reliable person in possession of the specific knowledge requested is considered too low. Therefore, statistical data reviewed correctly represent a more trustworthy function of both management decisions and firm restrictions, thus, providing significant information that is more likely to be representative for Swedish SMEs in general.

4.2   *Research Method*

Our method of research is a close replica of the method used by Sogorb-Mira (2005) in his study of Spanish SME financing, and as previously discussed it uses quantitative data only. In the following paragraph the method of conducting the approached study is described in detail, further the collection process of the related data is presented.

4.2.1   The sample

The Swedish Security Industry might at first seem difficult to classify since there are different types of security firms dealing with different aspects of security. We have chosen to define the industry, and thus our sample for the regression analysis, according to the definition by the industry organisation SweSec. According to SweSec the Security Industry consists of four different sub-industries:

- *Alarm* (fire alarms, burglary alarms, surveillance alarms, etc)
- *Personal surveillance* (security guards, receptions, transportation of valuables etc*)*
- *Mechanical and electronic protection against intrusion* (locks, security doors, safes, gates etc)
- S*ecurity consulting* (risk management, security education, IT security etc)

The industry is therefore quite broadly defined. Although, the aim of SweSec is to intertwine the firms and organisations from the different sub-industries in order to help the industry provide full-integrated solutions for the clients, something for which there is an increasing demand (Peter Winberg, Aktuell Säkerhet 2006:5). The intention of SweSec is to provide a full-part solution for customers demanding a security product. Thus their intention well illustrates the fact that the affiliated firms are all recognised as part of the security system supplied. This clearly confirms that the firms associated with the industry organisation consequently reflect the market demand for security products, which we propose to be a well-suited definition of the Swedish Security Industry. In addition, the firm that are listed as members of SweSec are the same firms as those found in *Affärsdata* searching within the Swedish Security Industry. This further confirms the industry definition concluded by SweSec and is therefore accepted to constitute the sample for our regression analysis.

Consequently, our primarily sample consists of 170 companies delimited to a minimum of 5 and a maximum of 250 employees, which is the definition of an SME according to Cressy and Olofsson (1997)

and supported by the European Commission. Accounting data was provided for all companies, but 37 security firms were excluded since the database Affärsdata did not receive additional information during the last part of the research period. Thus our sample could be considered to partly suffer from survival bias due to the fact that our sample for regression analysis consists of active firms only. Firms that are on the verge of bankruptcy are not considered representative for the sample and are therefore excluded. In total, our final sample contemplated for the regression analysis consists of 133 firms (see Appendix 4).

4.2.2   The data

The underlying sample for the regression analysis consists exclusively of secondary data collected from the database *Affärsdata*. The data used for the regression consists of calculated key figures retrieved from the firms' 2002-2006 annual accounts. In order to adjust for outliers, the abovementioned 37 firms were removed from the sample, so the final data used in the regression constitutes a set of 532 observations.

4.2.3   Panel Data

The regression model is based on panel data or longitudinal data, being cross-sectional time series data where multiple cases are observed for more than one time period. Cross-sectional data reflects the differences between subjects and the time-series data reflects the differences over time. Panel data thus provides the information from both of these two one-dimensional methods and is considered to be a two-dimensional data set, allowing for economic activity, individual heterogeneity and time effects (Sogorb-Mira, 2005).

Regressions based on panel data, referred to as standard regressions, have proven to be efficient in previous studies on capital structure decisions (Petersen and Rajan, 1994; Gregory et al, 2005). Our study will therefore consist of a panel data regression as previously modelled by Sogorb-Mira (2005).

Variables

Considerably, it is of great importance to allow the economic and financial characteristic of firms to constitute the empirical hypothesises described in the previous chapter. However, that has never been an issue of controversy; The difficulty primarily emerges in the process of measurement, something which the capital structure theories has trouble specifying. Both Titman and Wessels (1988) and Harris and Raviv (1991) conclude that the issue of selecting dependent and explanatory variables that are relevant to hypothesis testing is never straightforward. Nonetheless, previous empirical findings can be considered to state the kind of objectivity that we attempt to follow in our research.

Dependent Variables

Our study seeks to explain the variables of SME capital structure. In order to financially measure the variable intended, the main dependent variable used is Total Debt Ratio (TDR) supported by Jordan et al, (1998) and Michaelas et al (1999) and defined as (Total Debt / Total Assets). However, researchers (Van de Wijst and Thurik, 1993; Chittenden et al, 1996; Barclay and Smith, 1999; Bevan and Danbolt, 2000a) abide that using TDR as dependent variable alone results in the assembling of all liabilities into one debt category and thus underestimates the differences between long-term and short-term debt. Empirical evidence from the above-mentioned researches clearly states that the separation is of great importance to the regression outcome. Therefore, in order to correct the measurement of the capital structure variable, this study intends to allow Long-term Debt Ratio (LDR) measured as (Long-term Debt / Total Assets) and Short-term Debt Ratio (SDR) defined as (Short-term Debt / Total Assets) to be additional dependent variables modelled in the regression. In conclusion, since our study is based upon the methodology of Sogorb-Mira (2005) we present the same dependent variables.

Variables	Description
Total Debt Ratio (TDR)	Total Debt / Total Assets
Long-term Debt Ratio (LDR)	Long-term Debt / Total Assets
Short-term Debt Ratio (SDR)	Short-term Debt / Total Assets

Table 4. Description of dependent variables.

Explanatory Variables

The explanatory variables have been determined with the support of numerous studies on capital structure. The empirical findings of Titman and Wessels (1988), Michaelas et al (1999), Hall et al (2000), Bevan and Danbolt (2000b), Fama and French (2002), and Sogorb-Mira (2005) has influenced the common praxis in the field of capital structure research. Altogether our research contains seven explanatory variables; the majority in accordance to Sogorb-Mira (2005) and the remaining explanatory variables based on Petersen and Rajan, (1994) Hall et al (2004) and Berger & Udell (1998). These are summarised in Table 3.

Variables	Description
Effective Tax Rate (ETR)	Taxes / EBT; where EBT denotes Earnings after interest and Before Taxes
Non-Debt Tax Shields (NDTS)	NDTS / Total Assets; where NDTS = Operating Income - Interest payments - (Observed federal income tax payments / Corporate tax rate) The corporate tax rate was estimated to 28% during the research period.
Growth Opportunities (GO)	Intangible Assets / Total Assets
Asset Structure (AS)	Tangible Assets / Total Assets
Size (S)	Natural logarithm of Total Assets
Profitability (P)	ROA = EBIT / Total Assets; where EBIT denotes Earnings Before Interest and Taxes
Age (AGE)	Natural logarithm of yeras since inception

Table 5. Description of explanatory variables.

The explanatory variable (ETR) has historically been defined in a similarly way (Sogorb-Mira, 2005; Kim and Sorensen, 1986; and Ozkan, 2000), thus constitute the measurement of effective tax rate in our thesis. The non-debt-tax-shields, however, is approached in various ways. Sogorb-Mira (2005) defines non-debt-tax-shields as interest deduction on depreciation, thus measured (NDTS) as (Depreciation / Total Assets). Titman and Wessels (1988) and Michaelas et all (1999), on the other hand, account for all non-debt-tax-shields by adjusting depreciation for deductions of additional non-debt interest payments, most importantly tax-carryback, tax-carryforwards and R&D. We use the latter version, which also supports the work of DeAngelo and Masulis (1980) for our study.

The variable growth opportunity (GO) is defined as the proportion of intangible assets in relation to total assets. Titman and Wessels (1988) and Michaelas et al (1999) support this definition and consider the amount of intangible assets a company is willing to invest to be a good measure of future growth prospects. The important factor to be stressed here is that it is assumed that firms report their investments in human or social capital as intangible assets.

The variable (AS) considers the amount of tangible assets as a proportion of total assets, supported by Michaelas et al (1999) and Bevan and Danbolt (2000a,b). Profitability (P) is determined as return on assets (ROA), defined as (Earnings Before Tax / Total Assets) (Michaelas et al, 1999; Fama and French, 2002).

