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HOW DO CFOs MAKE CAPITAL STRUCTURE DECISIONS AND DETER- MINANTS OF CAPITAL STRUCTURE?

Listed companies in Finland

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TIIVISTELMÄ

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Pääomarakenteen ja pääjohtajien rahoituskäyttäytyminen on ollut mielenkiintoisimpia tutkimusaiheita monille kuten myös eri teollisuuden alojen, yritysten, erilaisten maiden vaihtelevien piirteiden ja taloudellisen tilan tutkiminen. Pääomarakenteen päätöksiä on analysoitu pääasiassa kahdella pääteorialla - nokkimisjärjestys-teorialla (Myers & Majluf, 1984) ja vaihtokauppa-teorialla (Myers, 1984).

Tämän tutkielman tarkoituksena on esitellä yleinen katsaus Suomalaisten pörssiyritysten pääomarakenteeseen mikä voi olla perustana tuleville tutkimuksille ja parantaa niin investointikäyttäytymistä kuin tuottaa talouskasvumahdollisuuksiakin. Lisäksi lopputulos myös auttaa rahoituslaitoksia ja pankkeja tietämään kuinka tuottaa tehokkaita talousratkaisuja ja palveluja pörssiyrityksille suorina investointeina, velkarahoituksina tai osakkeiden liikkeeseen laskun tukemisena.

Kuusi tekijää, mukaan lukien tuotto, taloudellinen joustavuus, yrityskoot, konkreettisuus, alkuvakuutus ja tuloksen volatilitiitti ovat käytössä kun analysoidaan riippuvaa muuttujaa, nimittäin kirjanpitovelkasuhdetta. Niin määrällistä kuin laadullistakin analyysia käsitellään heijastamaan todellista kuvaa pääjohtajien päätöksentekotavasta pääomarakenteista suomalaisissa pörssiyrityksissä.

Käytetty aineisto määrällisessä analyysissä tulee 107 pörssiyrityksen tilinpäätöksistä ja taseista vuodesta 2013 vuoteen 2017. Kyselyjen tulokset on koottu pörssiyrityksien pääjohtajilta ja taseista Suomessa. Löydökset viittaavat siihen, että suomalaisilla markkinoilla pääjohtajat haluaisivat käyttää rahoitussekoitusta hoitamaan pääomarakennettaan. Taloudellinen joustavuus, yrityskoko, konkreettisuus ja alkuvakuutus ovat tilastollisesti merkittäviä kirjanpitovelkasuhteen kanssa kun taas tuottavuuden ja tuloksen volatilitiitti eivät ole yhtä merkittäviä.

Kaiken kaikkiaan pörssiyhtiöiden pääjohtajat Suomessa käyttävät mieluummin velkarahoitusta säilyttääkseen tulot, mutta taloudellinen joustavuus on päätekijä päätöksenteossa velan määrästä pääomasta.

ABSTRACT

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Capital structure and CFOs' financing behaviors have been one of the most interesting topics attracting many researches and studies in various industrial sectors, types of companies, different countries with different characteristics and economic status. Capital structure decision is primarily analyzed based on two main theories – pecking order theory (Myers & Majluf, 1984) and trade-off theory (Myers, 1984).

This thesis aims to present a general look at the capital structure of Finnish listed companies which can be the fundamental for future researches and improve investment behaviours as well as economic growth opportunities. Furthermore, the outcome also helps financial institutions and banks to know how to provide the efficient financial solutions and services to the listed firms such as direct investments, debt financing or equity issuance support.

Six factors including profitability, financial flexibility, firm size, tangibility, initial leverage and earnings volatility are used to analyse the dependent variable, namely book leverage ratio. Both quantitative and qualitative analysis is processed to reflect the real picture of how CFOs make decision on capital structure of listed companies in Finland.

The dataset used in the quantitative analysis is generated from 107 listed companies' financial statements and balance sheets from 2013 to 2017. The questionnaire results are collected from CFOs of listed companies in Finland. The findings indicate that, in Finnish market, CFOs would like to use financing mix to manage their capital structure. Financial flexibility, firm size, tangibility and initial leverage are statistically significant to book leverage ratio while the effects of profitability and earnings volatility are not so significant.

Overall, CFOs of listed companies in Finland prefer debt financing to retain earnings but financial flexibility plays the main role in deciding the amount of debt in capital structure.

Keywords capital structure, corporate finance, investment

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ABBREVIATION

CFOs	Chief Financial Officers
TOT	Trade-off theory
POT	Pecking order theory
SMEs	Small and medium sized enterprises
MA	Merger and acquisition
WACC	Weighted average cost capital
EPS	Earnings per share
D/E	Debt to equity
EBIT	Earnings before interest and tax
OLS	Ordinary least squares
LEV	Book leverage ratio
IPO	Initial public offering
CSR	Corporate social responsibility
ROA	Return on Assets
ROE	Return on Equity

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1 INTRODUCTION

1.1 Background to the study

One of the most important concerns listed companies facing when building up corporate financial policies is capital structure decision. Capital structure is illustrated as a combination of organization's liabilities and owner's equity (Karadeniz, Kandir, Balcilar & Onal, 2009; Alipour, Mohammadi & Derakhshan, 2015). Capital structure became a tougher puzzle when Myers (1984) asked the American Finance Association "How do firms choose their capital structures?" in his speech. This question incontinently led to many empirical evidences and studies on capital structure's determinants, such as, profitability (Noulas & Genimakis, 2014; Cwynar, Cwynar & Dankiewicz, 2015), financial flexibility (Noulas & Genimakis, 2014; Graham & Harvey, 2002), firm size (Cwynar et al., 2015; Mouamer, 2011), tangibility (Li & Stathis, 2017; Karadeniz et al., 2009), earnings volatility (Nadeem & Wang, 2011) and initial leverage (Lemmon, Roberts, & Zender, 2008).

A firm's value is assessed based on its investments (Kumar, Colombage & Rao, 2017). Therefore, the top management team continuously evaluates and analyses the firm's performance to consider whether the right capital structure decisions are made or not (Zenner, Junek & Chivukula, 2017). Specifically, when it comes to managing the balance sheet which describes capital structure as debt ratio or leverage ratio, Chief Finance Officers (CFOs) often face two strategic problems: whether cash should be used to invest in new projects, and if external funds are preferred, then adding debt or issuing equity will be the ultimate choice (Goedhart, Koller & Rehm, 2006). In some cases, it is not an easy answer with a single choice. The capital structure decisions can be a financial mix which is based upon the current situation of the economy as well as the company's business strategy (Kumar et al., 2017). Goedhart et al. (2006) asserted that the consequences of bad or wrong capital structure decisions are much greater than benefits gained from tax shields and financial leverage because they may lead to decrease of the firm's market value, financial distress and even bankruptcy (Kumar et al., 2017).

Finnish Stock Exchange Market was founded in 1912 and has had a long history of development. At the end of 2017, there was 129 listed companies in NASDAQ Helsinki as seen in Figure 1 below, and this number has had increased so far to 137 listed ones (updated 22.6.2018).



Figure 1: Listed companies in Finland by years

(Source: <https://www.ceicdata.com/en/finland/helsinki-stock-exchange-shares/shares-hse-number-of-listed-companies>)

Despite of presenting a small percentage of companies in Finland, listed companies play a significant role in Finnish economy. Within a group of 500 largest companies in Finland, listed firms account for 10% but represent almost 50% of sales, assets, investments, and employment (Jakobsson & Korkeamäki, 2015). More particularly, three of listed companies (Nordea, Nokia and OP) added the highest value to Finnish economy (Ali-Yrkkö, Seppälä & Mattila, 2016). Moreover, listed firms in Finland also pay higher salary and provide employees with good career development. Based on these recognized features, listed companies have many options for financing their investments by retain earnings, debts or equity issuance (Jakobsson & Korkeamäki, 2015) and take advantage of the economies of scale (Ali-Yrkkö et al., 2016). Therefore, capital structure decisions of these firms should be considered carefully in the context of the strong influence of Finnish Stock Market has on the economy of Finland.

1.2 Research problem

There are many studies and researches capturing the capital structure determinants based on different characteristics – public or private firms (Mouamer, 2011; Thiele & Wendt, 2017) in developed and developing countries (Lemma & Negash, 2014; Ezeoha & Okafor, 2010; Al-Najjar & Hussainey, 2011) in different regions, such as Europe, UK, Asia – Pacific. In Northern Europe, small and medium sized enterprises (SMEs) are more favourable for examining capital structure determinants and behaviours because of their features including companies' age and record, information asymmetry and agency costs which create challenges to finance their operation by external funds (Yazdanfar & Öhman, 2016). However, there are few studies on listed companies' financial behaviours in Northern European countries, and more particularly in Finland. This is a big question and an interesting research that should be analysed when the Finnish Stock Market is active again and could be a basic study for further researches in future (Nyberg & Vaihekoski, 2014).

According to Howells & Bain (2008), the number of banks in Finland is highest among Nordic Countries whose the economies depend almost on bank loans and so does the capital structure. However, during the Nordic crisis of the mid – 1990s as well as financial recession 2008, banking system totally failed in requiring financial rescue from Central Bank and led to adopt new fiscal policy in Finland to reform the economy (Jonung, 2010). Therefore, firms' capital structure decisions are changed and restructured due to new tighter post-crisis regulations.

On the other hand, it is obvious that capital is needed for companies to grow and reform. Jakobsson and Korkeamäki (2015) stated clearly foreign ownership could be a solution in the context of lacking capital funds in Finland because of the advantages brought – increase of value, productivity enhancement and technology transfers. However, under this circumstance, Finnish companies can lose their control and become targets of merger and acquisition (MA). Thus, the challenges for CFOs in choosing the right capital structure decisions are even more difficult.

1.3 Research question

The thesis aims to investigate the corporate financing behaviour of Finnish listed companies, focusing on how CFOs determine optimal capital structure and which factors affect their decisions. Particularly, based on prior studies given by Noulas & Genimakis (2014); Nadeem and Wang (2011); Hernádi and Ormos (2012); Bhama, Jain and Yadav (2017), and Lemmon et al, (2008) who consider six factors influencing on capital structure decisions, this study suggest some specific questions as follow:

Question 1: Does profitability impact on how CFOs make capital structure decisions in listed companies in Finland? If yes, whether the impact is negative?

Question 2: Does financial flexibility impact on how CFOs make capital structure decisions in listed companies in Finland? If yes, whether the impact is negative?

Question 3: Does firm size impact on how CFOs make capital structure decisions in listed companies in Finland? If yes, whether the impact is positive?

Question 4: Does tangibility impact on how CFOs make capital structure decisions in listed companies in Finland? If yes, whether the impact is positive?

Question 5: Does initial leverage impact on how CFOs make capital structure decisions in listed companies in Finland? If yes, whether the impact is positive?

Question 6: Does earnings volatility impact on how CFOs make capital structure decisions in listed companies in Finland? If yes, whether the impact is negative?

Through these research questions, this study can find out what kind of capital structure is being used by CFOs to optimize business performance and increase firm's value along with investigating corporate governance of listed companies in Finland.

1.4 Scope of the study

The factors influencing on the CFOs' capital structure decisions of listed companies in Finland will be measured and assessed. Six factors are taken into consideration namely, profitability, financial flexibility, firm size, tangibility, earnings volatility and initial leverage.

There are two methods of collecting data. Firstly, a questionnaire would be sent to the CFOs of listed companies on the NASDAQ Helsinki. Secondly, quantitative data would be extracted from financial documents of listed firms. The data would be collected from August, 2018 to September, 2018 for researching the relationship between factors and book leverage ratio.

1.5 Aim of the thesis

The purpose of this research is to investigate what capital structure is followed by listed companies in the context of Finnish market. In addition, it will indicate what factors affecting on CFOs' financing behaviour.

The results of this paper are expected to present a general look at the capital structure tendency of Finnish listed companies which can be the fundamental for future researches and new perspectives in investment behaviours and economic features. Furthermore, the outcome also helps financial institutions and banks to know how to provide the efficient financial solutions and services to the listed firms such as direct investments, debt financing or equity issuance support.

2 LITERATURE REVIEW

This chapter will give more information about capital structure theories and foundational theories to develop hypothesis for this study.

2.1 Definition

2.1.1 Capital structure

According to Cambridge Dictionary (2018), capital structure is defined as a combination of methods which are used to finance a firm's business comprising of debt and equity. As can be seen from figure 2 below, debt and equity funded for a company's operation and investments are organized by long-term or short – term finance, internal or external sources.

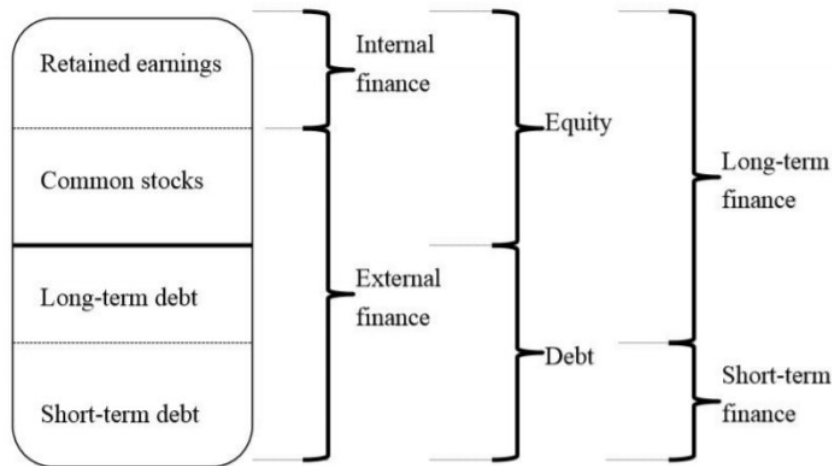


Figure 2: Capital structure categorization

(Source: Salminen, 2013)

Equity holders are recognized as people who use their own funds to finance a business and control the operation. Equity holders can receive dividend based on their own portion of shares and stocks. However, it depends on dividend policy and business strategy, dividend can be paid or retained to invest in other projects (Wikipedia, 2018).

Debt holders – banks and financial institutions - are sources of funds that are generated by taking loans. Debt holders do not control the business' operation but they will receive interests - cost of debt capital - and principal according to pre-determined fixed terms and rates regardless to business' performance (Wikipedia, 2018).

Debt holders are made a priority in paying annual interest as well as repaying when the company goes to bankruptcy. In the other words, equity holders will receive dividend after interests are paid and be the last ones receiving payments after all the loans are settled (Wikipedia, 2018). Under the circumstance that the firm has excessive loans, cost of debt capital increases which causes decrease in free cash flow directing to decreasing in profits, retain earnings, equity holders' return and lacking of funds for new projects and investments. Moreover, the equity value – sum of liabilities and owner's equity – will be exaggerated and lead to financial risk easily (John, 2016).

