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**CAPITAL STRUCTURE THEORY AND DETERMINANTS WITH REFERENCE TO  
FINNISH SMES**

Bachelor's Thesis  
Oulu Business School  
April 2018

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## 1 INTRODUCTION

### 1.1 Background and importance

The purpose of this thesis is to explore the factors which contribute to the capital structure requirements of Finnish small-to-medium-sized enterprises (SME). This thesis provides a critical review of existing literature on the subject area. It attempts to compare and contrast recent empirical evidence with traditional capital structure theory, and discuss their implications for SMEs with respect to Finnish companies and the setting they operate in. As will be shown, a part of this thesis is to identify reasonable assumptions, that make traditional capital structure theories applicable in the actual market place.

The importance of this thesis rises, firstly, from the nature of existing literature on capital structure decisions. The subject has been widely explored – ranging from Modigliani and Miller’s (1958) founding piece to Graham and Harvey’s (2001), behavioural aspects of capital structure theory – but studies have traditionally focused primarily on its theoretical aspects, lacking in practicalities of application upon a business model. Later research – such as that of Chittenden, Hall and Hutchinson (1996) and Vigrén (2009) – has also taken upon itself to point out which variables seem to determine firm capital structures. Arguably, however, the focus of these papers has been to mathematically find correlations with determinants of capital structure, rather than explaining and assessing the reasoning behind these findings. On the opposite, this thesis attempts to review the existing arguments regarding capital structures, and to ultimately analyse and determine, which of these seems most compelling. As will be shown, this is a challenging task, and most likely one where separate factors cannot be singled out due to high levels of interconnectivity. Further, while country-specific, regression-based research and Europe-wide explanatory reviews exist, not many papers combine *best of the both worlds*, in taking a country-specific *and* explanatory approach. This thesis therefore aims to find factors, specific to Finnish SME’s, that could affect capital structure decision making.

### Research Questions:

1. *Why are certain firm specific determinants important factors in explaining a firm's capital structure decisions?*
2. *Do empirical findings on SME capital structures support traditional capital structure theories?*
3. *What effects do the Finnish economic and regulatory environments impose upon SMEs?*

This thesis starts by reviewing traditional capital structure theories and providing an analysis on the applicability of these in practice. This is followed by a summary of the factors which affect SME capital structures. Finally, this thesis is concluded with a review and analysis of both the Finnish economic environment with regard to SMEs and SME-specific firm characteristics that have been found to affect capital structures.

### **1.2 Use of Material**

Capital structure decisions have been an important area of research for the last 40 years. It can be said that the contemporary era of capital structure research began with Modigliani & Miller's (M&M) paper in 1958. A plethora of literature exists upon the research area. This can be accredited to the reality of capital structure decision-making: amidst a majority of quantifiable, unquestionable findings in accounting and finance, an optimal capital structure has often been labelled as a buzzword – it is an area of research, where applicable generalisations are rare, and within which scholars have failed to form a consensus in terms of a single, functioning model. Thus, planning an effective scope for the assessment of source material is key to the success of this thesis.

Only previous studies and other existing literature were used to construct this thesis; no separate research was conducted.

For the theoretical framework, it was determined that some capital structure theories cannot be included due to the limited coverage of this paper. Therefore, it was, for instance decided that asymmetric information is covered partly as a section of the Pecking Order theory, and agency costs as a part of the Trade-off Theory. Finally, it

was concluded that theories, which are assessed in this thesis are the M&M theorem, the Trade-off theory, the Pecking Order theory and the Market Timing theory.

For the third section of this thesis, studies that provide insight on the determinants of capital structure were chosen. As SME-specific studies can be considered as relatively limited, papers that take to count other types of companies were also included. All in all, 72 sources were chosen per the first screening, which was later reduced to 53 scholarly articles which have been cited in this document.