Finally, the variables for size (S) and age (AGE) are taken into account. Noteworthy is that Sogorb-Mira omits the age variable in his study. Based on Petersen and Rajan (1994) and Hall et al (2004), we choose to consider age as a possible explanation of leverage. Size and age as explanatory variables are accounted for by taking the natural logarithm of total assets and years since the founding of the firm respectively. The natural logarithm could possibly reduce both non-linearity in the panel data and heteroscedasticity errors in the regression (Cardone and Cazorla, 2001; Fama and French, 2002).

Regression Model

The panel data regression was conducted in Eviews. All three dependent variables, reflecting the different perspectives of leverage, were combined with the seven explanatory variables, resulting in three autonomous regressions. The primarily regression function was composed as follows:

$$Y = \alpha + \beta_1 ETR + \beta_2 NDTS + \beta_3 GO + \beta_4 AS + \beta_5 \log(S) + \beta_6 P + \beta_7 \log(AGE) + \varepsilon$$

There exists a possibility that the primarily regression has to be restructured due to correlation problems. We constructed a correlation matrix in Eviews (presented in chapter 5), in order to be able to exclude the possible interplay effects between the variables. The matrix presented marginal correlation effects for the majority of the independent variables. However profitability (P) and non-debt tax shields (NDTS) presented a correlation as high as 0.80 and consequently, one of the two needed to be removed from the primarily regression to ensure the significance of the explanatory variables. The primarily performed

regression demonstrates that the variable of profitability is significant at 1% in all three regressions, while non-debt tax shields shows significance first at a 15 % level. In addition, the adjusted R-squared value increased as the explanatory variables (NDTS) was removed, signalling that the final constructed regression should be modelled without the variable of non-debt tax shields.

In conclusion, the motive for our regression study is hypothesis-testing. The explanatory variables together with their expected sign, provided from the hypothesis building in the previous chapter, are summarised in the table below.

Explanatory variable	Expected relation	Description
ETR (Effektiv Tax Rate)	+	Taxes / EBT
NDTS (Non-Debt Tax Shields)	-	NDTS / Total Assets
S (Size)	+	Intangible Assets / Total Assets
GO (Growth opportunities)	+	Tangible Assets / Total Assets
AS (Asset Structure)	+	Natural logarithm of Total Assets
P (Profitability)	-	ROA = EBIT / Total Assets
AGE (Age)	-	Natural logarithm of yeras since inception

Table 6. The expected relation of the explanatory variables.

4.3   Methodological Problems

When conducting a scientific study, the level of credibility is highly significant. The researchers should closely assess the method applied and thus be responsible for the empirical evidence contributed to the field of research. Saunders et al (2003) consider two main aspects when evaluating the approach of the study. *Validity* estimates the potential of the applicable method to measure what it was intended to measure. *Reliability* considers the potential of the method to deliver accurate and solid findings from the data provided. Therefore, by applying a reliable method the same outcome should repeat itself every time. Arguably, the two concepts can be seen obtaining the following relationship; validity delivers accuracy, whereas reliability delivers precision.

4.3.1   Validity

In order to consider the used method to be valid, the quantitative research strategy as well as the practice

of a deductive approach must produce truthful and correct data. Consequently, the secondary data is collected from the well-recognised database *Affärsdata* and consists of accounting data from four years of all SMEs in the Swedish Security Industry. Hence, the data source is judged to be valid. Also, the deductive method consists of hypothesis-testing derived from valid sources in the field of capital structure research.

Nevertheless, accounting data could often be considered to be static, with little or no possibility to measure changes during the year or nuances in managers' capital structure decisions, which in the end could carry a false perception of reality. On the other hand the methodology delivers objectivity and covers all firms in the industry, which is particularly preferable in an external study.

4.3.2 Reliability

A methodology based on a quantitative research approach has several aspects of reliability. Most importantly the main assumptions of the econometric analysis has to be fulfilled, but the data source and the panel data on which the regression is built also have to be considered as reliable.

Econometric methodology

All regression models completed in this study have been thoroughly tested for the assumptions underlying the regression analysis *Ordinary Least Squares* (OLS). The overall results for the three dependent variables (TDR), (LDR) and (SDR) indicate that the applied OLS method does not show obvious signs of miss-specification when accounting for non-serial correlated residuals and after adjusting for heteroscedasticity, multicollinearity and general specification errors.

The problem of serial correlated residuals is commonly found in regression analysis indicating that the residuals are correlated with their own lagged value. Noteworthy is that serial correlation is irrelevant for cross-sectional data. However, positive serial correlation for cross-sectional data could indicate the existence of other problematic factors holding negative affect on the regression results. A Durbin-Watson test was conducted, generating values with a range from 1.78 for (TDR) to 1.97 for both (LDR) and (SDR), indicating that there seems to be no apparent serial correlation. (Johnston and DiNardo, 1997). However, the Durbin-Watson test has its limitations. For instance the existence of a lagged variable on the right hand side of the regression equation could result in the test losing its validity. To overcome the limits of the test, the Breusch-Godfreys Lagrange Multiple test was conducted to test for higher order of serial correlation. The F-statistics (see Appendix 2) indicates insignificant results as far as up to four lags, testing on a 1% level, indicating no serious problems of serial correlation.

Furthermore, the regressions have been tested for heteroscedasticity through White's general heteroscedasticity test. The regressions are tested for ordinary standard errors and White's standard errors and yields equally significant level of the F-statistics. Additionally, T-statistics yield close to the same value corrected for White's standard errors as without modification and thus indicates the level of heteroscedasticity to be under control.

Multicollinearity was tested pair wise in a correlation matrix according to Pearson´s correlation specification and furthermore among all the independent variables through the Variance Inflation Factor (VIF). The outcome was considered to deviate enough from the limits of value.

Finally, to test for specification errors in the shape of i) autocorrelation ii) omitted variables and iii) inaccurate regression outline, Ramsey's Regression Specification Error Test (RESET) was consulted. Fitted variables up to Y^6 were added to test for significance at a 5% level, and the test returned low errors and could not prove the regression to be obviously miss-specified (Appendix 3).

The data source
The data source *Affärsdata* provided our study with the accounting data needed. Following the reasoning regarding validity above, the data source is judged to be reliable.

The regression data

The reliability of the regression data is determined both by the number of observations and by the characteristics of the regression variables used. The number of observations is 532 derived from the annual account of all SMEs in the reviewed industry in the period 2002-2006. The sample is rather small in comparison to other similar studies in the field e.g. Michaelas et al (1999) and Sogorb-Mira (2005) but since the sample constitutes the entire industry no additional observations are possible for the given time period. The applied regression variables are derived from the published study of Sogorb-Mira (2005), and supported by several additional capital structure researchers (Chittenden et al, 1996; Jordan et al, 1998 and Michaelas et al, 1999). Therefore, we did not find any evidence that the regression data or the variables used would be unreliable.

5   EMPIRICAL FINDINGS AND ANALYSIS

This chapter begins with a presentation of our empirical findings viewed in statistical tables. Thereafter, the results from our regression are presented and the main determinant factors of SME capital structure decisions are analysed and summarised upon.

5.1   *Descriptive statistics*

A review of our sample data generated the following descriptive statistics:

	TDR	LDR	SDR	ETR	NDTS	GO	AS	S	P	AGE
Mean	0,727	0,078	0,650	0,182	-0,037	0,003	0,187	22997	0,056	14
Median	0,743	0	0,662	0,212	-0,005	0	0,114	3333	0,079	12
Maximum	2,532	1,830	1,916	0,225	0,749	0,180	0,842	1679163	0,836	65
Minimum	0,041	0	0,041	-0,104	-1,616	0	0	14	-1,563	0,9
Observations	530	530	530	530	530	530	530	530	530	530

Table 7: A primarily table of the descriptive statistics.

From the table above, we gather that the average TDR for the sample is 73%. An interesting aspect is that the average firm possesses 65% short-term debt and only 8% long-term debt. The median LDR indicates that at least every second firm in the sample holds no long-term debt. Both these arguments suggest that the sample firms rely heavily on short-term debt to finance their operations, thus supporting H8. Sogorb-Mira (2005) showed that Spanish SMEs possess similar high levels of debt financing, 61% Total debt, 9% long term and 52% short term.

The average effective tax rate is 10% lower than the Swedish corporate tax of 28%. The mean rate is, however, higher than the median suggesting that several firms pay close to the actual corporate tax of 28%, since the minimum value indicates that some firms pay very low taxes or no taxes at all.