Capital structure decision has become a prominent topic to research and study because capital structure is the main core (Ramjee & Gwatidzo, 2012) which impacts on business' operations and investing activities. In the very first literature of capital structure by Miller and Modigliani (1958) – Capital Structure Irrelevance Proposition - the market value of the firm will be determined by its earning power regardless to the sources of the assets originated from internal funds or external funds. Thus, there is no relationship between capital structure and firm value. Furthermore, the research also states that there is a positive relationship between leverage and expected return of a firm – the more the leverage is, the higher the yield of return is. However, these propositions are valid when applied to the perfect capital market only. According to Miller and Modigliani (1958), the perfect capital market is created by these assumptions: there is no transaction costs and taxes, information is reliable and known in the market, the price of the market is not affected by participants.

Nevertheless, the real capital market is not perfect and the company is affected by taxes, risks, agency and bankruptcy costs as well as asymmetric information. In real world situation, the value of the company obviously depends on its capital structure, and hence making decision on what to choose between debt and equity becomes more significant

and relevant (Graham & Leary, 2011), also plays an important role in determining company's value (Deemsomsak, Paudyal & Pescetto, 2004).

2.1.2 Optimal capital structure

It is the fact that shareholders want to maximize not only their investments but also business value which effects positively to share price of the company as well as shareholders' income. Therefore, the perfect combination between the scale of debt and equity would form an optimal capital structure which is a challenging decision for CFOs in managing finance (Zhengwei, 2013).

Damodaran (2012) mentions that value of the company can be calculated based on the present value of future cash flow discounted at its weighted average cost capital (WACC).

$$\text{Value of firm} = \sum_{t=1}^{t=\infty} \frac{\text{FCFF}_t}{(1 + \text{WACC})^t}$$

where FCFF_t = Free cash flow to firm in year t
WACC = Weighted average cost of capital

Figure 3: Value of firm model

(Source: Damodaran (2012))

Based on the model stated in Figure 3 above, value of firm would be maximized when the WACC was minimized. However, in the research of Zhengwei (2013) suggests that optimal capital structure can be reached by choosing the right debt to equity ratio which expresses debt impact on firm value in the balance sheet.

Figure 4 illustrates more details of suggestion by Zhengwei (2013)

$$\text{Debt-to-equity ratio} = \frac{\text{total liabilities}}{\text{shareholders' equity}}$$

Figure 4: Debt to equity ratio

(Source: <https://hbr.org/2015/07/a-refresher-on-debt-to-equity-ratio>)

Though several studies argue that the more the leverage ratio (debt to equity ratio) increases, the higher the earning per share (EPS) is (Sivathaasan & Rathika, 2013; Lasher, 2003; De Wet, 2006) which creates higher value of the company, there is still a concern if the debt to equity ratio is too high, the company can be in financial distress, margin benefit of debt cannot cover cost of debt and cost of bankruptcy resulting in unable to repay the debts (Gallo, 2015).

2.1.3 Debt to equity ratio (Leverage ratio)

Debt to equity (D/E) ratio is favourable to bankers and investors when assessing the firm's capability to earn profit and predicting future cash flow. On the other hand, this ratio also helps managers to have a comprehensive overview of their daily business activities such as the scale of debt, account payable, account receivable, cash management and inventory and compare these metrics with benchmarks of the industry or other competitors (Gallo, 2015).

However, there is a controversy whether debt ratio should be calculated based on market value or the book value of the firm. In almost studies, book value is preferred (Fama & French, 2002) due to following reasons: the market value is changeable and cannot be observed in practice (Graham & Harvey, 2002); assets are accounted in the balance sheet therefore the book value is more reliable than market value (Myers, 1977).

2.2 Foundational theory

2.2.1 Trade – off theory

Trade – off theory (TOT) in financing capital structure is how the balance of debt and equity is set up to reach optimal capital structure and enhance value of a firm when tax benefits added. In particular, this theory states that when financing with debt, the company will have not only tax shield deductibility but also the cost of possible financial distress including agency costs and bankruptcy costs (Myers, 1984). Bankruptcy costs are default costs under the circumstances that the profit generated by the company cannot pay back interest and debt amount (Titman, 1984). On the other hand, the conflicts of interest

between shareholders and managers as well as shareholders and debtholders create agency costs related to separation of managing business (Jensen & Meckling, 1976).

The relationship between debt amount, benefits from debt and cost of debt is described as following: the more the debt increases, the more the marginal cost of debt increases while the lesser the marginal benefits from debt gain (Wikipedia, 2018a).

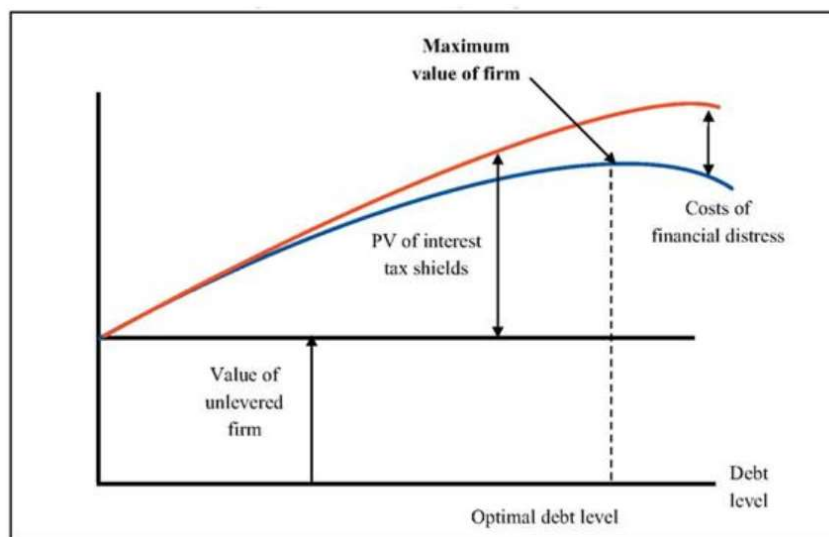


Figure 5: Trade – off theory of capital structure

(Source: https://ebrary.net/735/business_finance/trade-off_theory_capital_structure)

In Figure 5, increasing debt level will form a trade-off relationship between interest tax shield and financial distress cost. The top curve explains the interest tax shield gained from debt financing and the bottom curve represents the benefits after eliminating bankruptcy cost. Therefore, companies always seek the debt - equity equilibrium, which they can earn highest benefits from the contradiction between tax advantage and costs of debt financing, indicated as optimal capital structure.

In addition, the leverage ratio of a firm following to trade – off theory will be affected positively by firm size, profitability and tangibility (Myers, 1984). Thus, there will be different in adjusting costs and choosing the D/E ratio from firm to firm. The theory suggests that firms with high amount of tangible assets should use more debt finance due to collateral capacity as well as higher tax shield deductible expense. Whereas, firm with

more intangible assets should use equity as an option to finance their capital structure (Brealey, Myers, & Allen, 2006).

2.2.2 Pecking order theory

Pecking order theory (POT) was developed by Myers and Majluf (1984) in the context of asymmetric information between stakeholders including – owners and managers - and potential investors. The theory suggests that a company can finance itself by its retained earnings to minimize the costs associated as well as avoid the asymmetry of information. Following to this assumption, there is a certain hierarchy of using capital to finance the business: self – financing (retained earnings), debt issue, and equity issuance (Adair & Adaskou, 2015).

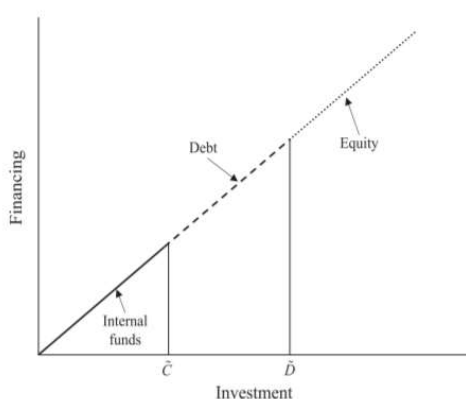


Figure 6: The hierarchy of Pecking order theory

(Source: Leary & Roberts, 2010)

According to Myers and Majluf (1984), there is no saving retain earnings or equity issuances allowed in POT. However, Leary and Roberts (2010) explain that when a new investment is financed, the firm will start with its own internal funds including cash and liquid assets. As referred in Figure 6, if the need of investment is over the internal fund limitation C, the firm may use external funds as supplies. However, the debt financing is priority to use and it is limited at the point D without causing financial distress. Finally, if the investment still needs funds beyond D, company has to issue equity. This explanation is seen as “modified pecking order” mentioned in Myers and Majluf (1984) and Myers (1984).

Companies prefer retained earnings to debt because of cost minimization or even no cost issuance created and the control of the stakeholders to companies are guaranteed. Moreover, due to the asymmetric information, companies will choose debt over equity. Debt issuance is a signal of profitable investment and the under-priced current stocks while equity issuance may lead to drop in share price because the stakeholders are not confident in the price of share and it can be overvalued (Adair & Adaskou, 2015). Debt issuance indicates indirectly that the company is profitable and affords periodic interest payment as well as there are potential investment opportunities to outsiders (Jean-Laurent, 2008). One more advantage brought by debt is decreasing agency cost by reducing free cash flow. Kargar and Ahmadi (2013) explains that when free cash flow is high, shareholders will be unable to monitor how free cash can be spent by managers – so called agency problem. For example, managers can use cash to invest in some projects covered by creating values for shareholders but bringing profits internally to managers themselves indeed. In addition, debt will put the management in an efficient business operation in order to pay the debt and avoid bankruptcy (Mohammad, Mir and Hoggatollah, 2015)

2.3 Related review on capital structure decision

2.3.1 Empirical evidence of capital structure decision

Both Graham and Harvey (2002) and De Wet (2006) conclude that most firms set up their capital structure under TOT to bring the most value to stakeholders and the firm themselves. However, POT is applied to CFOs' behavior when it comes to generating external funds. Particularly, equity issuance would be the last choice taken. The conclusion also notes that even though POT is used in financing capital structure, but not in favor of avoiding asymmetric information.

In European area, studies on capital structure of listed companies reveal that POT playing a dominant role (Noulas & Genimakis, 2014; Cwynar et al., 2015). Remarkably, these studies also mention that CFOs would like to combine both POT and TOT together for maximization of benefits and value. In this perspective, it is explained that POT and TOT can be complementary options in building up capital structure of companies as well as

can be alternative choices in different periods depending on companies' financial strategies, stakeholders' expectation and situation of the economy.

The studies also made depth researches on determinants impacting on capital structure choices of CFOs. Generally, capital structure is affected significantly by firm characteristics such as firm size, profitability, tangibility (Noulas & Genimakis, 2014; Graham & Harvey, 2002) and initial leverage (Lemmon et al., 2008). On the other hand, financial flexibility and projected cash flows have been identified as primary factors in choosing debt – to – equity ratio (Noulas & Genimakis, 2014). It is argued that retaining flexibility is maintaining credit ratings which is very essential for companies' reputation and ranking, especially large companies; whereas the projected cash flows are considered as valuable information to justify debt requirements and payment schedule (Graham & Harvey, 2002).

It is said that CFOs' decisions on capital structure are various and quite hard to identify the rules exactly (Noulas & Genimaskis, 2014) because it would be changed according to timeline, economic situation, and how companies want to target their debt ratios. Moreover, CFOs' biases and preferences also play important roles in capital structure decision styles. Each CFO has a different capital structure choice regarding to their managing performance in the past (Graham & Leary, 2011).

2.3.2 Reviews on determinants influencing on CFOs' capital structure decision

Profitability

A business will not survive if it is making no profits. Therefore, profitability is a primary goal targeted by any business organizations (Hofstrand, 2009).

The most common measurement of profitability is defined as earnings before tax and interest (EBIT) to total assets ratio (Morri & Parri, 2017; Kumar et al., 2017). In this formula which can be seen in Figure 7, profitability is a metric not only indicating business' operation and capacity to generate profit but also presenting approximately net operating income of a firm (Morri & Parri, 2017).

$$PROFITABILITY = \frac{\text{Earnings before interest and taxes}}{\text{Total assets}}$$

Figure 7: Profitability formula

(Source: Morri & Parri, 2017)

Regarding to the important features of profitability in the business, it is said that profitability is one of the primary factors considered and studied in capital structure (Kumar et al., 2017).

Financial Flexibility

In the study about CFOs' financial behavior, Graham and Harvey (2002) reveal that almost 60% CFOs consider financial flexibility as an important factor affecting their decisions to issue debt. Financial flexibility is also ranked as one of the main determinants in making financial decision in the European area (Bancel & Mittoo, 2004).

Generally, financial flexibility reflects the firm's ability to handle financial distress in term of economic downturns and readiness to take advantages of unexpected investment opportunities for more profit. More specifically, financial flexibility forms intimate relationships with external financing costs, liquidity policy (Gamba & Triantis, 2008), internal funds, capability to obtain loans from banks and dividend policy (DeAngelo & DeAngelo, 2007; Estwick, 2016) which are integral parts of capital structure decision as well as leverage ratio of the business. Based on this empirical evidence, obviously financial flexibility becomes an essential factor going along with business strategy and optimizes its crucial role in deciding capital structure, especially, during economic shocks when firms must deal with financial distress and scarce investment funding (Bancel & Mittoo, 2011).

According to Alipour et al. (2015), financial flexibility is calculated based on the ratio of retained earnings to total assets.

Firm size

Firm size is mentioned as a factor of capital structure decision in many studies and researches. It is explained that large firms are well-prepared to face financial distress and potential bankruptcy (Cwynar et al., 2015). Therefore, large institutions are more advantageous in making loans with lower costs including agency costs and monitoring costs (Fama & French, 2002). Moreover, debts are also considered as tax shields which bring more benefits to business (Deesomsak, Paudyal, & Pescetto, 2004).

Additionally, big companies can issue equity at lower costs with asymmetric information regarding to their transparent performance and reputation advantage (Cwynar et al., 2015; Ezeoha, 2008). In the other hand, bigger firms experience in investment opportunities and long-term operation so that they can accumulate more internal funds (Ezeoha, 2008), attract investors by their reputation advantage and well-planned investment strategies which hardly associate to excess of capital or retained earnings (Cwynar et al., 2015). Therefore, these big firms' capital structure intends to be more diversified (Ukaegbu & Oino, 2014) and funds are raised from other sources than bank loans.

As be seen in Figure 8 below, firm size is calculated based on logarithm of total assets at book value which can reflect firm size at an acceptable level (Morri & Parri, 2017).

$$SIZE = \ln(\text{Total assets at book value})$$

Figure 8: Firm size

(Source: Morri & Parri, 2017)

Tangibility

Tangibility, which is introduced in Figure 9 below, represents the share of fixed assets in total assets of the company (Keradeniz et al., 2009).

$$TANGIBILITY\ OF\ ASSETS = \frac{\text{Tangible fixed assets}}{\text{Total assets}}$$

Figure 9: Tangibility

(Source: Morri & Parri, 2017)

There are many studies explaining the advantage when the firm has high ratio of tangibility - the more tangible assets the firm has, the easier the firm makes loans because tangible assets are used as collateral to guarantee for the debts (Keradeniz et al., 2009; Morri & Parri, 2017). The role of tangibility has become more and more important since the Global Financial Crisis because it is the value left which could be used to repay loans to creditors (Fernandes, 2011; Danso & Adomako, 2014).