## 2 FRAMEWORK OF REFERENCE

It is invaluable to understand the nature of capital structure research and its founding theories in order to fully appreciate the magnitude of the topic. Capital structure research is a relatively new field; arguably seeing its first major, celebrated work in only 1958 (Popescu & Visinescu, 2009). It can be stated, that creating a comprehensive model for explaining and planning the capital structures of companies has proven a divisive topic from the very beginning. As Honkanen (2017, 51) states, a model, which could explain the formation of capital structure as a concept adequately, does not exist. The very nature of the capital structure research provides an understanding on why the amount of papers written remains vast. To accentuate the point, it could be said, that *there are as many differing models and ideas, as there are scholars working on the topic*. Even though a plethora of material exists, one can raise a valid point in stating that the field of research is yet to become abundant in varying viewpoints. The reason for this rises from the very nature of the field: an innumerable amount of theories and applications may exist. This section of the thesis provides an overview of various significant capital structure theories and reviews the present state of said research.

### 2.1 Terminology and methodology

Capital structure refers to, by definition, to the formulation of a firms employed capital that is used to finance its operations. Types of capital can be divided, firstly, into debt capital and equity capital. (Kennon, 2017.) Debt capital differs from equity in the sense that it involves an official agreement on the return of the loaned sum along with a predetermined return (i.e. interest) for the investor. Equity, on the other hand has no such predetermined returns for investors. Capital can also be divided into internal and external capital. Internal capital, as is suggested by its name, consists of funds that are created within the company. Essentially, what is referred to here, are retained earnings. External capital, consequently, consists of all forms of capital that are acquired from outside the firm; including debt, equity and other funds. In much of the available research, debt – and debt financing – is divided further into various categories. For the sake of simplicity, this thesis acknowledges two sub-groups of debt, which are defined by their maturity; short-term and long-

term. Maturity refers to the time by which debt is to be paid back. Short-term maturity refers to debt that is to be paid back within a year, and long-term, to debt which is to be paid over a year, respectively. It is to be noted, that the term *maturity* may also be used to describe the phase at which a company is within its life-cycle.

Additionally, in this thesis, when referred to capital structure, by and large this relates mostly to the indebtedness of a firm. The reason for this, as will be discussed, is the nature of SME ownership; SMEs, by large, are privately held. Privately held companies do not raise finance through public equity markets, and thus equity financing for such companies is not as such a question of finance strategy, but rather related to the personal financing circumstances of firm ownership. The terms *firm*, *company* and *SME* are also used rather interchangeably. Further, the terms debt ratio, leverage, debt usage and indebtedness are used rather interchangeably in this paper, all referring to the ratio of debt to total assets on a firm's balance sheet. Additionally, capital, funds and financing (finance sources) are used rather interchangeably in referring to the means of financing operations.

## **2.2 Irrelevance of Capital Structure**

The notion that the capital structure of a firm is irrelevant was a central finding of M&M's (Modigliani & Miller, 1958) paper. It was a forerunner in the field, and some go as far as to say that the paper formed a new research field, and directed scholars into focusing on capital structure decisions in levels previously unseen (Popescu & Visinescu, 2009). Where the general approach towards capital structure research had been tightly focused – and even lagging – with income and profit-based, *ad hoc* theories, Modigliani and Miller sought to provide an entirely new alternative for studying the capital structures of companies in discussing the topic in terms of market value maximization. Arguably the most important contribution of the paper is the fact that it outlines the conditions, in which capital structure, and other corporate financing decisions are irrelevant. (Salminen, 2013.)

Modigliani & Miller (1958) lay the foundation of their research by dividing the market into distinct groups – classes – of companies by the rates of returns the companies face (Salminen, 2013). Further, they work with the assumption, that

markets are perfect. (M&M 1958.) M&M thus assume, that capital markets are completely frictionless, and that neither information asymmetries nor taxes are present (Salminen, 2013).

The key premise for the main proposition is the possibility of utilizing arbitrage. In perfect markets, both individual investors and companies have equal access to financial markets, face identical transaction costs and returns for investments (Popescu & Visinescu, 2009). This implies, that individual investors are able to create homemade leverage; i.e. recreate the capital structure of a given company to match the obtained returns. Vice versa, an investor is also able to artificially compile any desirable combination of debt and/or equity. Further, in a perfect market, the value of capital is equal, regardless of capital structure. (Salminen, 2013.) Therefore, as the leverage of the company has no effect on the market valuation, when a firm decides its capital structure policy, what it is essentially deciding, is how it is willing to split its income between its investors. (Popescu & Visinescu, 2009.) Finally, this results into the notion, that in perfect markets, in terms of market value maximisation, an optimal capital structure is non-existent (Salminen, 2013).