The average firm size, as measured by total assets, is SEK 33 million, ranging from SEK 14 million to SEK 1.7 billion. For the asset structure, we find that the average portion of intangible assets is close to 0% of total assets, although presenting a maximum value of 18%. These results are significantly lower than the findings of Sogorb-Mira (2005) where the average is 3%. The average portion of tangible assets for our study is 19% of total assets compared to 44% from Sogorb-Mira (2005). We therefore find that Swedish SMEs in the Security Industry have a significantly higher portion of Current Assets than for Sogorb-Mira's (2005) sample. We argue that the non-cyclicality of the industry is a reason behind the high ratio of current assets. The uncertainty causes the firms not to tie up their assets in order to be flexible as the market demand rapidly changes. Another reason could be that Swedish creditors demand the sample firms to have a higher current asset ratio than their Spanish counterparts, in order to offer beneficial debt funding terms.

The average firm in our sample is 14 years old, ranging from newly started firms to 65 year old firms. With such a big range, we believe age (AGE) to be a suitable explanatory variable for the capital structure decision.

The average return on assets over the period is 6%, ranging from -156% to 83%. The sample used by Sogorb-Mira (2005) shows a higher average profitability of 10%. We do not find it surprising that our sample is less profitable, considering the rapid changes within the industry during the last decade. Restructurings and the entering of new firms, due to a shift in capabilities required, will affect the profitability figure in the short run and can therefore be seen as one of the main reasons for the difference.

5.2 *Correlation Matrix*

The sample data is structured as a correlation matrix according to Pearson´s correlation specification.

	TDR	LDR	SDR	ETR	NDTS	GO	AS	S	P	AGE
TDR	1									
LDR	0.41	1								
SDR	**0.81**	-0.20	1							
ETR	-0.03	-0.12	0.04	1						
NDTS	-0.29	-0.27	-0.14	0.01	1					
GO	0.13	0.05	0.11	-0.01	-0.12	1				
AS	0.05	0.35	-0.18	-0.06	-0.13	0.14	1			
S	-0.07	0.03	-0.10	0.01	0.03	0.02	0.31	1		
P	-0.37	-0.29	-0.22	0.04	**0.80**	-0.12	-0.17	-0.01	1	
AGE	-0.11	0.08	-0.16	0.03	0.07	-0.09	0.20	0.23	0.11	1

Table 8. Correlation Matrix

We observe that the majority of the correlation coefficients are not sufficiently high to cause correlation problems affecting our regression results. The high correlation between LDR and SDR respectively and TDR are self-explanatory and our sample firms mainly employ short-term debt explaining why there is greater correlation between SDR and TDR than between LDR and TDR, which also is consistent with Sogorb-Mira (2005). Since all three variables are dependent variables, meaning that there is only one of the three present in each regression, the high correlation between them will not have an effect on the results.

As previously discussed, the explanatory variable non-debt tax shields (NDTS) is removed from the final regression equation due to the high correlation with profitability, as seen in the matrix above. In addition, we find that there is a rather high correlation between size and age, something which is not surprising, assuming that firms grow over time. Since both these variables are independent, their correlatio will have an effect on the outcome of the regression. However, since the model can be considered as robust, referring to the tests conducted and confirmed in the methodological chapter, and due to the fact that the correlatio effect is not extremely large, we have chosen to ignore it rather than dropping one of the variables or other remedies to the correlation problem Brooks (2002).

5.3   The Regression

Due to some correlation problems we omit the explanatory variable (NDTS) in the final regression model, as shown below:

$$Y = \alpha + \beta_1 ETR + \beta_2 GO + \beta_3 AS + \beta_4 \log(S) + \beta_5 P + \beta_6 \log(AGE) + \varepsilon$$

The regression yielded the following results (for the entire regression results see Appendix 1):

	TDR	LDR	SDR
ETR	-0.004 (-0.50)	-0.012 (-1.37)	0.007 (1.41)
GO	1.311 (2.66)*	-0.207 (-0.56)	1.521 (3.44)*
AS	-0.039 (-0.61)	0.266 (6.52)*	-0.306 (-5.40)*
S	0,001 (1.52)	-0.004 (-0.71)	0.018 (2.19)**
P	-0,412 (-5.18)*	-0.155 (-3.24)*	-0.257 (-4.10)*
AGE	-0,043 (-2.59)*	0.003 (0.39)	-0.046 (-2.91)*
Adj R^2	0.1509	0.1774	0.1172
F-statistics	16.71 (0.0000)	20.02 (0.0000)	12.73 (0.0000)
Observations	532	532	532

Table 9. Regression Results.

* Statistically significant at 1% ** Statistically significant at 5%

Dependent variables: TDR: Total debt ratio LDR: Long-term debt ratio SDR: Short-term debt ratio.

Explanatory variables: ETR: Effective tax rate NDTS: Non-debt tax shields GO: Growth opportunities AS: Asset structure S: Size P: Profitability

It is noteworthy that our sample group is limited to one industry in a country whereas Sogorb-Mira investigates one entire country. The great difference in sample sizes will therefore affect the outcome of the study. It is therefore not surprising that we cannot match the number of variables in his study being significant at 1%. We find that 50% of our variables are significant at 1% and 56% at 5% whereas Sogorb-Mira has 83% of his variables significant at 1% and the remaining at 5%.

The F-statistics of each dependent variable regression confirms that at least one independent variable, and probably more, can explain the dependent variable. However, the R-squared analysis suggests that only a small part of the capital structure decision can be explained by the models. The R-squared does, however, generate significantly higher values than Sogorb-Mira (2005) showing that the independent variables explain the outcome of the dependent variable to a larger extent in our study.

5.4   Regression results

Our regression indicates a weak positive relation between ETR and SDR, as suggested by Modigliani and Miller's (1963) H1, representing that there should be a positive relation between ETR and debt due to the tax deductibility of interests. However, due to the negative relation between ETR and LDR, there is a slight negative relation between ETR and TDR indicating that HI should be rejected. Our regression results do support Sogorb-Mira (2005) as well as the argument presented by Myers. The latter states that the relative tax levels of corporate tax, the tax imposed on income of dividends and the tax imposed on the income of interest inflows influences the value of the firm and that the individual tax rates has no impact, neither on the value of the firm, nor the debt levels (Myers, 1977). We conclude that for our sample there is barely any relation between ETR and debt so that Petit and Singer's (1985) null-hypothesis, suggesting that SMEs are less likely to be profitable enough to take advantage of the tax shield, can be accepted.

Yet another reason for the weak relation between ETR and TDR could be that the sample firms do not necessarily use debt to reduce their ETR. Instead they could use the Non-Debt Tax shields suggested in H2 to reduce their interest payments. Michaelas et al (1999) investigate this alternative but do not find statistically significant results at a 5% confidence level. Jordan et al (1998) suggest that taxes only affect debt through their effect over retained earnings. But from the negative mean and median for Non-Debt Tax Shields shown in the table above, we find that the companies are not fully exploiting their tax shields. This would support the findings of DeAngelo and Masulis (1980) who suggest that Non-Debt Tax Shields are negatively related to debt. However, turning to our regression model, we found that the correlation between non-debt tax shields and profitability was too strong and that the variable (NDTS) was excluded from the regressions due to its lower significance levels.

Our regression marginally supports our third hypothesis, suggesting that firm size should be positively related to debt, but the significance of the TDR regression is weak. The reason behind the observed positive relation is, among others, the higher probability of bankruptcy making smaller firms less motivated to have high leverage (Titman, 1984; Jensen and Meckling, 1976; Myers, 1984) and that larger firms generally are more diversified than smaller firms and therefore tend to fail less often (Warner, 1977; Ang et al, 1982; Petit and Singer, 1985). Sogorb-Mira (2005) argues that larger firms can hold higher levels of debt due to their higher bargaining power towards creditors.