Moreover, tangible assets presented in the balance sheet will be a great metric to score investors' credits and warrant the financial competence of the company (Morri & Parri, 2017). Therefore, tangibility can influence on capital structure of the firm as well as the debt to equity ratio.

Initial leverage

There are a few studies researching on the relative role of initial leverage to capital structure of the companies. Specifically, the CFOs will consider the initial leverage and the historical performance of financing methods to make further decisions on future capital structure and leverage (Lemmon et al., 2008; Baker & Wurgler, 2002).

Earnings volatility

In a recent study, the relationship between earnings volatility and risk management (Edmonds, Edmonds, Leece & Vermeer, 2015), also an impact of earnings volatility on future cash flow and future income of a company (Minton, Schrand & Walther, 2002) has been investigated.

It is indicated that a firm with high earnings volatility might lead to underinvestment. In addition, high earning volatility also increases asymmetric information causing difficult

in calculating the true value of the company. (Scordis, Barrese, & Wang, 2008). These above consequences create financial distress and business risk which puts the firm organization structure as well as financial debt contracts in reconsideration and renegotiation. Systematically, these situations effect on debt financing decision made by CFOs of the company (Hernádi & Ormos, 2012).

There are many methods to calculate earnings volatility, in this thesis, earnings volatility will be measured based on the ratio of standard deviation of the first difference of profit before depreciation, interest, and taxes to average total assets (Nadeem & Wang, 2011).

2.4 Hypothesis development

2.4.1 Profitability and leverage ratio

Profitability is highlighted as a significant determinant of making decision on capital structure (Li & Stathis, 2017). There are many studies explain that the more profitable firms are, the more available cash is (Fama & French, 2000; Bhaduri 2002; Booth, Aivazian, Demirguc – Kunt, and Maksimovic, 2001). Therefore, these companies prefer internal funds (retained earnings) for new investments to debt or equity issuance (Haron, 2016).

The main reason for this financial decision is asymmetry of information which impacts on the firm's value and wealth of existing stakeholders (Jibran, Wajid, Waheed, and Muhammad, 2012). If the companies choose to issue new equity whose value might be under - priced by new investors who require to have higher yield of return than existing stakeholders. In this case, the requirement would be rejected resulting in that the project is declined (Mouamer, 2011).

The second reason should be the cost of capital efficiency - it is cheaper when using internal cash to finance new investments and projects than obtaining more debts or issuing new equity (Haron, 2016). Additionally, when raising leverage ratio, the money made from the projects will be used to pay loans' interests instead of investing in companies themselves; while issuing equity, the ownership power could be diluted which is not a

wise choice by profitable firms, so that self – financing is a safer option and can secure the stakeholders’ benefit and profit (Mouamer, 2011).

Hypothesis 1: Profitability has a negative impact on the book leverage ratio.

2.4.2 Financial flexibility and leverage ratio

Bancel and Mittoo (2011) bring out that financial flexibility is mainly formed by liquidity and internal fund.

When financial flexibility of an organization is maintained at a high level, that organization will use less debt and external fund. It is explained that, at the high degree of financial flexibility, these firms have good cash holdings as well as retained earnings to handle credit constraint, uncertain economic situation and fund requirements for new investment opportunities (Chow, Muhammad, Bany-Ariffin, & Cheng, 2018; Alipour at al., 2015).

Moreover, financial flexibility is also studied as a preserved source of debt which can be used in the future when requirement of investment exceeding internal fund. Therefore, firms intending to have more financial flexibility prefer low leverage ratio to guarantee their access to external fund for future needs (Denis, 2011).

Hypothesis 2: Financial flexibility has a negative impact on the book leverage ratio.

2.4.3 Firm size and leverage ratio

Generally, large firms tend to have more debts to support their financial needs and keep up with the periodic payments of dividends (Frank and Goyal, 2003). In addition, large firms are accounted for more stable and ability going to bankrupt is less likely (Matemilola, Bany-Ariffin & McGowan, 2013) lead them to access debt more easily at low cost.

In an interesting article of Jõeveer (2013), it is provided that liabilities have advantages at 51% in capital structure of listed companies in Finland as described in Table 1. Even-

tually, it also confirms that large firms gain more debts which consists to empirical evidence of many previous studies (Booth et al., 2001; Frank and Goyal, 2003; Rajan and Zingales,1995).

Parameter	Germany	France	Italy	United Kingdom	Belgium	Finland	Portugal	Spain	Sweden	Switzerland
Panel A—listed firms										
Total current assets	60	63	59	51	54	53	46	49	55	49
Cash	13	15	10	14	11	13	3	13	12	11
Trade debtors	19	25	20	16	21	17	26	21	17	17
Inventories	15	13	14	13	15	13	12	14	12	13
Other current assets	13	10	15	9	6	9	5	1	14	9
Total fixed assets	40	37	41	49	46	47	54	51	45	51
Tangible fixed assets	24	18	24	31	28	32	35	34	22	37
Intangible fixed assets	9	12	10	14	10	9	10	4	14	7
Other fixed assets	7	8	7	4	9	7	9	13	8	7
Total assets	100	100	100	100	100	100	100	100	100	100
Total current liabilities	22	50	39	33	41	31	41	31	28	27
Short-term debt	7	16	11	8	11	5	16	9	3	7
Trade creditors	9	17	15	11	15	8	12	12	9	9
Other current liabilities	6	17	12	15	15	17	13	9	16	11
Total non-current liabilities	32	8	17	17	19	20	21	18	21	27
Long-term debt	18	3	2	13	13	16	19	15	12	18
Other non-current liabilities	14	5	15	4	6	4	2	3	9	9
Shareholder funds	45	42	44	50	41	49	38	52	51	47
Total liabilities and shareholder funds	100	100	100	100	100	100	100	100	100	100

Table 1: Balance sheet structure by items across countries

(Source: Jõeveer, 2013)

Hypothesis 3: Firm size has a positive impact on the book leverage ratio.

2.4.4 Tangibility and leverage ratio

There are two interesting findings in a research of Fernandes (2011) explaining the relationship between tangibility and book leverage ratio.

Firstly, the more developed the stock market is, the lesser important role of tangibility to creditors is (Fernandes, 2011). However, the Finnish stock market is quite small and still in the progress of attracting more investors (Jakobsson & Korkeamäki, 2015), the amount of transactions and profit is good and increases annually but it is not enough to conclude

that Finnish Stock Market is well – developed. Therefore, tangibility still plays an important role as collateral when listed firms want to obtain loans.

Secondly, Fernandes (2011) also claims that the more protected creditors are, the more important tangibility is. Creditor protection in Finland - studied by Moro, Maresch and Ferrando (2015) – is confirmed to be quite strong. Finland is ranked the top in three out of five indicators of high-quality legal system including strength of the legal system, property protection, number of procedures, time and cost which are found in Figure 10 below. Consequently, tangibility matters in Finland if companies want to raise funds by debts.

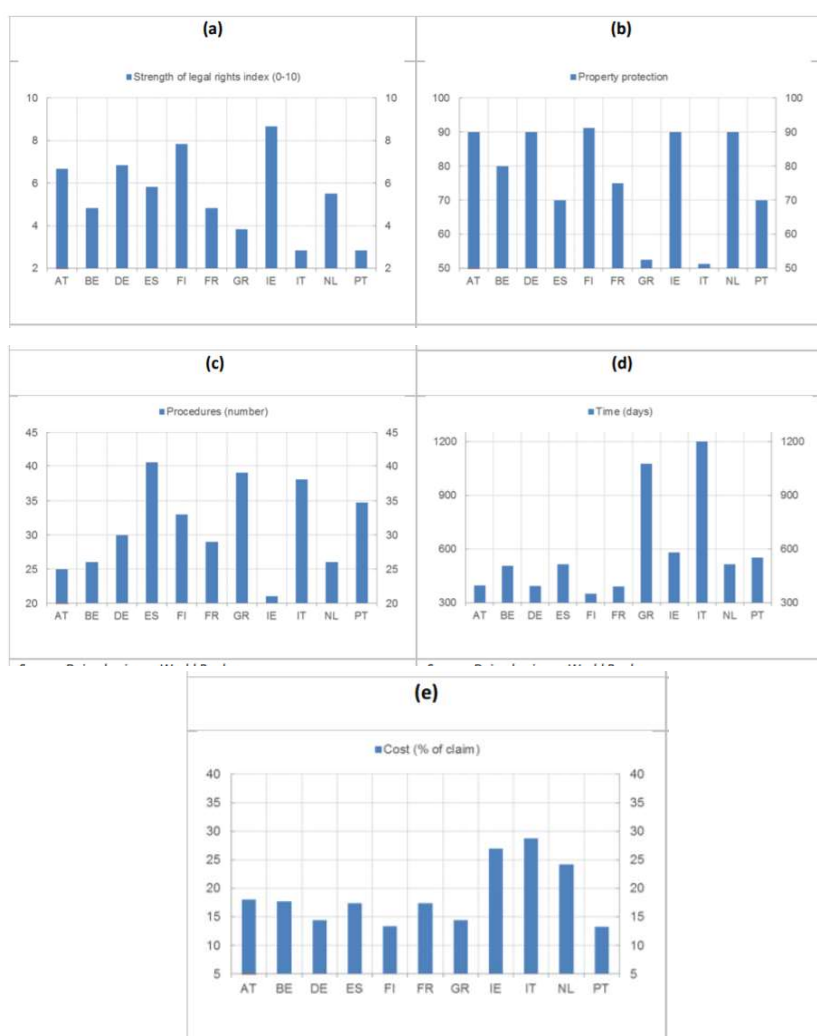


Figure 10: Indicators of the quality of the legal system

(Source: Moro et al., 2015)

In current situation, Finnish firms can easily access to loans. However, collateral requirements are more demanding and stricter. It is concluded that the amount of debts borrowed by firms is determined based on assets - tangible property and tangible movable property (Wist & Pajuniemi, 2017).

Based on above studies and researches, in Finland, the company with more assets prefers using debts as a source of financing.

Hypothesis 4: Tangibility has a positive impact on the book leverage ratio.

2.4.5 Initial leverage and leverage ratio

Initial leverage or initial capital structure policies are established by firm founders who create and oblige corporate culture including values, vision and beliefs to the organizations. This management style becomes business direction followed by next management generation (Cao, 2010). That is why it is found that initial leverage has significant impact on subsequent capital structure decision of CFOs (Arce, Cook & Kieschnick, 2015).

According to Hofstede's model, the Uncertainty Avoidance dimension reflects the tendency of members in a culture to avoid ambiguous or unpredictable situations. The higher the score is, the less the surprises are. Meanwhile, the Long-Term Orientation dimension describes how members in a culture respect traditions and handle changes of the future. Low score expresses the preference to traditions and norms while high score describe ability to adapt well to changes based on situations, time and context.

In Figure 11, it is found that Denmark scores 23 in the Uncertainty Avoidance dimension – A Danes can change his mind overnight or feel fine when new things pop up surprisingly and Germany marks 83 in the Long-Term Orientation dimension – Germans prefer make their decisions based on the current situation and can change their traditions with new conditions. While Finland scores 59 in the Uncertainty Avoidance dimension and 38 in the Long-Term Orientation dimension – which indicates that Finns prefer following to rules and maintaining code of beliefs in their behaviours as well as respecting traditions. These values may indirectly confirm that a decision of CFOs on capital structure of listed

firms in Finland is usually based on initial capital structure and initial leverage which are set up as internal traditions or rules of organizations.

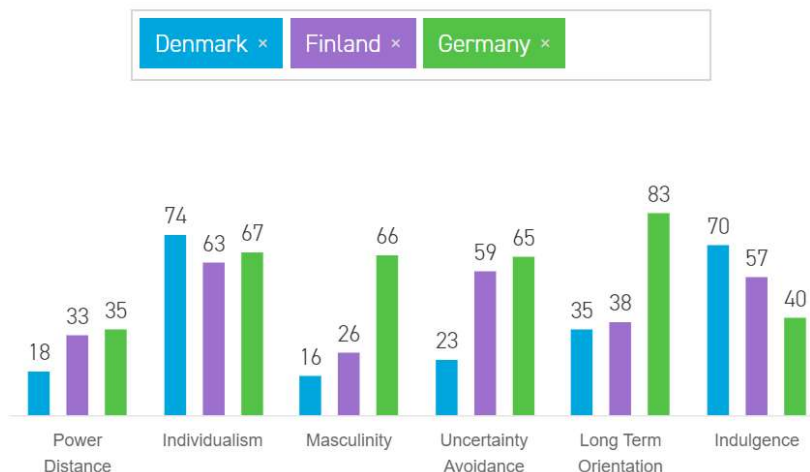


Figure 11: Hofstede Model – Denmark, Finland and Germany

(Source: <https://www.hofstede-insights.com/country-comparison/denmark,finland,germany/>)

Hypothesis 5: Initial leverage has a positive impact on the book leverage ratio.

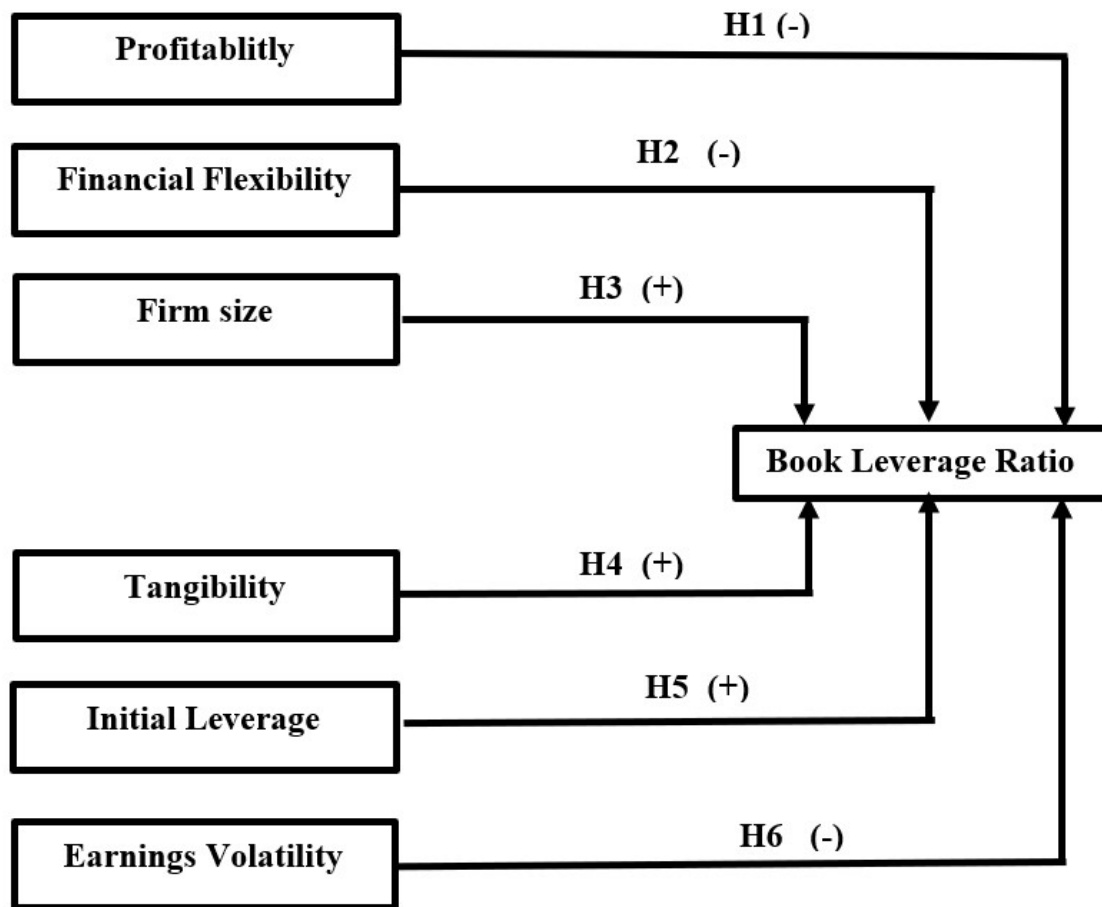
2.4.6 Earnings volatility and leverage ratio

Several articles claim that a firm with great earnings volatility would have low leverage ratio (Fama & French, 2002; Danso & Adomako, 2014; Nadeem & Wang, 2011).