With the lack of existing, truly perfect markets, the M&M irrelevancy theorem has been empirically disproven on a relatively large scale. Factors such as taxes, transaction costs and bankruptcy costs are among the most important ones affecting the viability of the model as a comprehensive mean of studying capital structures. (Popescu & Visinescu, 2009.) After the initial paper was released in 1958, the scholars released a correction in 1963, taking taxation into count. This suggested that firms should theoretically finance their investments entirely by debt, due to the benefit in terms of deductions. (Modigliani & Miller, 1963.) Thus, it can be argued, that the possibility for an optimal capital structure arises from imperfections and inefficiencies of a market place (Salminen, 2013).

It's easy to accept Popescu & Visinescu's (2009) claim, which suggests that the original Modigliani-Miller theorem is an "*unlikely characterization of how real businesses are financed*". What has to be recognized, however, that the contribution of the paper is not limited to its own findings. Rather, the paper sparked discussion and critique, which subsequently shaped capital structure theory and research



decisively. The shortcomings of the model – taxation, transaction costs, bankruptcy costs, agency costs, to name a few – led scholars into creating more comprehensive solutions in researching capital structure. (Popescu & Visinescu, 2009.)

### **2.3 Trade-Off Theory**

The term trade-off theory, in fact, refers to a group of related theories used by different scholars. Trade-off theories – as a collective – are a faction of the major theories whose emergence can be largely attributed to the criticism that Modigliani & Miller's founding paper. As market imperfections – most notably, taxes – are accounted for, M&M's conclusions suggest 100% debt financing. (Popescu & Visinescu, 2009.) Funding operations entirely on debt is not only highly risky, but an unattainable state for most companies acting in an imperfect market. Thus, trade-off theories can be characterized as eliminating the extremes from both ends of the spectrum: they justify the existence of more moderate capital structure decisions (Apostol, 2017). As the name suggests, these theories rely on the basic idea of a company committing to a certain capital structure by weighing the benefits and costs of increased leverage against each other. (Salami & Iddirisu, 2011.) In practice, the assessment of costs and benefits is conducted by equating the marginal benefit of a dollar of debt and the marginal cost of increased exposure to default (Abel, 2017).

The classical trade-off is characterized by Kraus & Lintzenberger (1973), who examined the capital structure choices that a company makes by balancing the deadweight costs of bankruptcy with the benefits of debt. The scholars agree with M&M's notion of a company's market value being independent from its capital structure, and on several advantages of debt financing. In comparison to M&M's arguably simplistic view of absolute debt financing, Kraus & Lintzenberger acknowledge the decreasing marginal benefit and additional accumulated costs of debt. (Salami & Iddirisu, 2011.)

While the gist of all trade-off theories is relatively homogeneous, scholars have differing views in adapting it into existing, imperfect markets. Unlike more recent theories, the traditional school of thought, as presented by Kraus & Lintzenberger (1973) in the static Trade-off theory, affirms the existence of an optimal capital

structure. (Popescu & Visinescu, 2009.) The main benefit of debt in the static model is its shield regarding corporate taxation, while the primary cost is an increased risk of financial distress. Although agency costs – which are most notably incurred in conflicts of interest between company stakeholders – are often treated and assessed within a capital structure theory of their own, they will be regarded as a part of the costs of the trade-off model in this thesis. By including this dimension to the static trade-off theory, it can be argued, that it provides a more comprehensive view of the factors that have to be taken into count whilst conducting capital structure decisions. Additionally, it is often argued that the importance of agency costs as a determining factor of a firm's capital structure increases with firm size – thus highlighting the relatively lower significance for SME's (Blanco-Mazagatos, de Quevedo-Puente & Castrillo, 2007). The inclusion of agency costs implies that firms are forced to balance the benefit of tax shields not only against the costs of financial distress, but also the agency costs of equity, such as dilution of ownership (Popescu & Visinescu, 2009).