For hypothesis 5a, we find quite the opposite to what the hypothesis suggests, since our regression results in a negative relation between long-term debt and firm size. This part of the regression is, however, not significant enough to clearly prove the opposite statement of the hypothesis. The most interesting aspect of firm size is that our sample returns a very strong positive relation between firm size and SDR, statistically significant at 5%. This is the opposite of what Warner (1977), Ang et al (1982), Titman & Wessels (1988), Bevan & Danbolt (2000a) and Hall et al (2000) suggested for hypotheses 5b. Hence, this result does not support the fact that small firms are more dependent on short-term debt than are large firms, caused by the maturity restrictions from the debtors and the fear of risk-shifting. Instead our regression, to some extent, supports the empirical evidence from Berger and Udell (1998) stating that also young firms have the possibility to exploit external debt from financial institutions.

Investigating the growth opportunities our study clearly shows that there is a positive relation between growth opportunities and debt, as suggested by Michaelas et al (1999), Sogorb-Mira (2005) and Brealey-Myers (1991), so H4 is accepted. Additionally, the findings of Michaelas et al (1999), concerning the maturity aspect of growth opportunities – a positive relation between long-term debt and growth opportunities and a negative relation between short-term debt and growth opportunities – are supported. We therefore accept both 4a and 4b whereas Sogorb-Mira rejected both. We conclude that risk-shifting does have a great influence on the cost of debt since the debt-holder stands a higher risk financing growth firms, This as a direct cause of the fact that they only attain a fixed return, no matter of the financial outcome of the investment. Therefore, our sample firms seems to be dependent on short-term debt to finance their growth opportunities.

The underinvestment problem among SMEs is also supported by our regression results, which can be seen as a confirmation of the growth characteristics of the industry since the underinvestment problem is more apparent in firms with strong growth opportunities (Jensen and Meckling, 1976). Since managers create dead-weight costs of debt financing by prioritising their own interests over investment opportunities, the underinvestment problem will lead to less exploitation of profitable growth opportunities and thus less debt is taken on.

The positive relation between firm leverage and asset tangibility is not supported by our study, so H6 must be rejected. Instead we have a negative relation, which is not statistically significant for our sample, although we do lean on the findings of Berger and Udell (1998), stating that small businesses do exploit external debt from financial institutions even though they possess a small portion of tangible assets. Our results also indicate what Ang et al (1992) presented, arguing that the owners' private economic situation and the firm's economic situation are so strongly intertwined that the asset structure of the firm will not affect the debt levels.

However, we find strong evidence supporting H6a and the arguments of van der Wijst (1989), van der Wijst and Thurik (1993), Chittenden et al (1996), Hall et al (2000) and Sogorb-Mira (2005), suggesting that firms try to match the maturities of assets to the maturities of liabilities. It should therefore be important for SMEs to invest also in non-current assets in order to attain such matching effects through the possibility of attaining long-term debt.

One of the more important explanatory factors for leverage is firm profitability with its negative influence on leverage. We gather that there is a strong negative correlation between profitability and debt, supporting H7. For our study, this explanatory variable is one of the most statistically significant variables, thus supporting the Pecking Order Theory, as presented by Myers (1984) and Myers and Majluf (1984), stating that firms with superior performances will satisfy their financing needs through retained earnings. Although, were they forced to turn to external financing, debt financing would be preferable to equity financing. Our results further support the statement that managers for SMEs will try to avoid using equity financing in order not to lose control through the equity dilution effect, since they are also assumed to be shareholders, supporting Holmes and Kent (1991) and Hamilton and Fox (1998). However, our results oppose the suggestion by Ross (1977)

and Poitevin (1989), stating that profitable firms would have higher leverage due to their advantageous opportunity to obtain cheap external financing based on their ability to reduce their financial risk.

Since SMEs try to choose a financing alternative that enables managerial flexibility and corporate control, SMEs should predominantly employ short-term debt that excludes restricted covenants, as stated in H8. Our descriptive results support this hypothesis, but we must not forget the possibility that these results instead are explained through the lack of supply of long-term finance rather than managerial choice.

Petersen & Rajan (1994), Michaelas et al (1999) and Hall et al (2004) suggest that firm age is an important factor when determining the capital structure, something not included in Sogorb-Mira's (2005) study. In our study, SDR clearly supports the negative relation between age and leverage, whereas LDR shows a smaller positive relation between the two. However, TDR shows a statistically significant negative relation and H9 can therefore be accepted. The reason behind the findings is often explained through the inability of young companies to finance their operations through retained earnings and that they are therefore forced to move down the pecking order theory and turn to external financing. Hence, our results do not support Ogden et al (2003) stating that since operational risk decreases with firm age, younger firms should have higher operational risk and consequently higher financial risk leading to more expensive debt alternatives and thus lower leverage.

5.5 The Financial gap

Since not all hypotheses in our study are accepted and further that the R-squared of the regressions shows that we cannot fully explain the debt levels of our sample firms, there are several others factors influencing the capital structure decision. These factors, which are not investigated nor defined in this thesis, suggest that there is a discrepancy between theory and empirical results. Assuming that financial theory cannot fully explain these factors for the sample firms, we assume information asymmetry between the sample firms and the financial industry leading to the risk of a financial gap.

There are a few key characteristics derived from our results to be stressed within the industry, in order to mitigate the possible financial gap. According to the significance of the maturity-matching principle, if the firms are looking to turn to more long-term debt they will be forced to invest in more long-term assets to satisfy the demands from the supply side. In such a high-risk industry undergoing restructuring, the demand side must undertake certain actions in order to meet the supply. On the other hand, one could easily argue that the creditors should have more trust in the Security Industry due to its tradition and structure. The argument comes down to the core definition of the industry characteristics mentioning that it is an old and well-established industry that still has the high-risk of a new industry due to the growth opportunities and thus the recent restructuring. With these characteristics it is not surprising that a certain amount of information asymmetry arises as the creditors will perceive the industry as more high-risk than the industry itself. One the other hand, one would expect the creditors to have an immense knowledge of the old industry and to be able to fully estimate the risk-levels of the industry and the individual companies, meaning that the extent of information asymmetry is somewhat surprising.

5.6   Summary

To sum up our empirical findings and analysis, we provide an overview of the outcome for each of our hypotheses below.

Effective tax rate seems to have a weak positive relation on short-term debt levels and a negative relation on long-term and total debt levels for our sample. Due to the low significance level, the null-hypothesis based on Petit and Singer (1985) is supported. The primary reason behind these findings is that SMEs are not likely to be profitable enough to fully exploit the tax shields resulting from high debt levels.

Firm size also shows a weak but significant positive relation with debt as suggested by our third hypothesis. This supports the higher probability of bankruptcy and the bankruptcy-associated costs of SMEs which demotivates small firms from high leverage.

Growth opportunities appear to have a strong positive relation on debt and our fourth hypothesis is accepted. We can also accept the positive influence on long-term debt and negative influence on short-term debt so 4a and 4b can be accepted. This is explained through the high presence and influence from risk-shifting and the underinvestment problem experience by our sample firms, implying that they are dependent on short-term debt to finance their growth opportunities.

Asset tangibility does not appear to have a negative effect on leverage and H6 must therefore be rejected. Nevertheless, our study shows strong evidence supporting the maturity matching principle and H6a can be accepted. It is therefore of high importance for our sample firms, when submitting to this principle, to invest in tangible assets in order to obtain long-term debt.

Profitability does show a strong negative relation to leverage and H7 can be accepted, thus supporting the pecking order theory. The existence of retained earnings from the profits appears to have a strong effect on leverage since managers are able to maintain control by using internal financing rather than external.

Age also appears to be a determining variable since there is a negative relation between age and leverage and H9 can be accepted. The explanation to these findings is that younger firms are less able to use retained earnings to finance their operations. Consequently, they are forced to move down the pecking order hierarchy to external financing.

6   CONCLUSIONS AND FURTHER RESEARCH

In this chapter, we present our conclusions based upon the analysis presented in the previous question and link our empirical findings to the theoretical framework, as stated in our purpose.

6.1   Conclusion

The purpose of this thesis was to investigate whether existing capital structure theories are applicable to Swedish SME financing by ascertaining the main determinable factors for Swedish SMEs. The thesis focuses on the Swedish Security Industry for a number of reasons that are found appealing to the authors. First of all, the industry is a traditional and well-developed industry, but it still experiences high growth and currently in a restructuring phase due to technological advancements. This is interesting from a capital structure perspective since the industry is not only characterised by start-up investments, nor does it constitute of firms experiencing sustainable growth and conservative capital structures. Instead the high-technological and knowledge-based industry possesses the high risk profile of a new industry due to its current development. Secondly, the industry is highly dependent on SMEs and the bigger players are not dominating the industry. These characteristics suggest the industry to be representative for Swedish SMEs in general.