The higher the earnings volatility is, the riskier the company will be, the more possibility there is that the company goes to bankruptcy. Therefore, this type of company finds it is difficult in using debt financing due to its low credit – worthiness (Alipour et al., 2015) and high cost of capital (Ebach, Hertel, Andreas & Timm, 2016) which reduces expected profit leading to failing to repay the loans and achieve the financial commitments (Danso & Adomako, 2014). In the other hand, to prevent themselves from bankruptcy, firms at high risk level prefer using internal financing to external financing which also causes decrease in debt ratio (Alipour et al., 2015).

Hypothesis 6: Earnings volatility has a negative impact on the book leverage ratio.

2.5 Conceptual model



Based on the hypothesis development of six factors including profitability, financial flexibility, firm size, tangibility, initial leverage and earnings volatility, the conceptual model is developed to explain the relationships between dependent variable (book leverage ratio) and independent variables in this thesis.

3 RESEARCH DESIGN AND METHODOLOGY

In Chapter 2, a conceptual model of the study is presented based on hypothesis development on factors impacting on CFOs' capital structure decisions. Chapter 3 will design research process and measurements of constructs to collect data using for analysis progress.

3.1 Research process

A mixed method approach including quantitative method and qualitative method has been chosen to achieve the objective of this thesis. The main purpose of the mixed method approach is increasing the accuracy of the results which is better than one single method generating.

Firstly, a survey would be sent to CFOs of listed companies to collect necessary information to define their decisions on making capital structure choices. Correspondingly, the dataset for financial figures has been obtained from financial statements including balance sheet and income statement of listed firms in Finland from 2013 to 2017.

According to NASDAQ Helsinki Ltd – Rules of the Exchange 3.7.2016, the listed companies should have published their financial statements for at least three (3) years. Therefore, the period from 2013 to 2017 would be appropriate because the companies have been listed more than one year and had business plan to develop in the future (at least 12 months) as well as financing strategy. Moreover, this period observation happening recently could reflect accurately the current trend of capital structure decision by CFOs.

Qualitative method

A qualitative method was used to check whether the questionnaire suitable to the context of Finnish scenario and respondents understand the scale or not.

A draft questionnaire was designed based on previous studies about financial practice and choices of capital structure. The questionnaire would be revised and edited to be more understandable and appropriate to the context of Finland.

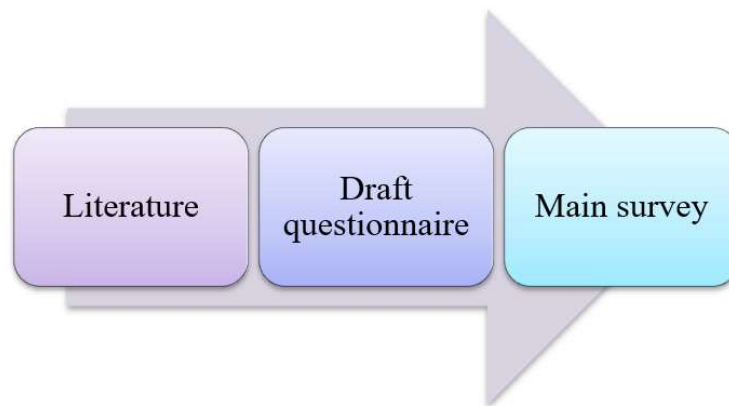


Figure 12: Quality research process

Quantitative method

The results from data collected by financial statements would be analyzed on Stata (see Appendix A). Firstly, reliability and validity would be checked and exploratory factor will be conducted. Then, regression analysis would be used to test linear relationship between factors.

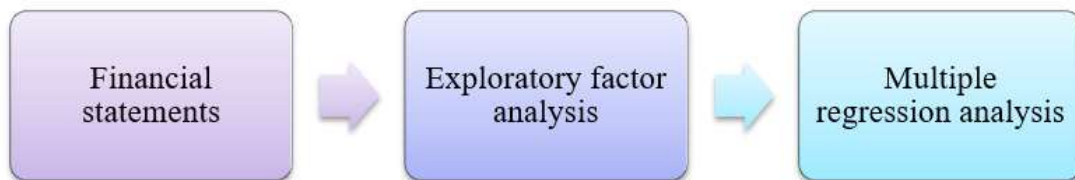


Figure 13: Research process of data collected from financial statements

3.2 Data collection

Data for the quantitative method included income statement and balance sheet. Convenience sampling approach was conducted in Finland. The target respondents were CFOs of listed companies on NASDAQ Helsinki.

Based on the hypothesis development, firstly, public financial documents of listed companies should be available at least from 2013 to 2017. Secondly, companies should have the initial leverage public on NASDAQ Helsinki. After considering these two (2) condi-

tions, the object sample of this survey was 107 listed companies whose financial statements were collected from database on NASDAQ Helsinki in the 2013 – 2017 period (see Appendix G). The questionnaire online link and letter explaining the purpose of the study were sent directly to CFOs’ emails for collecting information.

The time to collect enough data was estimated around 2 months.

3.3 Research design

3.3.1 Qualitative method

Based on the prior studies (Hernádi & Ormos, 2012; Chazi, Terra & Zanella, 2009; Bhama et al., 2017) in the literature, the questionnaire is composed of nine (9) questions including two sections. Section A focuses on financing practice and factors that influences capital structure decision. Section B investigates corporate governance based on the study of Brounen, de Jong and Koedijk (2004).

The questions in the study were developed using a 5 – point Likert scale coded: 1= unimportant and 5 = very important. Details of the questionnaire are given in the Table 2 following:

<i>Constructs</i>	<i>Measurement</i>	<i>Literature</i>
<i>Section A</i>		
<i>Choice of financing sources</i>	Retained earnings	Hernádi and Ormos (2012)
	Restructuring assets	
	Straight debt	
	Convertible debt	
	External common equity	
<i>Debt is preferred to equity</i>	Debt is cheaper than equity	Bhama et al., 2017

	It is easier to raise debt	
	Debt is more flexible	
<i>Factors effect on the appropriate amount of debt</i>	The volatility of earnings and cash flows Financial flexibility The debt levels of other firms in the industry The potential costs of bankruptcy or financial distress	Chazi et al., 2009 Hernádi and Ormos (2012)
<i>Target value for the leverage ratio</i>	Above the target value Below the target value. At the target	Noulas & Genimakis, 2014
<i>The relative important principles in financing decision</i>	Projected cash flows from the project to be financed Risk of the project to be financed Ensuring long-term survivability (avoiding bankruptcy) Preferring previously used financing sources	Noulas & Genimakis, 2014
Section B		
<i>Goals which are important</i>	Maximize profits (ROA, ROE or EPS) Market position, service, quality Cost control, productivity, efficiency Maximize shareholder wealth Maximize sustainable growth	Chazi et al., 2009; Brounen et al., 2004

<i>Stakeholders which are important</i>	Social responsibility/environment	
	Optimize working environment	
	Maximize dividends	
	Shareholders	Chazi at al., 2009; Brounen et al., 2004
	Management	
	Customers	
	Employees	
	Suppliers of good/services	
Suppliers of debt		
The general public		

Table 2: Questionnaire constructs

3.3.2 Quantitative method

Measurements of variables

Book leverage ratio (D/E: debt to equity ratio) is adopted as dependent variable.

Exceptionally, listed companies in NASDAQ Helsinki are classified into ten (10) following industries: 1) Basic materials 2) Consumer goods 3) Financials 4) Healthcare 5) Industrials 6) Oil & Gas 7) Technology 8) Consumer services 9) Telecommunication 10) Utilities.

Industry	Number of companies
Basic materials	13
Consumer goods	13
Consumer services	12
Financials	12
Healthcare	6
Industrials	35
Oil & Gas	1
Technology	11
Telecommunication	3
Utilities	1
Total	107

Table 3: Number of companies categorized by industries

Based on Table 3 above, with the purpose of improving the analysis process and strengthening the results of this research, it was decided that ten (10) industries would be categorized into five (5) groups - as seen as Table 4 below- based on their business fields and common features across industries.

Industry group	Industry	Number of companies
Consumer	Consumer goods, consumer services	25
Healthcare	Healthcare	6
Energy	Oil & Gas, Industrials, Basic materials, Utilities	50
Technology	Technology, Telecommunication	14
Financials	Financials	12
Total		107

Table 4: Number of companies categorized by industry groups

Finally, financial figures – financial flexibility, profitability, firm size, tangibility, earnings volatility and initial leverage - are employed as exploratory variables which are described in Table 5 below.

Variable	Definition	Measurement
<i>Dependent variable</i>		
LEV	Book leverage ratio	$\frac{\text{Total liabilities}}{\text{Shareholders' equity}}$
<i>Independent variables</i>		
FLEX	Financial flexibility	$\frac{\text{Retained earnings}}{\text{Total Assets}}$
PROF	Profitability	$\frac{\text{EBIT}}{\text{Total Assets}}$
SIZE	Firm size	$\ln(\text{Total Assets})$
TANG	Tangibility	$\frac{\text{Tangible fixed assets}}{\text{Total Assets}}$
INLEV	Initial leverage	First non – missing value of leverage
EVOL	Earnings Volatility	The ratio of standard deviation of the first difference of profit before depreciation, interest, and taxes to average total assets

Table 5: Measurement of financial figures

3.4 Research method

The data used for this thesis was the cross – sectional with time series data for 107 listed companies in Finland from 2013 – 2017. Therefore, pooled ordinary least squares (OLS) was used for the panel data.

OLS was used for panel data to estimate the relationship between independent variables and book leverage ratio. To eliminate cross – sectional effects on each company or a

group of companies, the fixed effects model and random effects model (mixed effect model) were developed.

The fixed effects model allows correlation between each firm or a group of firms included in sample and independent variables but still assumes that the slope coefficients are constant within firms. While random effects model or mixed effect model is a special case of fixed effect models. It is used to estimate the coefficients based on the assumption that the individual or group effects are uncorrelated with independent variables and still can be formulated.

After running three estimations models, Durbin–Wu–Hausman test is executed to test biasedness of the random effects model and decide whether random or fixed effects model is appropriate.

Estimation models and explanation:

Pooled OLS model:

$$LEV_{it} = \beta_0 + \beta_1 FLEX_{it} + \beta_2 PROF_{it} + \beta_3 SIZE_{it} + \beta_4 TANG_{it} + \beta_5 INLEV_{i0} + \beta_6 EVOL_{it} + \varepsilon_{it}$$

Fixed effects model:

$$LEV_{it} = \beta_0 + \beta_1 FLEX_{it} + \beta_2 PROF_{it} + \beta_3 SIZE_{it} + \beta_4 TANG_{it} + \beta_5 INLEV_{i0} + \beta_6 EVOL_{it} + \mu_{it}$$

Random effects model:

$$LEV_{it} = \beta_0 + \beta_1 FLEX_{it} + \beta_2 PROF_{it} + \beta_3 SIZE_{it} + \beta_4 TANG_{it} + \beta_5 INLEV_{i0} + \beta_6 EVOL_{it} + \varepsilon_{it} + \mu_{it}$$

Where:

LEV_{it} = leverage ratio of firm i at time t .

$FLEX_{it}$ = financial flexibility of firm i at time t .

$PROF_{it}$ = profitability of firm i at time t .

$SIZE_{it}$ = size of firm i at time t .

$TANG_{it}$ = tangibility of firm i at time t .

$INLEV_{i0}$ = initial leverage of firm i where year 0 is the firm's IPO.

$EVOL_{it}$ = earnings volatility of firm i at time t

β_0 = common y - intercept.

$\beta_1 - \beta_6$ = coefficients of the explanatory variables.

ε_{it} = stochastic error term of firm i at time t .

β_{0i} = y-intercept of firm i .

μ_{it} = error term of firm i at time t .

ε_i = cross-sectional error component.

Finally, the impacts of independent variables on dependent variables would be explained and brought out a conclusion of the capital structure theory applied in Finland as well as provided some information about corporate governance proceeded by listed companies.

4 QUANTITATIVE ANALYSIS

In this chapter, the results of the study based on 535 observations would be showed and analysed. The data analysis would start with descriptive statistics. In the next step, there would be results presenting the impact of capital structure determinants on debt to equity ratio of listed companies in Finland. The hypotheses testing was discussed and drew out the specific theories applied in capital structure of listed Finnish organizations.

4.1 Descriptive statistics

Descriptive statistics gives a general view of information in an empirical research.

4.1.1 Descriptive statistics before removing outliers

Table 6 presents the descriptive statistics providing the information on the number of observations, mean, standard deviation, as well as minimum and maximum values for the variables in the 2013 – 2017 period.

Variable	Observations	Mean	Std. Dev.	Min	Max
LEV	535	2.284316	9.685355	-62.016	202.9574
FLEX	535	0.3329198	2.321067	-3.525536	28.73209
PROF	535	0.0513516	0.0837802	-0.5539968	0.4264706
SIZE	535	6.338179	2.257859	1.791759	13.41405
TANG	535	0.2263106	0.2719266	-0.7678975	1.585011
INLEV	535	0.6381308	1.036748	0	6.99
EVOL	535	0.0129348	0.0174345	1.86e-07	0.1748974

Table 6: Descriptive statistics

Generally, the results of data analysis indicated that there was a big gap between minimum and maximum values of the leverage ratio based on standard deviation (9.68).

During the period from 2013 to 2015, the economy of Finland was still influenced by the financial crisis and euro crisis. Finland was falling behind the rest of the world: no increase in export market since 2010, domestic demand and private-sector investment was

at the lowest point for 15 years, both manufacturing and investment were not growing enough to make positive influences on Finnish economic growth (Palokangas & Rautaportas, 2017; Hirst, 2015).

Figure 14 illustrates the GDP of Finland from 2005 to 2014 to give a specific view about economic situation of Finland under the research period.