A parameter which is lacking in the static trade-off model, is time. It is natural for the capital structure requirements of a firm to change over time. A firm, adjusting its leverage to match a predetermined state, where the marginal benefits of debt equal associated marginal costs, seems inefficient and unlikely within existing imperfect markets. This is where the importance of the dynamic model arises: it incorporates the effects of time on capital structure decisions.

The first dynamic trade-off models were introduced by scholars such as Kane (1984) and Brennan and Schwartz (1984). The means of taking the time dimension into count can be summarized as assessing future expectations for capital structure, and analysing the costs associated with adjusting to these expectations. Fundamentally, the expectations revolve around whether a firm believes that it will be paying out funds, or requiring excess funds. Further, if a company expects to raise finance within the time frame, it will commence in balancing the marginal costs and benefits of adjustment with debt and equity – and subsequently form a mix of the two. (Popescu & Visinescu, 2009.)

While Trade-off theories successfully added and amended the rudimentary findings of the M&M theorem, they have still failed to answer certain important capital structure questions that exist in imperfect markets. The theory has been criticized through empirically gathered data, which finds that many of the most profitable companies around the world generally have increasingly conservative capital structures. This contradicts the theories as such, because they would suggest the use of high debt in order to utilize the corporate tax shield. (Salami & Iddirisu, 2011.)

## **2.4 Pecking Order Theory**

The Pecking Order theory saw its beginning with the work of Fischer & Donaldson (1961), who observed that there is an order of preference in the sources of finance for companies. He found that first of all, internal finance is preferred over external finance. Further, he found that if companies were to raise new, external finance, they tended to plan the sources of financing so as to minimize the costs of additional asymmetric information. (Popescu & Visinescu, 2009.) To elaborate, companies tend to use external financing in the order of preference where debt is used first, followed by hybrid finance and equity, respectively.

What this implies, is that a) it is costlier to use external than internal financing, and that b) there are significant gains in using debt over equity. (Myers 1984.)

The pecking order was, for long, not considered a credible financial theory, due to a lack of scientific explanations and backing for the model. To elaborate, it can be stated that the model relied upon the subjective views of decision-makers to prefer a form of finance over another even though there was no reason – scientifically – to do so. It was only after Myers and Majluf (1984) introduced the notion of asymmetric information, that the theory gained ground. (Popescu & Visinescu, 2009.)

### **2.4.1 Asymmetric information, Underinvestment and Overinvestment**

The concept of asymmetric information is pivotal in understanding the rise of the pecking order theory. Asymmetric information, inherently exists outside of perfect markets. Within neoclassical financial theory one of the main implications of a

perfect market is that it is assumed that all players have access to equal information. (Vieru, 2018) The concept of information asymmetry can be seen as one of the main factors that explains real-world market imperfections: in actuality, players have differing levels of information.

A firm has an obligation to maximise shareholder value (OYL 2006/624, 5§). What is often referred to in profit-maximisation-related discussion, is the *Net Present Value* (NPV) rule. NPV calculations refer to discounting the future cash flows of an investment to the present day in order to determine its profitability. The rule dictates, that a firm should accept and initiate in any project that promises a non-negative NPV. While being over-simplified and somewhat criticised, it is in line with the judicial responsibility of a company to create shareholder wealth, and thus acts as a valuable, yet rudimentary criterion. Even if the gains of a project are not directly financially observable, they must create shareholder wealth, rather than destroy it. The key to understanding the pecking order theory is to bring the two previously mentioned concepts, asymmetric information and profit maximisation together.

Company insiders and company outsiders – most notably managers and owners, respectively – value companies differently. If assumed unbiased, the management of the company is often thought to have *perfect* information on the quality and value of a company, and are therefore able to value the company effectively and accurately (Vieru, 2018). On the other hand, existing and potential owners of new equity stock can be said to value the company based on a) market value, b) subjective valuation or c) a combination of the two. Therefore, it is likely that a player, whose information is imperfect, under- or overvalues the equity stock of the company. Subsequently, if a company is forced to finance its ventures with outside equity capital, and its management is not able to convey the true value of the project effectively (Salminen, 2013), it is likely that it will not receive said capital at equilibrium price – i.e. there are additional costs incurred due to information asymmetry. Popescu and Visinescu (2009) follow on the lines of Akerlof (1970) and state that the additional costs associated with asymmetric information reflect the “*Lemon Premium*”, which suggests that outside equity investors require a risk premium, formulated from the industry default risk average to their investment.