The outcome of the study suggests that growth opportunities, profitability and age are the most important determinable factors for the capital structures for our sample. Firm size only shows a small explanatory result while the effective tax rate and the asset tangibility do not seem to influence the capital structure decisions. The maturity matching principle is considered significant, concluding that SMEs in the Swedish Security Industry attempt to match their cash flow attained from assets with that of their obligations. The pecking order theory is the foundation of theoretical framework and does apply well to our sample, partially due to high level of experienced information asymmetry and agency costs but also due to the experienced control-loss aversion. Our results do not support the existence of the collateral hypothesis.

The most significant determinable factor for our sample is growth opportunities, a factor which especially has a strong influence on SDR. This must be considered one of the most interesting findings of the study since it clearly supports the industry being characterised by restructuring, which has apparent effects on the capital structure decision. It is most satisfying to conclude that the growth opportunities could explain the debt levels to a large extent, since it was one of the strongest reasons for choosing the industry.

The study therefore confirms a large extent of the theoretical framework from which the hypotheses were taken, but the theoretical framework cannot fully explain the capital structure decision for our sample. Our R-squared value suggests that there are several others factors influencing the capital structure decision, factors which have not been discussed in this thesis. This suggests that the existing theories cannot fully explain the capital structure decision. Nonetheless, the R-squared for our study is higher than the R-squared for Sogorb-Mira's study (2005). Still, with a discrepancy between theory and empirical results, we assume there to be an information asymmetry between creditors and the industry.

Assuming information asymmetry, we perceive the existence of a financial gap. There are however clear indications on how to mitigate this gap. On the demand side, the firms in the industry are forced to follow the claims from the creditors by submitting to the maturity matching principle and investing in long-term assets. The supply side is more complicated since the risk perception from creditors is more difficult to influence. The industry will argue that they are mature firms in healthy financial conditions and that they are currently experiencing growth which only has positive effects, whereas the financial industry is likely to view the expansion solely as a higher-risk investment.

6.2   Recommendations for further research

With relatively low R-squared values, although they are higher than our template (Sogorb-Mira, 2005), the study cannot be considered complete. A common suggestion for higher accuracy would be to stretch the study to include a longer time period. This would adjust for possible macroeconomic influences. However, for our sample, we believe this improvement to be limited; the study would rather lose significance if the time period were to include data from years before the recent changes took place. Secondly, the industry is considered not to follow the overall economic cycle but rather a relatively undefined cycle based on a certain category of events. Those events are to be considered historic events rather than economic events and since history is not cyclical in the same sense, they are very hard to adjust for. Therefore we believe that the time period could only be extended to a few more years.

For the generalising purpose, the study could obviously be extended to include other industries or the same industry in other geographical regions. Comparing the results from the Swedish Security Industry with the Security Industries of other countries would be an interesting topic, especially if the results were to be adjusted for country-specific factors that affect all firms in the given countries.

The final suggestion would be to undertake a thorough qualitative study of the industry to support the results. In order for this qualitative study to be of any value, we find that a large amount of time would have to be spent in the industry and with several firms as well as on within the financial industry. Since the quantitative study is thorough, a brief questionnaire or a few interviews would cause more methodological problems than the explanatory significance they would contribute with. The result of a thorough qualitative study would not necessarily lead to a full explanation of the purpose of the thesis, but could probably give a better understanding of the extent of the information asymmetry and thus a better estimation of the potential financial gap.

7   REFERENCES

7.1   Published References

Ang, J. S. (1992) "On the Theory of Finance for Privately Held Firms", *The Journal of Small Business Finance*, 1(3), 185-203.

Ang, J. S., Chua, J. H. and McConnell, J. J. (1982) "The Administrative Costs of Corporate Bankruptcy: A Note", *The Journal of Finance*, 37(1), 219–226.

Baker, S.H. (1973), "Risk, leverage and profitability: an industry analysis", *Review of Economics and Statistics*, Vol. 55 pp. 503-7.

Barclay, M. J. and Smith, C. W. Jr. (1999) 'The Capital Structure Puzzle: Another Look at the Evidence', *Journal of Applied Corporate Finance*, 12(1), Spring, 8–20.

Berger, A.N., and Udell, G.F. (1998) "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle*", Journal of banking and Finance*, 22, pp. 873-897.

Bevan, A..A. and Danbolt, J. (2000a) "*Capital structure and its determinants in the United Kingdom–A decompositional analysis*", Mimeo, 2000/2, Department of Accounting and Finance, University of Glasgow.

Bevan, A. A. and Danbolt, J. (2000b) "*Dynamics in the determinants of capital structure in the UK*", Mimeo, 2000/9, Department of Accounting and Finance,   University of Glasgow.

Brealey, R. A. and Myers, S. C. (1991) "*Principles of Corporate Finance*", 4th   edition, New York: McGraw–Hill.

Booth, J. R, Cornett, M. and Tehranian, H. (2002) "Boards of directors, ownership, and regulation" *Journal of Banking & Finance* 26(10) pp. 1973-1996

Brooks, C (2002), "*Introductory Econometrics for Finance*", Cambridge University Press.

Cardone R.C. and Cazorla, L. P. (2001) "*New Approaches to the Analysis of the   Capital Structure of SMEs: Empirical Evidence from Spanish firms*", Working Paper 01–10, Business Economics Series 03, January, Universidad Carlos III de Madrid.

Champion, D. (1999), "Finance: the joy of leverage", *Harvard Business Review*, Vol. 77 No.4, pp.19-22.

Chaplinsky, S. and Niehaus, G. (1990) "*The determinants of inside ownership and leverage*" Working paper, University of Michigan.

Chittenden, F., Hall, G. and Hutchinson, P. (1996) 'Small Firm Growth, Access to Capital Markets and Financial Structure: Review of Issues and an Empirical Investigation', *Small Business Economics*, 8, pp. 59–67.

Cressy, R.. and Olofsson, C. (1997) "The Financial Conditions for Swedish SMEs: Survey and Research Agenda". *Small Business Economics*, Vol. 9, No. 2.

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

Fama, E. F. and French, K. R. (1998) "Taxes, Financing Decisions, and Firm Value" *Journal of Finance*, 53(3) pp. 819-843

Fama, E. F. and French, K. R. (2002) "Testing trade–off and Pecking Order Predictions About Dividends and Debt", *The Review of Financial Studies*, 15(1), pp. 1–33.

Friend, I. and Lang, L. H. P. (1988) "An Empirical Test of the Impact of Managerial Self-Interest on Corporate Capital Structure" *Journal of Finance* 43(2), pp. 271-281.

Gregory, B.T., Rutherford, M.W., Oswald, S. and Gardiner, L. (2005) "An Empirical Investigation of the Growth Cycle Theory of Small Firm Financing", *Journal of Small Business Management,* 43(4), pp. 382-392.

Hadlock, C.J. and James, C.M. (2002), "Do banks provide financial slack?", *The Journal of Finance*, Vol. 57 pp. 1383-420.

Hall, G., Hutchinson, P. and Michaelas, N. (2000) "Industry Effects on the Determinants of Unquoted SME′s Capital Structure", *International Journal of the Economics of Business*, 7(3), pp. 297–312.

Hall, G., Hutchinson, P.J. and Michaelas, N. (2004) "Determinans of the Capital Structures of European SMEs", *Journal of Finance & Accounting*, 31(5 and 6), pp. 711-728.

Hamilton, R. T. and Fox, M. A. (1998) "The Financing Preferences of Small Firm Owners", *International Journal of Entrepreneurial Behaviour & Research*, 4(3), pp. 239–248.

Harris, M. and Raviv, A. (1990) "Capital Structure and the Informational Role of Debt", *The Journal of Finance*, 45(2), pp. 321–349.

Harris, M. and Raviv, A. (1991) "The Theory of Capital Structure", *The Journal of Finance*, 46(1), pp. 297–355.