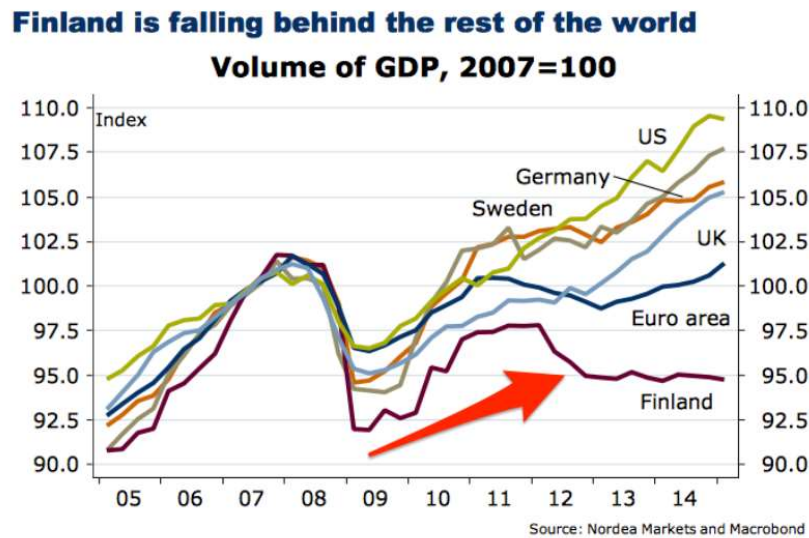


Figure 14: GDP of Finland (2005 - 2014)

(Source: <https://www.weforum.org/agenda/2015/07/whats-happening-to-finland-economy/>)

With this economic information and descriptive statistic in Table 5, there would be an explanation for extreme outliers in the dataset, which appeared being abnormally different from the rest of the data and could not reflect the real characteristic of the firms over the period. Therefore, these abnormal outliers should be dropped out and data needed to be corrected (see Appendix B).

4.1.2 Outliers in the data

An outlier of a set of data is identified as an observation distant from other values in a population which can cause decrease in normality, increase in error variance, reduction in accuracy of statistical tests (Osborne & Overbay, 2004). Therefore, without outliers,

the results of data analysis may eliminate biases and avoid leading to wrong direction of regression line (Cassar & Holmes, 2003).

However, eliminating outliers should be considered carefully because some outliers can contain important information which can explain the period investigated. So only extreme outliers of the dataset in this research were dropped by using histogram in Stata.

4.1.3 Descriptive statistics after removing outliers

After outliers were removed, dataset was presented as unbalanced in Table 7 below:

Variable	Observations	Mean	Std. Dev.	Min	Max
LEV	509	2.007559	3.131619	0.0375104	22.15956
FLEX	509	0.3990904	2.346981	-0.4506266	28.73209
PROF	509	0.0555696	0.0647697	-0.1690094	0.3719705
SIZE	509	6.463902	2.230328	1.791759	13.41405
TANG	509	0.2329564	0.2511978	-0.5307031	0.9345833
INLEV	509	0.6215521	1.047996	0	6.99
EVOL	509	0.0110419	0.0119828	1.86e-07	0.0719807

Table 7: Descriptive statistics after removing outliers

The mean value of the variables almost remained the same as before outliers removed. However, there was a big change in standard deviation of book leverage ratio (LEV) because of removing extreme outliers.

Book leverage ratio

In the data, the average value of debt to equity ratio of listed companies in Finland was 2: 1. In overall, it meant that the outstanding debt was two times larger than equity. The range of leverage ratio was from 0.037 to 22.15.

According to PwC (2016), debt to equity ratio of 3:1 would be the appropriate ratio which has been adopted by the thin capitalization rules. Therefore, the average book leverage ratio of listed companies in Finland was acceptable.

Financial flexibility

Mean value of financial flexibility of listed companies was 0.399 which stated that the average retain earnings was accounted for 39.9% in total assets of the companies. The min and max values were -0.45 and 28.73 respectively. The standard deviation was 2,34 implying that financial flexibility was different significantly between the companies.

Profitability

The result showed that the average profitability was 0.0555 (5.55%) presenting a return on assets of 5.55% which was considered good (Wikipedia, 2018b). Profitability was ranged from -0.169 to 0.371.

Size

The standard deviation of size was 2.23 which provided an idea that there was variety in the size of listed companies in Finland. Size of listed companies in Finland was ranged from 1.79 to 13.41.

Tangibility

Average tangible assets value was 0.2329 which accounted for 23.29% in total assets and ranged from -0.53 to 0.934.

Initial leverage

This variable introduced the first leverage ratio that was adopted by founders of the companies. The results showed the average initial ratio was 0.6215, min value was 0 and max value was 6.99. It could be said that, from the beginning, the listed firms in Finland financed their capital structure by 62.15% by debts.

Earnings volatility

The average value of earnings volatility was 0.011 (1.1%) indicating that the ratio of standard deviation of operating income to average total assets was considerably low. However, earnings volatility was various between firms and from more than 0 to approximately 0.07.

4.2 Correlation analysis

The pairwise correlation analysis was used to examine the relationship between dependent variable (LEV) and other independent variables of 509 observations during the period 2013 -2017.

	LEV	FLEX	PROF	SIZE	TANG	INLEV	EVOL
LEV	1.0000						
FLEX	0.3536	1.0000					
PROF	-0.1730	-0.0377	1.0000				
SIZE	0.2922	0.1130	-0.0261	1.0000			
TANG	-0.3235	-0.0278	0.1772	-0.0245	1.0000		
INLEV	0.8820	0.3081	-0.1671	0.2071	-0.2486	1.0000	
EVOL	-0.1216	-0.0919	-0.0928	-0.3606	-0.0629	-0.1297	1.0000

Table 8: Correlation matrix

According to Cohen's standard (Cohen, Cohen, West & Aiken, 2003), the correlation between dependent variable (LEV) and other dependent variables, as described in Table 8, was considered low. However, there was a strong association between book leverage ratio (LEV) and initial leverage (INLEV), $r(507) = 0.8820$, $p < 0.001$. This result was appropriate with the expectation as well as the period under researched that there was a strong positive relationship between book leverage ratio and initial leverage.

4.3 Evaluation of estimation model

This part introduced the process to choose the most appropriate model for the research. Firstly, OLS regression model was run and then the dataset was examined whether it could meet all the assumptions or not. Secondly, the panel data effects were conducted to consider also assumptions testing to figure out which model was the most appropriate (see Appendix E).

4.3.1 OLS regression analysis

After conducting the OLS regression analysis between the dependent variable (LEV) and the independent variables, the results were showed as follows:

LEV	Coef.	Std. Err.	P>t
FLEX	0.1224175***	.0273133	0.000
PROF	-0.4557283	.9674279	0.638
SIZE	0.1718602***	.029705	0.000
TANG	-1.437267***	.2535501	0.000
INLEV	2.395367***	.0647978	0.000
EVOL	6.999329	5.509522	0.205
_cons	-0.3581706	.247077	0.148
Where P > t: p < 0.001 = ***			
Number of observations: 509			
F (6, 502) = 358.74			
Prob > F = 0.0000			
R-squared = 0.8109			
Adj. R-squared = 0.8086			

Table 9: The OLS regression analysis

ANOVA analysis

The results presented in Table 9 indicated that the value of $F = 358.74$ which was quite high and $\text{Prob} > F = 0.000 < 0.05$. Therefore, the null hypothesis of equal population means was rejected. There was a statistically significant difference among the population means. The OLS regression model was significant.

Moreover, multiple correlation co-efficient (R - squared) was 0,8109 meant that the OLS regression model was built consistently with 81.09% of dataset. In other word, 81.09% book leverage ratio could be explained by six factors: financial flexibility (FLEX), PROF (profitability), SIZE (firm size), TANG (tangibility), INLEV (initial leverage) earnings volatility (EVOL).

Test of assumptions

In this section, because of the panel dataset, OLS regression would be tested to determine whether OLS regression model was appropriate or not. In case, the assumptions were violated, both fixed effects model and random effects model were conducted for further analysis.

Linearity

Graphing the residuals and fitted values could give a good idea of whether there was a linear relationship between dependent variable and the independent variables.

From Figure 15 below, it was observed that the residuals were plotted around horizon lines 0 on the y-axis. Even though there were still some outliers but it was still concluded that there was a linear relationship between dependent variable and the independent variables.

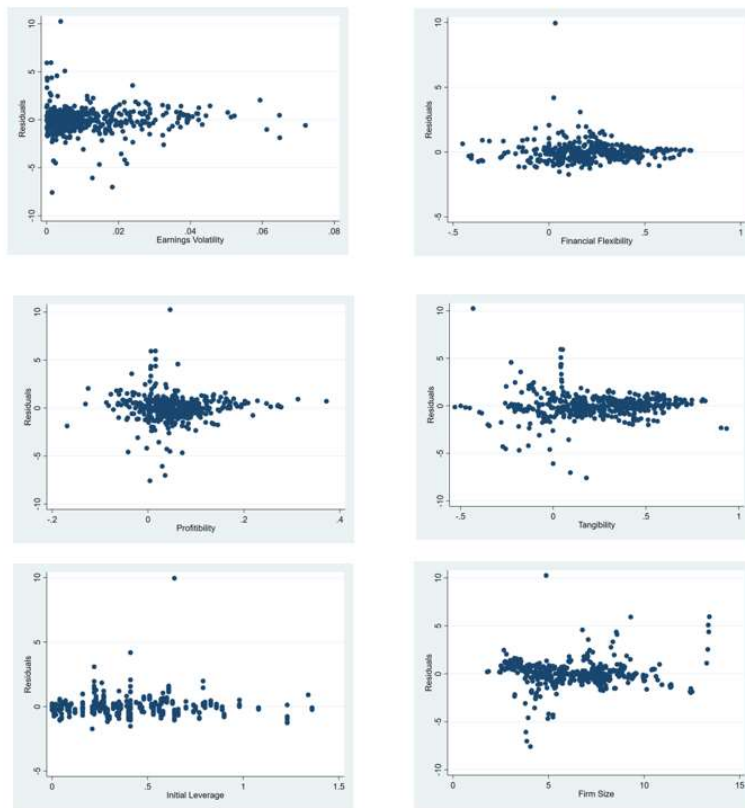


Figure 15: Linearity plots

Normality

Normality tests were used to check whether the data set was normal distribution. There were two methods conducted in this thesis to test the normal distribution of dataset.

D'Agostino Skewness/ Kurtosis Test

Variable	Obs	Skewness	Kurtosis	chi2(2)	Prob>chi2
Residuals (r)	509	0.8912	0.4011	0.73	0.6948

Table 10: Skewness/ Kurtosis tests for Normality

The null hypothesis of normal distribution would be rejected if the value of Prob > chi 2 was less than 0.05. Table 10 showed that Prob > chi 2 = 0.6948 > 0.05. Therefore, the null hypothesis was accepted at the 5% significance, the data set fitted the normal distribution.

Kernel density estimators

On the other hand, normality tests could be developed by histogram. However, it could not bring up the best results because bin sizes (class-widths) should be considered and different cut-points between the bins may impact on the results of dataset. Kernel density estimators were used to fix those issues.

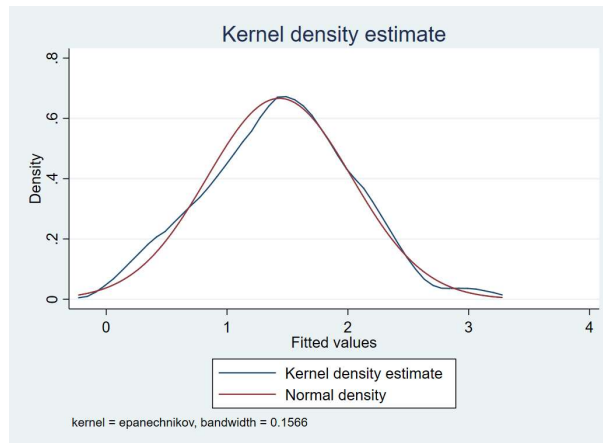


Figure 16: Kernel density estimate

Figure 16 illustrates that the residuals were nearly normally distributed. It should be able to conclude that the model was standardized residual.

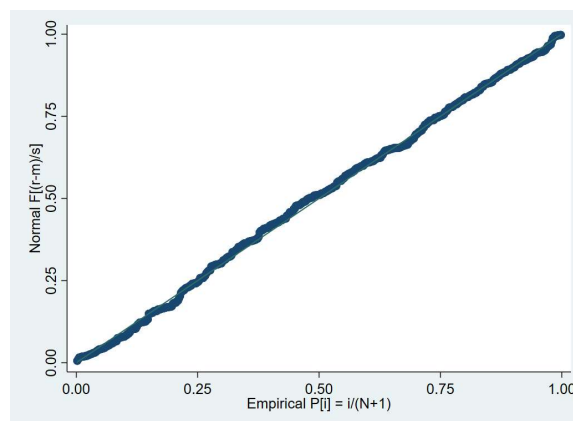


Figure 17: P-P plot

In addition, according to the P-P plot (Figure 17), the observation points were on the line representing normal distribution. Therefore, it should be able to expect the conclusion that the normal distribution assumption was not violated.

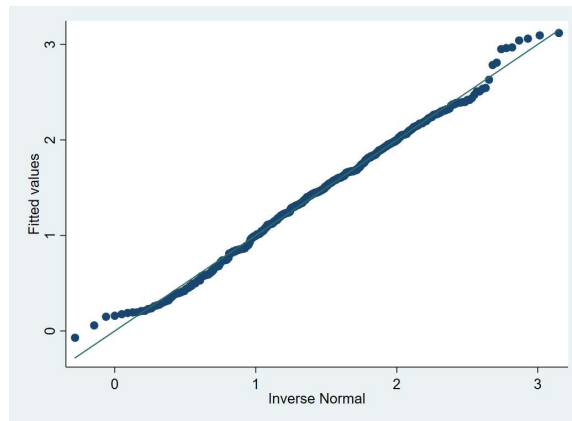


Figure 18: Q-Q plot

The Q-Q plot from Figure 18 was also used to test normal distribution. The pointed plots were almost on the straight line even though there were still some outliers. It could still conclude that the data was approximately normal.

Multi collinearity

Collinearity or multi collinearity is a phenomenon that has correlation interdependently between the independent variables. Upon the occurrence of this phenomenon will lead to unstable coefficients when adding variables to the regression model.

Variable	VIF	1/VIF
INLEV	1.25	0.801166
SIZE	1.19	0.841719
EVOL	1.18	0.847656
FLEX	1.11	0.899071
TANG	1.10	0.910758
PROF	1.06	0.940982
Mean VIF	1.15	

Table 11: Collinearity statistics

To detect collinearity phenomenon, Variance Inflation Factor – VIF was used. According to the results seen in Table 11, $VIF = 1.15$, very small (less than 10) showed the independent variables were not closely related, so that there was no multi - collinearity. Thus,

the relationships between the independent variables did not significantly affect the results interpreted by the regression model.

Autocorrelation

Autocorrelation tests whether data in the data set was random or originally from the same source. A Lagram-Multiplier test was applied to examine serial correlation for panel data with time series.