Additional costs may lead into a company not maximising its value through instances where additional costs accrued from information asymmetries force the abandonment of otherwise non-negative NPV projects. An underinvestment problem is what is referred to when a firm is forced to abandon a project due to capital undervaluation. In an underinvestment problem, a project that would otherwise project positive NPV may prove unprofitable due to the additional costs related to undervalued capital. The additional costs of the project a) will make its NPV negative and b) would realise as expenses for existing stock holders while benefitting new stock holders, who have been able to purchase stock at *discount*. (Popescu & Visinescu, 2009.)

Myers and Majluf (1984) suggest, that a company will, therefore revert to a certain *pecking order* with its capital requirement decisions. They will look to combat aforementioned issues by retaining profits during times of poor investment opportunities. Once retained internal funds have been exhausted, the firm will seek to finance their operations with low risk (i.e. *low cost*) securities, such as default-risk free debt, after which it would move on to riskier securities. Finally, a firm will turn to equity as *last resort*. As it is assumed that rational investors discount the firms' stock price when companies choose to issue equity over debt, it is speculated that managers tend to avoid equity as long as possible. (Popescu & Visinescu, 2009.) Additionally, the riskier the security, the greater the chances for not engaging in a project, which would be accepted by firms that are able to raise the required amount of debt capital at equilibrium price (Salminen, 2013).

Contrarily, a firm may also be overvalued. In this case, it should theoretically finance all non-negative projects with additional equity. To elaborate, an overvalued company should *theoretically always* issue new equity, as by doing so it is generating additional wealth, rather than destroying it. The pecking order theory implies that issuing new equity will decrease the value of the firm due to investors discounting its value as per the *Lemon Premium*. Furthermore, it should be assumed that rational investors will question the reason for new equity issues at a certain point of time. In other words, it is likely that investors will, by time, understand that a company stock is overvalued. In such a situation, it is likely that investors will be hesitant to invest in the equity stock of the company until the company has fulfilled its debt capacity (Salminen, 2013). On the other hand, overinvestment may affect the

actions of the management of a company. Vieru (2018) argues on the lines of Jensen (1986) in saying that the ownership of a company may be inclined to force the election of debt financing for the sake of a positive control effect over the company; debt can be utilized as a tool to unite the interests of ownership and management.

The necessity for such measures arises from the fact that overvalued equity may urge managers into expanding the size of the company while disregarding value creation and thus diverting from the best interests of firm ownership. Pay-outs to shareholders reduce the resources which are under a managers control, creating an incentive to transfer these funds into another form, which is less susceptible to control deterioration. Additionally, the overvalued stock may enable the firm to enact and invest in negative NPV projects – i.e. the firm is able to *overinvest* – that would have been out of question if capital was efficiently valued. Non-positive NPV projects, and the deviation from the fundamental value-creation requirement of a company's operations further theoretically solidify the pecking order in capital structure decisions, even with overinvestment problems. (Vieru, 2018.)

## **2.5 Market timing theory**

The market timing theory is one of the more recent theories in capital structure research. It is arguably one, that has challenged the traditional theories (Salminen, 2013) and rightfully questioned the rationality of capital structure decision making. The main assumption behind the theory, as stated by Baker and Wurgler (2002), is that while the market values instruments effectively as an aggregate, some fluctuations may appear due to irrational investors. They assume that corporate managers, having access to superior information, are rational, and that an investors' decisions are often irrational by way of psychological quirks and subjective views. (Baker & Wurgler, 2002.) The main idea of the theory is simple: managers will exploit overvalued equity stock by issuing new equity, and will repurchase stock when its value is low. Within the model, relative stock value is determined by comparing the levels of a) previous market values of the stock and b) the external

finance weighted-average market-to-book-ratio<sup>1</sup> ( $M/B_{\text{efwa}}$ ) (Vieru, 2018). When markets function effectively and equity is priced accordingly, the theory refers back to the pecking order theory, which suggests the use of internal funds first and the use of equity only as the last resort. The key distinction between the two models is that the pecking order theory assumes that markets act efficiently, while market timing relies on the market to act irrationally at times (Salminen, 2013). Like the pecking order theory, it does not acknowledge the existence of an *optimal capital structure*.