Hogan, T. and Hutson, E. (2005) "Capital structure in new technology-based firms: Evidence from the Irish software sector", *Global Finance Journal*, 15, pp.369-387.

Holmes, S. and Kent, P. (1991) "An empirical analysis of the financial structure of small and large Australian manufacturing enterprises", *The Journal of Small Business Finance* 1(2), 141–154.

Hyytinen, A. and Pajarinen, M. (2005) "Financing of technology-intensive small businesses: some evidence on the uniqueness of the ICT *sector", Information Economics and Policy*, 17, pp.115-132.

Hyytinen, A. and Toivanen, O. (2005) "Do financial constraints hold back innovation and growth? Evidence on the role of public policy". *Research Policy*, 34, pp.1385-1403.

Jacob, M., Johansson, M., Hellström, T., Iversen, E., Kutinlahti, P., Munk, K.B., Knudsen, L.G. and Wennerberg, S.B. (2003) "*SMEs and the new role of academic research in four Nordic countries*". Nordic Innovation Center.

Jordan, J., J. Lowe and P. Taylor (1998) "Strategy and Financial Policy in UK Small Firms", *Journal of Business Finance & Accounting* 25 (1&2), 1-27.

Jensen, M. C. and Meckling W. (1976) "Theory of the firm: Managerial behavior, agency costs, and capital structure*, Journal of Financial Economics*, 3, 305-360.

Johnston, J. and DiNardo, J. (1997) Econometrics Methods, 4th edition, McGraw-Hill

Kester, C. W (1986) "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Corporations" *Financial Management* 15(1), pp. 5-17

Kim, W.S. and Sorensen, E.H. (1986) "Evidence on the Impact of the Agency Costs of Debt on corporative Debt Policy", *Journal of Financial and Quantitative Analysis*, 21(2), pp. 131-144.

Klamer, Arjo (1983) *"Conversations with Economists"*, Totowa: Rowman and Allanheld

Landström, H. (red) (2003) "*Småföretaget och kapitalet: Svensk forskning kring små företags finansiering*". SNS förlag.

Long, M. and Malitz, I. (1985) "The investment-financing nexus: Some empirical evidence", *Midland Corporate Finance Journal*, 3, pp. 53-59.

Mesquita, J.M.C. and Lara, J.E. (2003), "*Capital structure and profitability: the   Brazilian case*", working paper, Academy of Business and Administration Sciences Conference, Vancouver, July 11-13.

Meyer, K., Skak, A. (2002), "Networks, serendipity and SME entry into Eastern Europe", *European Management Journal*, Vol. 20 No.2, pp.179-88.

Michaelas, N., Chittenden, F. and Poutziouris, P. (1999) "Financial Policy and Capital Structure Choice in UK SMEs: Empirical Evidence from Company Panel Data"*, Small Business Economics* 12, pp.113–130.

Modigliani, F. and Miller, M. H. (1958) "The Cost of Capital, Corporation Finance and the Theory of Investment", *The American Economic Review* 68(3), pp. 261–   297.

Modigliani, F. and Miller, M. H. (1963) 'Corporate Income Taxes and the Cost of Capital: A Correction', *The American Economic Review* 53(2), pp. 33–443.

Miller, M. H. (1977), "Debt and Taxes", Journal of Finance, May 1977, pp. 261-276

Miller, M. H. and Scholes, M. S. (1978) "Dividends and taxes" *Journal of Financial Economics* 6(4), pp. 333-364

Myers, S. C. (1977) "Determinants of Corporate Borrowing*", Journal of Financial Economics* 5, pp. 147–175.

Myers, S. C. (1984) "The Capital Structure Puzzle" *The Journal of Finance* 39(3), pp. 575-593

Myers, S. C. and Majluf, N. S. (1984) "Corporate Financing and Investment Decisions when Firms have Information that Investors do not have", *Journal of Financial Economics* 13, pp. 187–221.

Nerlove, M. (1968), "Factors affecting differences among rates of return on investments in individual common stocks", *Review of Economics and Statistics*, Vol. 50 pp.312-31.

Ogden, J.P., Jen, F.C. and O´Connor, P.F. (2003) "*Advanced Corporate Finance, Policies and Strategies*", Pearson Education Inc., Upper Saddle River, New Jersey, 07458.

Ozkan, A. (2000) "An Empirical Analysis of Corporate Debt Maturity Structure", *European Financial Mangement*, 6(2), pp.197-212.

Petersen M.A., Rajan, R.G. (1994) "The benefits of lending relationships: Evidence from small business data", *The Journal of Finance*, 49(1), pp. 3-38.

Pettit, R. and Singer, R. (1985) "Small Business Finance: A Research Agenda", *Financial Management*, 14(3), pp. 47–60.

Poitevin, M. (1989) "Financial signaling and the 'deep-pocket' argument", *Rand Journal of Economics*, 20, pp.26-40.

Rajan, R.G and Zingales, L. (1995) "What do we know about capital structure? Some evidence from international data" *The Journal of Finance* 50(5), pp. 1421-1461

Roden, D.M., Lewellen, W.G. (1995), "Corporate capital structure decisions: evidence from leveraged buyouts", *Financial Management*, Vol. 24 pp.76-87.

Ross, S. (1977) "The determination of financial structure: The incentive signaling approach", *Bell Journal of Economics*, 8, pp.23-40.

Saunders, M., Lewis, P. and Thornhill, A. (2003) "Research Methods for Business Students", third edition, Edinburgh Gate Harlow: Pearson Education Limited.

Schwartz, E. and Aronson, J.R. (1967) "Some surrogate evidence in support of the concept of optimal financial structure", *The Journal of Finance*, 22(1), pp. 10-18.

Scott, J. H. Jr. (1977) "Bankruptcy, Secured Debt, and Optimal Capital Structure", *The Journal of Finance*, 32, pp. 1–19.

Sogorb-Mira, F. (2005) "How SME Uniquness Affects Capital Structure: Evidence From A 1994-1998 Spanish Data Panel*", Small business Economics* , 25, pp. 447-457.

Taub, A.J. (1975), "Determinants of the firm's capital structure", *The Review of Economics and Statistics*, Vol. 57 pp. 410-6.

Titman, S. (1984) "The Effect of Capital Structure on a Firm's Liquidation Decision" *Journal of Financial Economics*, 13(1), pp. 137-152

Titman, S. and Wessels, R. (1988) "The determinants of Capital Structure Choice", *The Journal of Finance*, 43(1), pp.1-19.

Van der Wijst, D. (1989) "*Financial structure in small business. Theory, tests and applications*", Lecture notes in economics and mathematical systems, vol. 320, New York: Springer-Verlag.

Van der Wijst, N. and Thurik, R. (1993) "Determinants of Small Firm Debt Ratios: An Analysis of Retail Panel Data", *Small Business Economics*, 5, pp. 55–65.

Wald, J. (1999) "Capital structure with dividend restrictions" *Journal of Corporate Finance* 5(2), pp. 193-208.

Warner, J. B. (1977) "Bankruptcy Costs: Some Evidence", *The Journal of Finance* 32(2), pp. 337–347.

Zingales, L. (2000) "In search of new foundations", *The Journal of Finance* 55(4)**,** pp. 1623-1653.