The null hypothesis is no presence of autocorrelation.

Wooldridge test for autocorrelation in panel data	
H0: no first-order autocorrelation	
F (1, 100) =	1.823
Prob > F =	0.1800

Table 12: Lagram-Multiplier test

According to Table 12, $\text{Prob} > F = 0.18 > p = 0.05$, the null hypothesis could not be rejected. There was no presence of autocorrelation in the dataset.

Heteroscedasticity

The null hypothesis of heteroscedasticity is constant variance. Both Breusch-Pagan/ Cook-Weisberg test and Cameron & Trivedi's decomposition of IM-test (White test) were used to test this assumption.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Ho: Constant variance	
Variables: fitted values of LEV	
chi2(1) =	715.03
Prob > chi2 =	0.0000

Table 13: Breusch-Pagan/ Cook-Weisberg test

Source	chi2	df	p
Heteroskedasticity	181.30	27	0.0000
Skewness	12.17	6	0.0584
Kurtosis	4.09	1	0.0430
Total	197.56	34	0.0000

Table 14: Cameron & Trivedi's decomposition of IM-test

Table 13 and Table 14 indicated $p = 0.0000 < p = 0.05$. The null hypothesis was accepted. It was concluded that there was a presence of heteroscedasticity.

Existence of heteroscedasticity in the regression model determined that dependent variable was inconsistent across the data. Thus, the result of the regression should not be trusted. In this case, panel effects models would be examined for further research.

4.3.2 Panel effects model

The fixed and random effects model was run on Stata 15 and illustrated as follows:

Number of observations = 509			
R-squared:			
within = 0.2847			
between = 0.0001			
overall = 0.0011			
F (5, 398) = 31.68			
corr. (u_i, Xb) = -0.3939		Prob > F = 0.0000	
LEV	Coef.	Std. Err	P > t
FLEX	-0.1130595***	0.0262095	0.000
PROF	-1.559843	0.9995422	0.119
SIZE	-0.3751511*	0.1317392	0.005
TANG	-4.457575***	0.4024741	0.000
INLEV	0 (omitted)		
EVOL	-3.444245	3.584831	0.337
_cons	5.640751***	0.8808845	0.000
where p < 0,05 = *; p < 0,001 = ***			
sigma u 3.3221894			
sigma e 0.61882448			
rho 0.96646694 (fraction of variance due to u_i)			
F test that all u_i = 0: F (105, 398) = 83.43		Prob > F = 0.0000	

Table 15: Fixed effects model

Fixed effects model is used to investigate the relationship between variables that vary over time. Time – invariant variables will be eliminated out of the model because they are considered to be unique to each individual and have no correlation with other individuals in the dataset. In this way, fixed effects model prevents the impact of bias on the outcome. However, it may cause a serious problem that the important information of data explained by time-invariant variables will be lost (Bell & Jones, 2013).

In Table 15, initial leverage ratio (INLEV) was a time-invariant variable which was adopted by founders of the company from the first day of IPO. It was not changed over the research period (2013 – 2017). Fixed effects model considered this variable as bias and deleted it from the outcome. The impact of initial leverage ratio (INLEV) on book leverage ratio (LEV) could not be answered by fixed effects model. In addition, lacking of measuring initial leverage (INLEV), the model could not be reliable with R -squared = 0.0011 which only explained the leverage ratio (LEV) at 0.11%.

The purpose of this study was investigating the impact of factors including initial leverage ratio on book leverage ratio, adopting a method which failed to answer the research questions was not accepted and illogical as well as unfortunately lead to wrong estimation of the data (Greene, 2012).

Conversely, random effects model is such an estimation which provides information on correlation of time-invariant variables with dependent variable.

Random effects model observes the relationships not only between individuals but also within individuals (Gunasekara, Richardson, Carter & Blakely, 2014) and if the assumptions of random effects model are hold then it will be more efficient to produce outcome of the research (Judge, Hill, Griffiths, Lutkepohl & Lee, 1988).

The assumptions of random effects model were examined by Breusch-Pagan Lagrange multiplier test (Table 17) and Hausman test (Figure 19)

Number of observations = 509			
R-squared:			
within = 0.2546			
between = 0.7918			
overall = 0.7731			
corr(u_i, X) = 0 (assumed)		Prob > chi2 = 0.0000	
LEV	Coef.	Std. Err.	P>z
FLEX	-0.0636935*	0.0254108	0.012
PROF	-1.17122	0.9392813	0.212
SIZE	0.1078738*	0.0532002	0.043
TANG	-3.114738**	0.3319483	0.000
INLEV	2.405242**	0.1259129	0.000
EVOL	-2.621524	3.635848	0.471
_cons	0.644112	0.3848237	0.094
where p < 0,05 = *; p < 0,001 = **			
sigma_u 1.1915767			
sigma_e 0.61882448			
rho 0.78758377 (fraction of variance due to u_i)			

Table 16: Random - effects model

Breusch-Pagan Lagrange multiplier test

Breusch-Pagan Lagrange multiplier test was used to examine whether the random-effects model was more suitable than OLS regression model.

The null hypothesis of the test is that the variance across the companies is zero. In the other word, it will demonstrate that there is no significance difference across companies and so is panel effect.

Breusch and Pagan Lagrangian multiplier test for random effects
Test: Var(u) = 0
chibar2(01) = 501.99
Prob > chibar2 = 0.0000

Table 17: Lagrange multiplier test

From Table 17, it showed that Prob > chibar2 = 0.0000 < p = 0.05. The null hypothesis could not be rejected and the random effect effects model was appropriate. There were

significant differences across the companies in the dataset. Random-effects model should be used to explain the relationships between variables in this data.

Hausman test

The Hausman test is used to compare fixed-effects model and random effects model. The null hypothesis suggests that there is no difference between two models. If the null hypothesis is hold, fixed effects model is used to explain the relationship. Otherwise, random effects estimator will be the better choice.

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fixedLEV	(B) ranLEV		
FLEX	-.1130595	-.0636935	-.049366	.0108441
PROF	-1.559843	-1.17122	-.3886227	.4773955
SIZE	-.3751511	.1078738	-.4830249	.1282746
TANG	-4.457575	-3.114738	-1.342837	.2642047
EVOL	-3.444245	-2.621524	-.8227211	1.029712

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic
 $\chi^2(5) = (b-B)' [(V_b-V_B)^{-1}] (b-B)$
 = 54.57
 Prob>chi2 = 0.0000

Figure 19: Hausman test

In Figure 18, Prob>chi 2 = 0.0000 < 0.05 - the null hypothesis was hold and fixed effects model should be use to explain the regression relationship. However, Hausman test is not always reliable. In some cases, the difference between random and fixed effects model is just significant with sample that the correlation between independent variable and dependent variables is extremely high and the observations are less than five. Researchers can choose the most appropriate model to explain the unobserved relationships (Clark & Linzer, 2012). In this thesis, random effects model was appropriate to explain the research hypothesis.

4.4 Random-effects regression analysis

In the random-effects model (Table 16), the Prob > chi2 = 0.0000 was used to consider whether random effects model was significant. As showed that Prob > chi2 = 0.0000 < p

= 0.05, thus the model was significant. The F test produced the outcome that all the coefficients in the model were different than zero.

The standard deviation of random effects and random errors were introduced respectively by $\sigma_u = 1.1915767$ and $\sigma_e = 0.61882448$.

$\rho = 0.7875$ was known as the intraclass correlation and presented that 78.75% of variance was caused by differences across panels (random-effects).

Overall R-squared = 0.7731 which presented that 77.31% book leverage ratio was explained by six factors in the model: earnings volatility (EVOL), financial flexibility (FLEX), PROF (profitability), SIZE (firm size), TANG (tangibility), INLEV (initial leverage).

4.4.1 Profitability

The results of regression model revealed that profitability impacted negatively to book leverage ratio which was consistent to hypothesis 1. However, it seemed that profitability played a less important role in deciding book leverage ratio of listed companies in Finland ($p = 0.212$).

In general, the relationship between profitability and book leverage ratio supported the pecking order theory. Profitable companies preferred retain earnings (internal funds) to debts due to cheaper cost of capital structure as well as safety when issuing new equity may hurt the value of the companies because of asymmetric information.

The negative relationship is consistent with the results from Titman and Wessels (1988), Fama and French (2002), Cwynar et al, (2015), Haron (2016).

4.4.2 Financial flexibility

Random-effects model showed that financial flexibility correlated negatively to book leverage ratio at the 0.1% significance level ($p = 0.012 < 0.05$). Financial flexibility played a significant role on how CFOs decided debt – to equity ratio and hypothesis 2 was accepted.

According to pecking order theory, companies use internal funds and obtain less debts to ensure high financial flexibility which can bring more opportunities for them to access debt market in the future if needed (Alipour et al, 2015; Graham & Harvey, 2002; Chow et al, 2018).

4.4.3 Firm size

Firm size impacted positively on leverage ratio at the 5% significance level ($p = 0.043 < 0.05$). It was explained that listed firms could have more advantages in obtaining debt easily with cheaper price based on trade-off theory.

The result was consistent with the researches from Booth et al. (2001), Frank and Goyal (2003), Rajan and Zingales (1995) and supported hypothesis 3 in this thesis.

4.4.4 Tangibility

It was quite interesting that tangibility associated negatively to debt to equity ratio which was totally contrary to trade-off theory. The result also provided that the correlation was significant at the 0.1% significant level ($p = 0.000 < 0.001$).

Tangibility played a significant role in capital structure. However, there are two theories used to explain for this result. According to the pecking order theory, the reason behind this relationship might be explained that companies investing more in tangible assets may have more potential profits which correlated negatively to debt amounts (Ng & Bundala, 2012; Acaravci, 2015). There might be another reason that firms still could have ability to obtain more debts based on their ownership structure, brand reputation, relationships and connections which could be used to replace collaterals (Shibru et al., 2015) and it consisted to agency theory (see Appendix D) (Nadeem & Wang, 2011; Alipour et al., 2015; Singh, 2016; Ganguli, 2013). Therefore, hypothesis 4 was rejected.

4.4.5 Initial leverage

The regression model indicated that initial leverage impact significantly ($p = 0.000 < 0.001$) and correlated positively to book leverage ratio.

According to the empirical analysis from Arce et al. (2015) and Lemmon et al. (2008), there was a tendency that companies chose their capital structure based on their initial leverage or considered the initial leverage as a reference when making decision on capital structure. Thus, hypothesis 5 was supported.

4.4.6 Earnings volatility

The results showed that earnings volatility impacted negatively to book leverage ratio which was consistent to hypothesis 6. However, it seemed that earnings volatility played the less important role in deciding book leverage ratio of listed companies in Finland ($p = 0.471$). This result is consistent to studies of Mangafic and Martinovic (2015), Nadeem and Wang (2011), Ukaegbu and Oino (2014), Shibru et al. (2015).

Trade-off theory explains that the more earnings volatility of companies is, the more risk companies take as well as the more easily they get financial distress. Therefore, debt financing is expected to be at low level.

The summary of hypothesis testing in qualitative analysis

In conclusion, from Table 23 below, the empirical results of testing hypotheses from the random-effects model regression analysis showed that the relationships between the book leverage ratio and financial flexibility, firm size, tangibility and initial leverage were significant.

Hypothesis		Theory	Results
H1	Profitability has negative impact on book leverage ratio.	Pecking order theory	Supported
H2	Financial flexibility has negative impact on book leverage ratio	Pecking order theory	Supported
H3	Firm size has positive impact on book leverage ratio.	Trade – off theory	Supported
H4	Tangibility has positive impact on book leverage ratio	Pecking order theory /Agency cost theory	Rejected
H5	Initial leverage has positive impact on book leverage ratio.	N/A	Supported
H6	Earnings volatility has negative impact on book leverage ratio.	Trade - off theory	Supported

Table 18: Test of Hypothesis

5 QUANTITATIVE ANALYSIS

In this chapter, the results of the questionnaire sent out to CFOs of listed companies in Finland will be analyzed and illustrate the real picture of financing practice of capital structure of Finnish market.

There were 7 out of 107 responses only (6.54%) but came from all sectors classified in this thesis. Even though this respondent rate was not high enough but could represent an image about determinants of capital structure.

This chapter included two parts: financing practice and corporate governance (see Appendix F).

5.1 Factors affecting on how CFOs make decision on capital structure

The answers were collected from seven CFOs in five different sectors seen in Figure 20 below.

7 responses

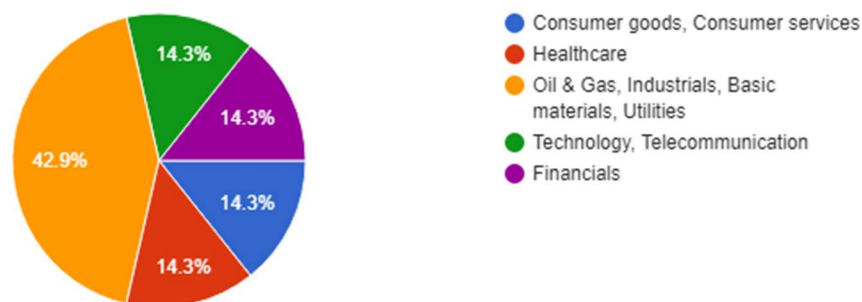


Figure 20: Respondents' sector classification

In the question about the sources of long-term funds used to finance new investments, straight debt was the first choice used by CFOs (mean = 4.42). Straight debt was ranked from important to very important which described that TOT played a dominant role in financing long term investment. In a study by Koziol (2006), many firms build up their optimal strategies with the strategy for straight debt including ordinary debts and bonds.

One of the reasons should be that straight debt has a flexible of payment as well as the interest rate is fixed (Delee, 2017). Therefore, companies can plan their payment term and reduce the interest rate risk. In the other hand, the combination between straight debt and equity financing can provide higher expected utility to owners and managers (Robe, 1999).

<i>Which of the following sources of long-term funds are/ would be important for financing new investments?</i>	Mean
Retained earnings	3.85
Restructuring assets	2.57
Straight debt	4.42
Convertible debt	2.28
External common equity	2.71

Table 19: Summary of question about sources of long-term funds

From Table 18, following to straight debt, retained earnings was the second choice (mean = 3.85) in financing long term investment due to its free access and long-term offering. The next options were external common equity (mean = 2.71), restructuring assets (mean= 2.57) and convertible debt (mean =2.28). However, according to Sara, Fu and James (2007), convertible debt is used to reduce agency cost of debt. Thus, there was still 28.6% responding that convertible debt played an important role in financing long term investment.

Generally, CFOs prefer external funds to internal funds, debt to equity and ordinary debt is more desired than convertible debt. The reason why CFOs chose debt over equity was discovered in question 3 in the survey and referred in Figure 21.