Popescu and Visinescu (2009) identify another school of thought within the market timing theory. Contrary to the general view of the theory, this school of thought assumes investors as entirely rational players. Here, companies *create* opportunities, where a timing and equity issue may provide additional returns. In other words, companies attempt to time the market by issuing new equity immediately after releasing positive information. Therefore, the scholars argue, that equity cannot be incorrectly valued, and the gains from timing the market rise from minimising the costs that are incurred from information asymmetry between the ownership and management of the company. (Popescu & Visinescu, 2009)

It is worth mentioning, that while Baker & Wurgler's (2002) view of the model theoretically requires market inefficiencies, Popescu and Visinescu (2009) point out that in practice, these are not – as such – requirements for the model to function. On the contrary, it can be argued that managers, rather than investors are irrational, as the model relies on the assumption that managers perceive to be able to time a well-functioning market place. According to the scholars, the irrationality of managers should therefore be seen as the founding argument in this model. (Popescu & Visinescu, 2009.)

Reasonable empirical evidence has been provided for the market timing theory. Data shows that firms tend to issue equity instead of debt, when the market value is high relative to the book value and past market values of the stock. For instance, Baker & Wurgler (2002, 10) find that high M/B-ratios correlate with decreased leverage after

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<sup>1</sup> Baker and Wurgler (2000) define  $M/B_{\text{efwa}}$  as an average of past market-to-book ratios. This takes high values for firms that raised external finance when their M/B-ratios were high.

an initial public offering (IPO) of equity stock. Vice versa, stock repurchases seem to happen when equity market value is low (Vieru, 2018). Further, Vieru quotes Graham and Harvey's (2001) survey of Fortune 500 Chief Financial Officers (CFO), in which they found that stock under- or overvaluation is the second most important factor in issuing common stock after earnings-per-share (EPS) dilution. It is unproductive to argue against the empirical evidence that supports the market timing theory – it has been widely acknowledged that market conditions have an effect on the capital structure decisions of companies. However, once fluctuations over time are considered, literature is not as adamant on the significance of this effect. Empirical evidence seems to be divided on the longevity of the effect that decisions, guided by market conditions, have on the financial policy of a company.

## **2.6 Analytical review of Capital structure research**

The fundamental reason for the existence of scholarly articles on capital structure is to create an understanding, to explain, and to ultimately predict how certain capital structures are formed and how they find their shape as markets change. As is applicable to various sub-fields in corporate research, the issue with such an approach is that in order for a simplified model to work, various assumptions have to be made. Often, these assumptions affect the applicability of the model. M&M's initial approach assumes perfect markets with no inefficiencies such as taxes or information asymmetries. Trade-off theories assume that the costs of different sources of finance can be definitively predicted and valued. Finally, the outcome of the Pecking order theory changes entirely depending on the level of rationality investors are assumed to possess, and whether it is assumed, that markets are efficient.

It can therefore be justifiably stated that the validity of each model relies heavily on its underlying assumptions. Fittingly, it seems that the strides that have been taken in the field can be largely attributed to either debunking or complementing existing models. In a research field so tightly linked to, and affected by the assumptions the scholars have made, improvements and changes naturally occur most dominantly with the assumptions themselves evolving. For instance, the trade-off theory addressed the absolute nature of M&M's theory, where there are virtually no



advantages for using equity finance; the trade-off acknowledges the benefits of both debt and equity. On the other hand, the Trade-off theory is in itself partly complemented – for instance by determining the relative values of different forms of capital – by the Pecking Order theory. Where the Trade-off theory merely states that there are benefits and costs for each type of capital, the Pecking Order theory uses empirical evidence to place these into an assumed order of preference. Once more, the Market Timing Theory takes the Pecking Order theory, and adds a new dimension to the model. Before it, virtually no model took into account the effect of a fluctuating market.