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7.2   *Databases*

Affärsdata (www.affarsdata.se)
   Accesssed on April 29, 2008

7.3   Internet references

Assa Abloy

    Assa Abloy 2007 Annual Report

    www.assaabloy.se

    Accessed throughout May 2008

European Commission (www.ec.europa.eu)

    Accessed throughout May 2008

Gunnesbo (www.gunnesbo.se)

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OECD (www.oecd.org)

    Accessed throughout May 2008

SweSec (www.swesec.se)

    Accessed throughout April and May 2008

8 APPENDICES

8.1 Appendix 1: Regression Results

Dependent Variable: TDR
Method: Least Squares
Date: 05/26/08   Time: 08:57
Sample: 1 532
Included observations: 531
White Heteroskedasticity-
Consistent Standard Errors &
Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETR	-0.0043754025034184	0.00869963058808686	-0.502941183434848	0.615216946483739
GO	1.31058234710173	0.49328724753292	2.65683403261761	0.00812839237439136
AS	-0.0394805104650193	0.064275248202885	-0.6142412759014	0.539322490574898
LOG(S)	0.0141876367575056	0.00932603686350849	1.52129323153545	0.128789454320503
P	-0.412345207899565	0.0796798341945929	-5.17502592804777	3.25162886436064e-07
LOG(AGE)	-0.0426762862370548	0.0164891945149407	-2.58813650347725	0.00991749467223605
C	0.736482748307852	0.0723134569945854	10.1845877505621	2.38776046077381e-22

R-squared	0.160580300784585	Mean dependent var	0.727646371598704	
Adjusted R-squared	0.150968624839371	S.D. dependent var	0.268837144820607	
S.E. of regression	0.247714337593584	Akaike info criterion	0.0600139553577234	
Sum squared resid	32.1538939579003	Schwarz criterion	0.116366750364679	
Log likelihood	-8.93370514747557	F-statistic	16.7067951208377	
Durbin-Watson stat	1.79103977214966	Prob(F-statistic)	1.12644971878458e-17	

Dependent Variable: LDR
Method: Least Squares
Date: 05/26/08   Time: 09:04
Sample: 1 532
Included observations: 530
White Heteroskedasticity-
Consistent Standard Errors &
Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETR	-0.0118129097369223	0.00859479515143034	-1.37442597860595	0.169898111681337
GO	-0.207076429124056	0.367381993971421	-0.563654268641605	0.573231038815668
AS	0.266054467764725	0.0408040032984113	6.52030306484865	1.65567892662477e-10
LOG(S)	-0.0037599617962548	0.0053141068454119	-0.707543507425027	0.479543948260258
P	-0.155359646215616	0.0478985463937443	-3.24351484361343	0.00125603901928655
LOG(AGE)	0.00299158734659992	0.00767201871015573	0.389934834574875	0.696743481879172
C	0.0636893407143169	0.0479127410322048	1.32927775247732	0.184335901276914

R-squared	0.186776944798024	Mean dependent var		0.0776964997501831
Adjusted R-squared	0.177447426000296	S.D. dependent var		0.160622739061332
S.E. of regression	0.145676285926109	Akaike info criterion		-1.00174005899015
Sum squared resid	11.0988864870809	Schwarz criterion		-0.945305834375388
Log likelihood	272.461115632389	F-statistic		20.0199976920038
Durbin-Watson stat	1.97413008592938	Prob(F-statistic)		4.12821141804314e-21

Dependent Variable: SDR
Method: Least Squares
Date: 05/26/08   Time: 09:04
Sample: 1 532
Included observations: 531
White Heteroskedasticity-
Consistent Standard Errors &
Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETR	0.00746828699529755	0.00529635350061153	1.4100809159425	0.159109077635971
GO	1.52063291113141	0.441725229181207	3.44248598602821	0.000622475634195516
AS	-0.305828343878138	0.0566781030880272	-5.39588178177299	1.0343986275887e-07
LOG(S)	0.017999154887543	0.00822087373082872	2.18944548680333	0.0290047769745299
P	-0.257066494016262	0.0627432685735099	-4.09711670846544	4.84610880466071e-05
LOG(AGE)	-0.0457074224413354	0.0156989873747539	-2.9114885788646	0.00375030615230571
C	0.672558599424156	0.0625979557625223	10.7440984490874	1.80363406941631e-24

R-squared	0.127206677552814	Mean dependent var		0.650096192940329
Adjusted R-squared	0.117212860883571	S.D. dependent var		0.249911206369372
S.E. of regression	0.234808454314078	Akaike info criterion		-0.0469982925683861
Sum squared resid	28.8907453538999	Schwarz criterion		0.00935450243856977
Log likelihood	19.4780466769065	F-statistic		12.7285382314757
Durbin-Watson stat	1.98254570698082	Prob(F-statistic)		1.95428634677064e-13

8.2   Appendix 2: Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:	TDR		
F-statistic	3.2566772026412	Probability	0.0393016652662686
Obs*R-squared	6.5564049901716	Probability	0.0376959546090377

Breusch-Godfrey Serial Correlation LM Test:	LDR		
F-statistic	2.96994579436427	Probability	0.0191607306034395
Obs*R-squared	11.8824784110392	Probability	0.0182469217015622

Breusch-Godfrey Serial Correlation LM Test:	SDR		
F-statistic	0.508757233616623	Probability	0.601540702605137
Obs*R-squared	1.03502309238087	Probability	0.596001827175708

8.3   Appendix 3: Ramsey's Reset Test

Test Equation:
Dependent Variable: TDR
Method: Least Squares
Date: 05/23/08   Time: 14:10
Sample: 1 532
Included observations: 531
White Heteroskedasticity-
Consistent Standard Errors &
Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETR	-0.920708199730973	0.71974869287922	-1.27920788025033	0.201396581072419
NDTS	0.000566566191779086	0.000442535082626839	1.28027407096407	0.201021771346735
GO	276.776784206995	215.829220688715	1.28238791449923	0.200280178271371
AS	-7.59907736991163	5.91561514920636	-1.28457940184481	0.199513462536918
LOG(S)	3.05435103868371	2.38406131485953	1.28115456580179	0.200712626325346
P	-88.9321086239785	69.3361648519998	-1.28262226233318	0.200198086264077
LOG(AGE)	-8.90430521645046	6.95388632216419	-1.28047897304126	0.200949798376823
C	130.669761706087	100.767206670146	1.29674887321056	0.195294941066251
FITTED^2	-696.609930893692	538.237231725798	-1.29424329985514	0.196158086449328
FITTED^3	1150.75460941235	905.740425724667	1.27051258476363	0.20447243230155
FITTED^4	-1008.86153373691	831.572791698406	-1.21319690087071	0.225607478617772
FITTED^5	447.065176567124	395.474841793584	1.13045162250919	0.258809115509087
FITTED^6	-78.5205892763271	76.2056017024504	-1.03037818115938	0.303313365902101

R-squared	0.196596741264593	Mean dependent var	0.727646371598704	
Adjusted R-squared	0.17798508276107	S.D. dependent var	0.268837144820607	
S.E. of regression	0.243741300352536	Akaike info criterion	0.0387587846776215	
Sum squared resid	30.7742875357284	Schwarz criterion	0.143413975404825	
Log likelihood	2.70954266809148	F-statistic	10.5630963101639	
Durbin-Watson stat	1.82409080048407	Prob(F-statistic)	7.81452554063718e-19	

Test Equation:
Dependent Variable: LDR
Method: Least Squares
Date: 05/23/08   Time: 14:47
Sample: 1 532
Included observations: 530
White Heteroskedasticity-
Consistent Standard Errors &
Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETR	-0.0309839986654305	0.0136467902090347	-2.27042390121289	0.0235925187642217
NDTS	-2.99983984848822e-07	1.98776545015865e-06	-0.150915182082915	0.880101488140385
GO	-0.124365835782381	0.354922404279288	-0.35040288886502	0.726179075388627
AS	0.179938448511054	0.11570913710696	1.55509282162152	0.120535874855384
LOG(S)	-0.0022967855006128	0.0052786821347462	-0.435105854450777	0.663667166298597
P	-0.121111289949569	0.0437530366537753	-2.76806592666795	0.00584129331826297
LOG(AGE)	0.00327254019201883	0.00766906563445166	0.426719544205964	0.669761244962675
C	0.0610680302848936	0.0526242244193232	1.16045473275365	0.246399287438284
FITTED^2	-3.82972453186006	6.54597675687225	-0.585050126833929	0.55876925845132
FITTED^3	33.1522291605198	39.3050488979839	0.843459812162204	0.399361403233873
FITTED^4	154.78996841556	113.615999945915	1.36239586404419	0.17366619588672
FITTED^5	-1342.46021309495	774.724578286149	-1.73282254199906	0.0837235237917302
FITTED^6	1995.99974959019	1047.70219658297	1.90512127978738	0.0573188534155481

R-squared	0.216675990261631	Mean dependent var	0.0776964997501831	
Adjusted R-squared	0.198494388488206	S.D. dependent var	0.160622739061332	
S.E. of regression	0.143800471885274	Akaike info criterion	-1.01655756617843	
Sum squared resid	10.690823644359	Schwarz criterion	-0.911751149036732	
Log likelihood	282.387755037284	F-statistic	11.9173213098496	
Durbin-Watson stat	1.95747207559068	Prob(F-statistic)	2.00419269017233e-21	