7 responses

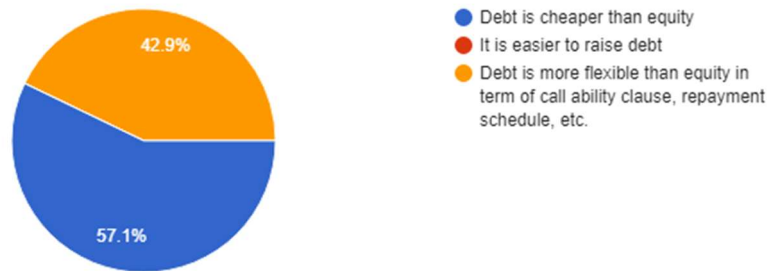


Figure 21: Debt financing reasons

Through this question, it was explained that debt was cheaper and more flexible than equity. The mature banking system and good corporate strategy service make it efficient for listed firms to obtain debt at acceptable costs. Moreover, the repayment schedule of ordinary debt can be negotiated and adjusted following to firms' performance and loan cycle; the repayment schedule of bonds is determined by companies themselves to make them not under the financial pressure and the bonds are still repurchased and called off in case the companies are under strong financial performance or prepare for new investment calls.

In the next question, CFOs were asked what factors were important in choosing the amount of debt. As can be seen in Table 19, financial flexibility was the most important among other listed factors (mean = 3.85). Next factor was considered quite important was the volatility of earnings and cash flow (mean = 3.57). While the debt levels of other companies in the industry (mean = 2.57) and the potential of bankruptcy or financial distress (mean = 2.14) were evaluated as unimportant in leverage decision.

<i>What factors affect how you choose the appropriate amount of debt for your company?</i>	Mean
The volatility of earnings and cash flow	3.57
Financial flexibility	3.85
The debt levels of other companies in the industry	2.57
The potential costs of bankruptcy or financial distress	2.14

Table 20: Factors affecting on choosing amount of debt

There was 85.7% of the respondents indicating that financial flexibility played an important role in choosing the appropriate amount of debt. This choice is consistent to many studies before such as Graham and Harvey (2002), Bancel & Mittoo (2004), Noulas and Genimakis (2014). This result suggested that POT predominated in making decision on debt leverage ratio.

Earnings volatility related to business risk (Li, Hsiao & Li, 2015) was considered relatively important (57.2%) because if the earnings volatility is big then the income will unstable (Ajay & Madhumathi, 2015) which cannot guarantee the commitment to payment term as well as debt obligations.

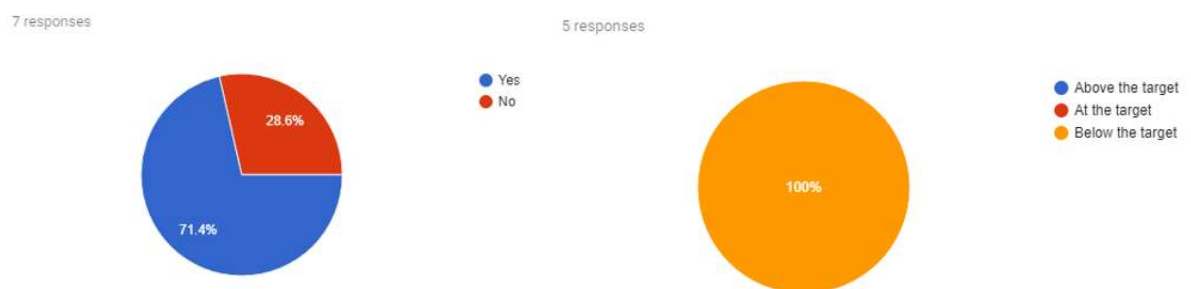


Figure 22: Leverage ratio target

71.4 % of the companies had a target value for the leverage ratio and all of them maintained their leverage ratios below the target values (Figure 22). It was easy to understand

because when the leverage ratio is lower than target value, financial flexibility is maintained high allowing companies to obtain more funds if needed to finance new projects or investment opportunities in the future (Chow et al., 2018; Alipour et al., 2015; Denis, 2011). This result is totally consistent to the primary choice of CFOs in deciding appropriate amount of debts analyzed above and draw out the significant role of financial flexibility to capital structure.

In the last question of financing practice, CFOs were asked to indicate the important factors when considering how to finance a new investment.

<i>Indicate the relative importance of the following factors when your company is considering how to finance a new investment.</i>	Mean
Projected cash flows from the project to be financed	4.42
Risk of the project to be financed	4.14
Preferring previously used financing sources	2.42
Ensuring long-term survival (avoiding bankruptcy)	3.42

Table 21: Factors affecting on how to finance a new investment

Table 20 showed that projected cash flows (mean = 4.42) and risk of the project to be financed (mean = 4.14) were considered important to very important in choosing financing strategy because based on these features, companies will make choices between internal or external funds, ordinary or convertible debts as well the appropriate debt ratio in capital structure to ensure the profits or long-term survival.

5.2 Corporate governance

Corporate governance has been focused since 2002 when there were numerous misconduct issues caused by listed companies in Britain and US companies such as Enron and Worldcom (Tahtinen, & Kivinen, 2002). Corporate governance Principles by the Organ-

ization for Economic Cooperation and Development (OECD, 2014) specifying “the distribution of rights and responsibilities among the different participants in the organization - such as the board, managers, shareholders and other stakeholders - and lays down the rules and procedures for decision-making aims to promote transparency, internal audit, risk management, corporate responsibility, equal relationships with stakeholders as well as shareholders (Borlea, Achim & Breban, 2013) and plays an important role in company’s performance and successful operation (Stuebs & Sun, 2015).

Corporate governance of Finnish listed companies was also affected by these principles and have changed a lot in almost last 20 years such as from bank oriented to dispersed ownership, improvement in shareholders’ protection, more open and transparent information (Tahtinen, & Kivinen, 2002).

This part will give some information about what goals and stakeholders are important to CFOs of listed companies in Finland.

<i>Which goals are important to your company?</i>	Mean
Maximize profits (ROA, ROE or EPS)	4.28
Market position, service, quality	4.28
Cost control, productivity, efficiency	4
Maximize shareholder wealth	4.28
Maximize sustainable growth	3.57
Social responsibility/ environment	3.71
Optimize working environment	3.57
Maximize dividends	3

Table 22: Corporate governance 1

Generally, maximizing profits and offering good service at high quality to improve market position were marked as important or very important goals by CFOs from Finnish listed companies. In addition, CFOs also put maximizing shareholder wealth and operating business with cost control, productivity and efficiency over maximizing dividends. It proved that CFOs, along with payout policy, also wanted to take chances for new investment opportunities or internal funds if needed by retain earnings as well as maintain liquidity (Michael, 2013).

Table 21 showed that, companies' performance was the first goal of CFOs. When the business is doing well then social responsibility should be developed and taken care. There are many studies suggesting the positive relationship between corporate governance and corporate social responsibility (CSR) or even future social responsibility (Stuebs & Li, 2015; Chazi et al., 2009). Good corporate governance activities such as risk management, performance improvement and efficient financial market are going along with CSR campaigns will bring up attractive investment environment, show transparency in business operation and economy which are very important in the current global situation to achieve sustainable growth and improve working environment (Pintea, 2015).

<i>Which stakeholders are important to your company?</i>	Mean
Shareholders	4.57
Management	4
Customers	4.85
Employees	4.85
Suppliers of good/ services	4
Suppliers of debt	3.14
The general public (media, government, and non-governmental organizations)	3.28

Table 23: Corporate governance 2

While CFOs in England and Netherlands chose shareholders over other stakeholders (Brounen et al., 2004), CFOs in Europe put customers in their center (Chazi et al., 2009) and CFOs in Finland even considered that their employees are as important as their customers which can be found in Table 22.

Debt suppliers were not so important because there are many ways for listed companies finance their investments such as retain earnings, equity issuance or share selling. On the other hand, listed companies are easily supervised by government, media and community, therefore their activities should be transparent and consistent. Moreover, this kind of companies also have a strong background in doing social media, public relationship and reputation management.

6 CONCLUSION, IMPLICATIONS AND LIMITATIONS

The chapter will give the results of this thesis regarding to the research objectives as well as how to imply findings to real life. Limitations and research suggestions will be discussed for further studies.

6.1 Conclusion

This study aims to figure out what factors influence on how CFOs make decision on capital structure – listed companies in Finland. There are total six factors including profitability, financial flexibility, firm size, tangibility, earnings volatility and initial leverage influencing directly on debt to equity ratio (leverage ratio). Both qualitative and quantitative analysis was used aiming to reflect CFOs' behavior accurately. The data was collected from the financial statements and balance sheets of 107 listed companies in Finland from 2013 to 2017. The questionnaire was collected from 7 out of 107 CFOs that were sent and presented the 6.54% return rate.

Random-effects model has proved that financial flexibility and tangibility impact significantly and negatively to leverage ratio. Thus, firm size and initial leverage impact significantly and positively to leverage ratio. In the other hand, both profitability and earnings volatility impact negatively to leverage ratio. Based on the coefficients, it could be concluded that tangibility has been the strongest effect to CFOs' decision on debt ratio.

Through the qualitative analysis, listed companies in Finland do not have a specific preference theory applied to capital structure. It could be explained that a mix financing method is used in Finnish context which is consistent to many researches before such as (Ng & Bundala, 2012; Dragota & Stefan-Dobrin, 2016). The trade-off theory is hold under the circumstances that CFOs increase debt ratio in capital structure if size increase and when earnings volatility is high, CFOs will decrease the amount of debt to avoid business risk and financial distress. However, effect of earnings volatility on leverage ratio is not so significant. The pecking order theory is supported by the effect of profitability and financial flexibility on leverage ratio. Profitable firms retain more internal funds and use less debt. However, this relationship is not so significant. Additionally, listed firms also want

to maintain their financial flexibility as high as possible. There is also existence of agency cost theory approved by the negative relationship between tangibility and leverage ratio at $p = 0,001$.

One more thing is quite interesting that initial leverage is also an important factor affecting significantly on capital structure and the second strong effect after tangibility. It explains that CFOs tend to follow capital structure's performance in the past. A high initial leverage leads to high leverage ratio in the future.

The results of the questionnaire also supported to the findings from qualitative analysis. CFOs prefer debt to retain earnings but financial flexibility plays the most important role in choosing the appropriate amount of debt in capital structure. The study also reveals that CFOs prioritize companies' performance and put customers as well as employees in the center of business.

6.2 Implications

The findings of this research not only reflect how CFOs choose and adjust their financing behaviors but also give useful information to investors and other stakeholders to improve their decision making on investment opportunities.

Firstly, CFOs from listed companies prefer to finance long-term investments or projects by debt because it is cheaper and flexible in payment terms and maturity dates. Therefore, banks and financial institutions should consider offering loans with attractive interest rates and flexible payment terms according to companies' performance in each specific period.

Secondly, tangibility is the most important factor affecting on book leverage ratio in Finland. According to the findings, firms with high tangibility tend to decrease amount of debt while firms with low tangibility seek more debts and external funds. In this situation, banks and financial institutions should openly invest in companies in need of external funds or offer special loans based on their credits ranking or guarantee by third party instead of requiring tangibility as collaterals. In the other hand, firms with high tangibility may earn more profits (Ng & Bundala, 2012; Acaravci, 2015), so that they prefer internal

funds when coming to new investments. However, retain earnings should be high leading to decrease in dividend pay-out (Ng & Bundala, 2012) or changing dividend policy while shareholders sometimes want a stable dividend policy (Michael, 2013) which may result in the conflicts between shareholders and managers (Ng & Bundala, 2012). Therefore, high tangible asset firms are encouraged to obtain more external funds such as debt to make dividend policy stable, take advantage of tax deduction as well as cheaper cost of debt when tangible assets are used as collaterals.

Thirdly, firm size impacts significantly on book leverage. It suggests that when companies want to expand they will gain more debt. Nevertheless, CFOs should take financial flexibility and cost efficiency in consideration to adjust debt ratio in capital structure and avoid unnecessary debt or high cost which may cause some effects on companies' performance, profitability and sustainable growth.

Finally, initial leverage is a quite interesting factor to explain capital structure of listed companies in Finland. High leveraged companies started with high initial leverage. Therefore, investors and stakeholders should consider companies' performance metrics (ROA, ROE, EPS) and market position as well as service and quality along with leverage ratio to make decision making on investing.

6.3 Limitations

The research still has several limitations that can be developed by further studies in the future.

Firstly, this thesis only researches on some typical determinants of capital structure while there are still many factors affecting on CFOs' financing behavior such as CFOs' characteristics including age, experience and background (Sakai de Macedo, Sampaio, Flores & Aprigio, 2015; Mangafic & Martinovic, 2015) and other company's characteristics including tax or non-debt tax shield (Hernádi & Ormos, 2012; Singh, 2016; Owolabi & Inyang, 2013), industrial type (Noulas & Genimakis, 2014; Lemma & Nagash, 2013; Omran & Pointon, 2009), liquidity (Singh, 2016; Abdulla, 2017; Mota & Moreira, 2017), growth rate (Gaytan-Cortes, Vázquez-Avila, Vargas-Barraza & Ponce-Godinez, 2012;

Mota & Moreira, 2017). There should be more further researches studying the relationships between leverage ratio and these factors.

Secondly, the thesis only considers book leverage ratio as the independent variable. However, further studies can explore capital structure decision based on long-term leverage ratio, short-term leverage ratio (Tesfaye & Negash, 2013; Ur Rehman, Wang & Yu, 2016; Irk & Karaca, 2015) and market leverage ratio (Chong & Law, 2012; Chong, Law & Yao, 2016) to bring more facts and accurate picture of Finnish financing market.

Thirdly, even though capital structure and financing behavior is mainly referenced by pecking order theory and trade-off theory but there are some other theories such as market timing theory (see Appendix C) (Lucas & McDonald, 1990; Baker & Wurgler, 2002) and agency cost theory (see Appendix D) (Jensen & Meckling, 1976) should be considered and researched under Finnish market context.

Finally, the responses returned from the questionnaire are quite low (6.54%) which does not provide enough information to reflect all CFOs' financing behavior from listed companies in Finland.

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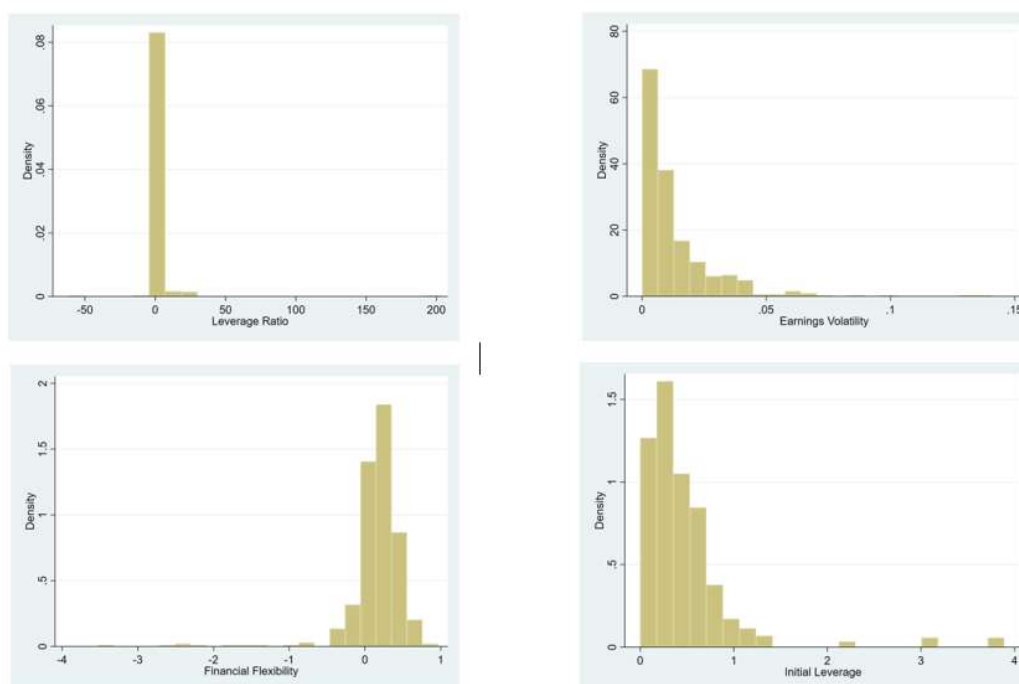
Appendix A: Stata

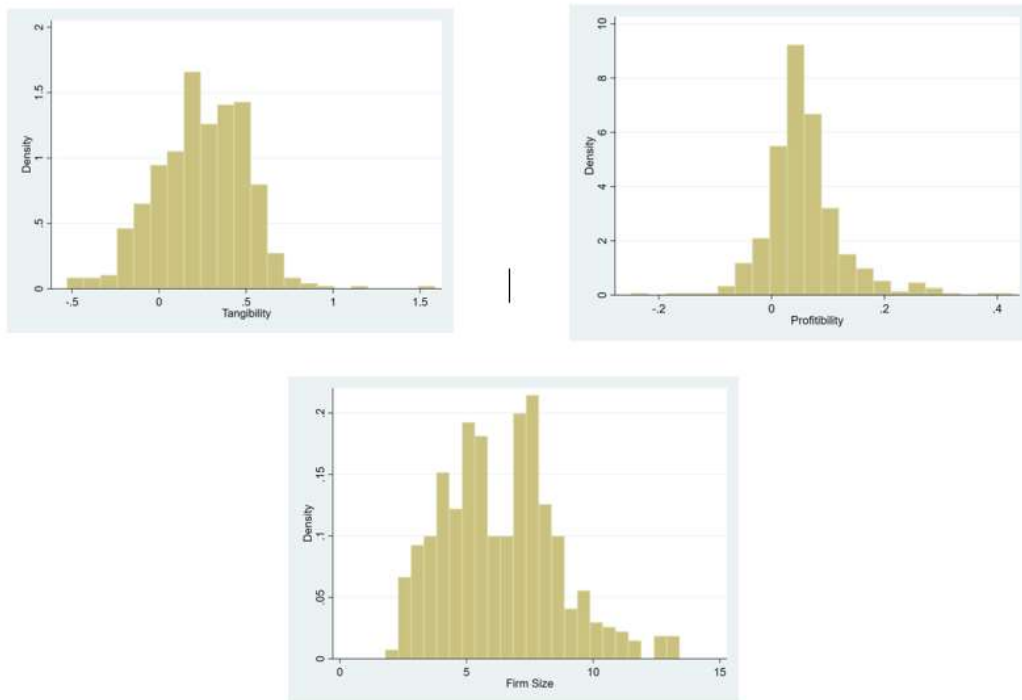
Stata is a statistical software package that provides tools for data analysis, data management and graphics. (<https://www.stata.com/>)

Comparing to SPSS, Stata is considered as more intuitive, less fussy regarding to punctuation, user driven and popular for large complex datasets (Kohler & Kreuter, 2012)

In this thesis, Stata 15/IC is used to generate data and run regression analysis.

Appendix B: Histogram before removing outliers





Appendix C: Market timing theory

Market timing theory suggests that a company will use equity issuance financing method based on market performance (Lucas & Mc Donald, 1990). Particularly, a company will access external funds by issuing new equity under the circumstance that the share price is high (Chong & Law, 2012).

Appendix D: Agency cost theory

Agency cost theory explained by Jensen & Meckling (1976) includes three main points: 1) opportunities costs incurred by choosing scale of debt in capital structure 2) monitoring and bonding costs caused by principal and agent 3) bankruptcy and restructuring costs.

Appendix E: Stata outputs

Source	SS	df	MS	Number of obs	=	509
Model	4039.80425	6	673.300708	F(6, 502)	=	358.74
Residual	942.170446	502	1.87683356	Prob > F	=	0.0000
				R-squared	=	0.8109
				Adj R-squared	=	0.8086
Total	4981.9747	508	9.80703681	Root MSE	=	1.37

LEV	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
FLEX	.1224175	.0273133	4.48	0.000	.068755 .17608
PROF	-.4557283	.9674279	-0.47	0.638	-2.356435 1.444978
SIZE	.1718602	.029705	5.79	0.000	.1134989 .2302216
TANG	-1.437267	.2535501	-5.67	0.000	-1.935417 -.9391167
INLEV	2.395367	.0647978	36.97	0.000	2.268059 2.522675
EVOL	6.999329	5.509522	1.27	0.205	-3.825235 17.82389
_cons	-.3581706	.247077	-1.45	0.148	-.843603 .1272617

Figure 23: Regression analysis

Variable		Mean	Std. Dev.	Min	Max	Observations
LEV	overall	2.007559	3.131619	.0375104	22.15956	N = 509
	between		3.022102	.0973915	21.08841	n = 106
	within		.6476428	-.7281552	11.20599	T-bar = 4.80189
FLEX	overall	.3990904	2.346981	-.4506266	28.73209	N = 509
	between		2.06748	-.3581674	21.36759	n = 106
	within		1.0485	-20.19457	7.76359	T-bar = 4.80189
PROF	overall	.0555696	.0647697	-.1690094	.3719705	N = 509
	between		.0594731	-.0622781	.2898593	n = 106
	within		.0291854	-.0790407	.1470895	T-bar = 4.80189
SIZE	overall	6.463902	2.230328	1.791759	13.41405	N = 509
	between		2.260327	2.456734	13.35042	n = 106
	within		.2134258	4.89011	7.763524	T-bar = 4.80189
TANG	overall	.2329564	.2511978	-.5307031	.9345833	N = 509
	between		.243621	-.4705518	.7841069	n = 106
	within		.0706064	-.0530596	.5924588	T-bar = 4.80189
INLEV	overall	.6215521	1.047996	0	6.99	N = 509
	between		1.04069	0	6.99	n = 106
	within		4.95e-17	.6215521	.6215521	T-bar = 4.80189
EVOL	overall	.0110419	.0119828	1.86e-07	.0719807	N = 509
	between		.0103308	.000185	.0584967	n = 106
	within		.0078807	-.0171992	.0502558	T-bar = 4.80189

Figure 24: Descriptive statistic for panel data

```

Fixed-effects (within) regression
Group variable: id

Number of obs   =   509
Number of groups =   106

R-sq:
  within = 0.2847
  between = 0.0001
  overall = 0.0011

Obs per group:
  min = 1
  avg = 4.8
  max = 5

corr(u_i, Xb) = -0.3939

F(5, 398) = 31.68
Prob > F = 0.0000

```

LEV	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
FLEX	-.1130595	.0262095	-4.31	0.000	-.1645858	-.0615332
PROF	-1.559843	.9995422	-1.56	0.119	-3.524885	.4051995
SIZE	-.3751511	.1317392	-2.85	0.005	-.6341428	-.1161594
TANG	-4.457575	.4024741	-11.08	0.000	-5.248816	-3.666334
INLEV	0	(omitted)				
EVOL	-3.444245	3.584831	-0.96	0.337	-10.49182	3.603326
_cons	5.640751	.8808845	6.40	0.000	3.908983	7.372519
sigma_u	3.3221894					
sigma_e	.61882448					
rho	.96646694	(fraction of variance due to u_i)				

F test that all u_i=0: F(105, 398) = 83.43 Prob > F = 0.0000

Figure 25: Fixed effects model

```

Random-effects GLS regression
Group variable: id

Number of obs   =   509
Number of groups =   106

R-sq:
  within = 0.2546
  between = 0.7918
  overall = 0.7731

Obs per group:
  min = 1
  avg = 4.8
  max = 5

corr(u_i, X) = 0 (assumed)

Wald chi2(6) = 575.12
Prob > chi2 = 0.0000

```

LEV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
FLEX	-.0636935	.0254108	-2.51	0.012	-.1134978	-.0138892
PROF	-1.17122	.9392813	-1.25	0.212	-3.012178	.6697372
SIZE	.1078738	.0532002	2.03	0.043	.0036032	.2121444
TANG	-3.114738	.3319483	-9.38	0.000	-3.765344	-2.464131
INLEV	2.405242	.1259129	19.10	0.000	2.158457	2.652027
EVOL	-2.621524	3.635848	-0.72	0.471	-9.747655	4.504607
_cons	.644112	.3848237	1.67	0.094	-.1101285	1.398353
sigma_u	1.1915767					
sigma_e	.61882448					
rho	.78758377	(fraction of variance due to u_i)				

Figure 26: Mixed effects model

Appendix F: Questionnaire

Section A

1. In which sector is your company

- Consumer goods, Consumer services
- Healthcare
- Oil & Gas, Industrials, Basic materials, Utilities
- Technology, Telecommunication
- Financials

2. Which of the following sources of long-term funds are/ would be important for financing new investments?

	1- unimportant		5 - very important		
	1	2	3	4	5
Retained earnings	1	2	3	4	5
Restructuring assets	1	2	3	4	5
Straight debt	1	2	3	4	5
Convertible debt	1	2	3	4	5
External common equity	1	2	3	4	5

3. If debt is preferred to equity, it is as

- Debt is cheaper than equity
- It is easier to raise debt
- Debt is more flexible than equity in term of call ability clause, repayment schedule, etc.

4. What factors affect how you choose the appropriate amount of debt for your company

	1 – unimportant		5 – very important		
The volatility of earnings and cash flow	1	2	3	4	5
Financial flexibility (<i>debt is restricted, so there will be enough funds available to ensure new projects when they come along</i>)	1	2	3	4	5
The debt levels of other companies in the industry	1	2	3	4	5
The potential costs of bankruptcy or financial distress	1	2	3	4	5

5. Does your company have a target value for the leverage ratio (debt – equity ratio)?

- Yes No

6. If yes, how close to the target leverage ratio is your company?

- Above the target
 At the target
 Below the target

7. Indicate the relative importance of the following factors when your company is considering how to finance a new investment:

	1 – unimportant		5 – very important		
Projected cash flows from the project to be financed	1	2	3	4	5
Risk of the project to be financed	1	2	3	4	5
Preferring previously used financing sources	1	2	3	4	5

Ensuring long-term survival (avoiding bankruptcy)	1	3	3	4	5
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Section B: Corporate Governance

1. Which goals are important for your company?

Maximize profits (ROA, ROE or EPS)	1	2	3	4	5
Market position, service, quality	1	2	3	4	5
Cost control, productivity, efficiency	1	2	3	4	5
Maximize shareholder wealth	1	2	3	4	5
Maximize sustainable growth	1	2	3	4	5
Social responsibility/environment	1	2	3	4	5
Optimize working environment	1	2	3	4	5
Maximize dividends	1	2	3	4	5

2. Which stakeholders are important for your company?

Shareholders	1	2	3	4	5
Management	1	2	3	4	5
Customers	1	2	3	4	5
Employees	1	2	3	4	5
Suppliers of good/services	1	2	3	4	5
Suppliers of debt	1	2	3	4	5
The general public (media, government, and non-governmental organizations)	1	2	3	4	5

Appendix G: Companies under research period (2013 – 2017)

No.	Name of company	No.	Name of company	No.	Name of company
1	Amer Sports Oyj	37	Kone Oyj	73	Metsä Board Oyj B
2	Finnair Oyj	38	Metso Oyj	74	Outokumpu Oyj
3	Fiskars Oyj Abp	39	Uponor Oyj	75	Ssab A
4	Kesko Oyj A	40	Valmet Oyj	76	Ssab B
5	Kesko Oyj B	41	Wärtsilä Oyj Abp	77	Stora Enso Oyj A
6	Nokian Renkaat Oyj	42	Yit Oyj	78	Stora Enso Oyj R
7	Sanoma Oyj	43	Aspo Oyj	79	Upm-Kymmene Oyj
8	Alma Media Oyj	44	Caverion Oyj	80	Afarak Group Oyj
9	Atria Oyj A	45	Cramo Oyj	81	Endomines
10	Hkscan Oyj A	46	Lassila & Tikanoja Oyj	82	Sotkamo Silver Ab
11	Olvi Oyj A	47	Outotec Oyj	83	Fortum Oyj
12	Raisio Oyj Vaihto-Osake	48	Ponsse Oyj 1	84	Nokia Oyj
13	Rapala Vmc Oyj	49	Pöyry Oyj	85	Tieto Oyj
14	Stockmann Oyj Abp A	50	Ramirent Oyj	86	Basware Oyj
15	Stockmann Oyj Abp B	51	Robit Oyj	87	Bittium Oyj
16	Suominen Oyj	52	Scanfil Oyj	88	Teleste Oyj
17	Viking Line Abp	53	Srv Yhtiöt Oyj	89	Digia Oyj
18	Apetit Oyj	54	Tikkurila Oyj	90	Innofactor Plc
19	Honkarakenne Oyj B	55	Aspocomp Group Oyj	91	Solteq Oyj
20	Lkka-Yhtymä Oyj 2	56	Consti Yhtiöt Oyj	92	Soprano Oyj
21	Keskisuomalainen Oyj A	57	Dovre Group Oyj	93	Tecnotree Oyj
22	Martela Oyj A	58	Elecster Oyj A	94	Trainers' House Oyj
23	Marimekko Oyj	59	Etteplan Oyj	95	Dna Oyj
24	Pohjois-Karjalan Kir- japaino	60	Exel Composites Oyj	96	Elisa Oyj
25	Restamax Oyj	61	Glaston Oyj Abp	97	Telia Company
26	Orion Oyj A	62	Incap Oyj	98	Citycon Oyj
27	Orion Oyj B	63	Kesla Oyj A	99	Nordea Bank Ab Fdr
28	Oriola Oyj A	64	Neo Industrial Oyj	100	Sampo Oyj A
29	Oriola Oyj B	65	Nurminen Logistics Oyj	101	Aktia Bank Abp
30	Pihlajalinna Oyj	66	Plc Uutechnic Group Oyj	102	Ålandsbanken Abp A
31	Revenio Group Oyj	67	Wulff-Yhtiöt Oyj	103	Capman Oyj
32	Neste Oyj	68	Yleiselektroniikka Oyj E	104	Taaleri Oyj
33	Cargotec Oyj	69	Ahlstrom-Munksjö Oyj	105	Technopolis Oyj
34	Huhtamäki Oyj	70	Kemira Oyj	106	Investors House Oyj
35	Konecranes Oyj	71	Metsä Board Oyj A	107	Orava Asuntorahasto Oyj
36	Panostaja Oyj	72	Sievi Capital Oyj		