Test Equation:
Dependent Variable: SDR
Method: Least Squares
Date: 05/23/08   Time: 15:06
Sample: 1 532
Included observations: 531
White Heteroskedasticity-
Consistent Standard Errors &
Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ETR	-8.32397698646224	4.90320311696782	-1.69766105704588	0.0901723698797909
NDTS	-0.00311039082189978	0.00183160972081478	-1.6981733535003	0.0900755948056233
GO	-1686.04831072032	993.240703721379	-1.69752236734076	0.0901985834096565
AS	335.937185803112	197.882415444547	1.69766062865375	0.0901724508400658
LOG(S)	-20.3138897123308	11.9660832477002	-1.69762229560245	0.0901796955020058
P	294.468534180253	173.473248965733	1.6974867072353	0.0902053244657344
LOG(AGE)	50.1744805476217	29.5581826102437	1.69748191927853	0.0902062295945586
C	-630.262726001559	370.964920512534	-1.69898200921741	0.0899230067735236
FITTED^2	4416.59821591813	2603.36147758903	1.69649825963021	0.0903923388788653
FITTED^3	-9130.41207096477	5427.34241251264	-1.68229888166164	0.0931135459409231
FITTED^4	10393.3679700282	6263.02011005164	1.65948181347011	0.0976239968766073
FITTED^5	-6185.76656346705	3793.71845182582	-1.6305286335864	0.103597664284971
FITTED^6	1505.45831659336	942.395501750907	1.59748037187818	0.110768474372405

R-squared	0.140401186361865	Mean dependent var	0.650096192940329	
Adjusted R-squared	0.120487700331638	S.D. dependent var	0.249911206369372	
S.E. of regression	0.234372519972979	Akaike info criterion	-0.0396324216415046	
Sum squared resid	28.4539876653749	Schwarz criterion	0.0650227690856992	
Log likelihood	23.5224079458195	F-statistic	7.05055790577039	
Durbin-Watson stat	1.96593417595019	Prob(F-statistic)	6.09095818449474e-12	

8.4   Appendix 4: The Sample

Registrationnumber	Company
5565555314	Addici Security AB
5565975348	Addici Security Nord AB
5563263309	Addici Security Sydost AB
5561952481	Alarmtec Kamera …vervakning i V st AB
5564326949	Amicus Bevakning AB
5565858593	Aventra Bevakning AB
5564842739	Bardexa Norden AB
5562671569	Bevaknings AB Prevendo
5565481602	Bevaknings Assistans P.G. AB
5563965655	Bevakningsskydd i H ssleholm AB
5564769049	Brand & Industriskydd i Osby AB
5561931832	Bravida S kerhet AB
5564937281	Browik Installation AB
5566358056	CK Security Consulting AB
5563547131	Carpark Bevakning AB
5564268521	Centrumbevakning Syd AB
5565894507	Commuter Security Group AB
5565708442	Control Risk Scandinavia AB
5566394937	Cubsec Bevakning AB
5564357589	Dalarnas S kerhets System AB
5564182144	Direct Larm M. Bergne AB
5565323903	Direct Larm i Bor s AB
5562387299	EGAB Bevakning AB
5564503281	ELTEKNIK EEA AB
5562578400	El & Industrimontage Syd AB
5563129955	Elbyr n i Vaggeryd AB
5565369138	Elektro-Emanuel AB
5564249596	Elinstallationspoolen i Kristianstad AB
5565359881	Elservice i Trelleborg AB
5563399285	Entry Systems Sweden AB
5566203948	European Protection Management & Security AB
5561747097	Falck R ddningsk r AB
5566427208	Flexlife Security AB
5566194139	Fornuddens Lås & S kerhet AB
5566269501	Fyrstads S kerhetsservice AB
5562224617	G4S Security Systems AB
5566500863	Gateeas Security AB
5565204434	GdR S kert N je AB
5562209774	Gestrike-Vakt AB
5561095430	AB Grupplarm
5560412362	Gunnebo Nordic AB
5566160916	G vleborgs Bevakning AB
5565694147	G tahus Hundbevakning AB
5565100392	Horizont Security AB
5564924297	Huusko Stockholm AB
5566406194	H gestad Security AB
5565288957	IMAGO Int. AB
5565218244	Jerry Gladh AB
5566074190	JiH El & Automation AB
5562791581	Juhas Vaktservice AB
5564933546	KTC Control AB
5565867537	Kroon Security AB
5563522118	LARMTEKNIK I STOCKHOLM AB
5564750940	LMD Vaktbolaget AB

5565894812	Larm Assistans Sverige Larmass AB
5560844382	Larmtj nst AB
5561048868	Levins Elektriska AB
5562416940	Liding S kerhetsservice AB
5564873130	L s & Larmteknik S dra AB
5565831285	L vestad Larmcentral AB
5565562450	MKS Sverige AB
5566108253	Magnus Ahlman AB
5565506606	Malm Industrivakter AB
5565720918	Malm hus Bevakning AB
5566165063	Mittel El AB
5564180544	M lardalens S kerhetscenter AB
5564996295	Nordells Elektriska AB
5565219721	Norrlarm AB
5566107586	Nyx Security AB
5564568797	Oppunda El AB
5566233903	Ostkustens Bevakningstj nst AB
5563139053	PBB City Bevakning AB
5565405353	PD Bevakning AB
5564390523	PROFESSIONAL SECURITY BEVAKNING I BOR S AB
5566204144	PanAlarm AB
5564663333	Panaxia AB
5563706356	Prevent Bevakning AB
5565658480	Probus S kerhet Norr AB
5565817573	Procura S kerhetsservice AB
5564932894	Promota Security AB
5566396080	Promota Security Bevakning AB
5565208245	Protector i Sundsvall AB
5565977666	Protectus Bevakning AB
5564529385	RTS L s och larm AB
5565606174	Rapid Larmcentral AB
5565653002	Rapid bevakning AB
5564655420	Reko Security AB
5564778032	Riksettans Larmcentral AB
5560679564	Roslagens Hundbevakning AB
5565068581	SOS International Swedish Branch AB
5564536380	SPU BEVAKNING (SVENSK PERSONALUTHYRNING & BEVAKN
5566290697	ST. George AB
5564976818	Safepartner i Osby AB
5565884912	Salut Security AB
5562229012	Securitas Direct AB
5561532176	Securitas Direct Sverige AB
5560818733	Securitas Response AB
5565907986	Security Design Sweden AB
5563584142	Senecta Security AB
5561973578	Skandia Bevaknings AB
5565804084	Skandinavisk bevakning AB
5565594685	Skyddsbolaget Staffan Thurˇn AB
5566136171	Societas Tutela Securus Security, STS AB
5562461409	Solvalla-Vakt AB
5562118165	Sp rrlinjen AB
5564155041	Svagstr msservice Secur AB
5565834636	Svensk F retagsbevakning AB
5562172667	AB Svensk S kerhetstj nst - Hittegodstj nst
5566093315	Svenska Probus S kerhet AB
5564751039	Svenska S kerhetskompaniet AB
5564748191	Svenska S kerhetssystem Teknik AB

5565699740	Svenska Trygghetsjouren AB
5563471878	S kerhet Ordningsbevakning SOB AB
5564217304	S derLarm Direct i Stockholm AB
5561132456	S dert lje Larmcentral AB
5562784388	S rmlands Bevakningstj nst AB
5564219466	TD Larm i Bor s AB
5563781078	TLT Trestads Larm & Tele Kommunikation AB
5566187471	TeleLarm Stockholm AB
5561932608	Tjintok F rvaltning AB
5563878551	Tunstall AB
5563727634	VIFA AB
5566102439	VISER AB
5566420211	Vakthundtj nst i Sk ne AB
5561463208	Virsbo Service AB
5565636221	Visira AB
5565761557	V rmlandsvakt AB
5564908860	V ster s Vakt och Bevakningsservice AB
5564100211	WGA Bevakning AB
5563492007	Wallins bevakningstj nst AB
5560764416	Wikmans Elektriska AB
5565536371	…restads Industribevakning AB
5566071691	duosec AB