Another interesting detail on capital structure theories as a whole is the lack of coherency between models when it comes to the existence of an “*optimal*” capital structure. As mentioned, many of these theories rely on a series of arguably unrealistic assumptions; ones that make incorporating the suggestions made by the theories in to every day operations highly unlikely and unproductive. Some of these assumptions enable the existence of an optimal capital structure, but many do not. It is because of these assumptions, that one is urged to believe that a single, optimal capital structure does not indeed exist. Rather, it is easy to perceive that at a given moment, for a certain firm, there is a level of leverage that will – as a combined effort with a multitude of other factors – provide more favourable outcomes. What is necessary to acknowledge, however is that this “*optimal*” structure will change over time, and that this is a factor to which not many theories have a comprehensive counterword for.

The trend in capital structure literature has changed significantly in the recent past. Previously, scholars have clearly been inclined to produce theoretical models to explain the composition of companies’ capital structures. Recently, though, it seems that the focus has shifted to testing the validity of the claims posed by the aforementioned models through empirical studies. As Canarella, Nourayi and Sullivan (2014) state, much of the current research on capital structure framework is based on structural modelling through fixed-panel regression models.

Even though efforts to find an optimal capital structure – in terms of finding a so-called “*one size fits all*”-solution – might be futile, capital structure theory has a lot

to achieve. A great example of the gains that are still to be made to form a better understanding of capital structure, is the issue of asymmetric information. Even though signalling theories, for instance Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985) have tackled the issue of information asymmetry, it remains a major impediment for an efficiently functioning market place. A worthwhile direction for capital structure research to develop, would be to create a model by which companies could minimize agency costs arising from information asymmetry.

Even though the discussed models might not entirely address the requirements of a given company's capital structure decision making process, as a whole, they provide an unparalleled amount of insight on what has been thought to be the most beneficial course of action. An undeniable fact is that capital structures are extremely complex concepts, and as Salminen (2013) states, the field still faces multiple unanswered questions. As humans will inevitably be linked to – and in control of – the financial activities companies for the near future, behavioural studies may prove an essential step forward in the field. Finally, it has to be acknowledged that the discussed theories have been extremely successful in what they sought out to achieve. The underlying reasons for capital structure decisions are extraordinarily diverse, and as mentioned, we may never find a theory that fully explains these. However, what is not worthwhile, is criticising these models for what they were never meant to be: they were not intended as general, all-encompassing models. Rather, each of these emphasizes a certain cost, or benefit for a given financial strategy.

### **3 CAPITAL STRUCTURE RESEARCH ON SMEs ENTERPRISES**

As stated, capital structure research papers have recently moved towards a more concise scope, often targeting certain types of companies and searching for the determinants of given capital structures. The following section of this thesis will reference studies, which have assessed the capital structures of SME's in particular. Moreover, while most studies have focussed on identifying the determinants of SME capital structures, this section takes these findings, compares and contrasts them with each other, and ultimately attempts to answer why these determinants maintain their importance throughout. This section discusses the implications of enacting capital structure theories on SME's, sheds light on the Finnish economic environment, and finally assesses the importance of firm-specific traits as determinants of capital structure for Finnish SME's.

#### **3.1 Applicability of Traditional Capital Structure theories to SME's**

The discussion channels to differing avenues as it focuses on SME's specifically. Whilst assessing capital structure decisions as a whole, the focus is inevitably with guaranteeing the profit maximisation of a firm. The simple reason for this is that a majority of theories base their findings and suggestions on publicly listed companies.

The issue with this thinking is that an overwhelming majority of SME's are privately held, and maintain operations outside public capital markets. Of the roughly 608 000 companies and associations in Finland, the stocks of only 248 (0,04%) companies are listed on public markets (Patentti ja Rekisterihallitus, 2018). In this respect, the relevance of the suggestions of traditional capital structure theories – specifically for examining SME's – is slightly undermined. With respect to the requirements that are posed in SME capital structure decisions, Ferrand and Serrasqueiro (2017) acknowledge the disparity, and characterize the state of modern financial theory as incomplete. It has to be noted, though, that viewing the theories as fundamentally flawed, and inapplicable for SME evaluation is incorrect. General theoretical

principles seem to also apply to SME's; the main exception being the lack<sup>2</sup> of ownership-management-related agency problems (Cassar & Holmes, 2003). It is therefore safe to assume that capital structure decisions of SMEs mainly relate to leverage.

### **3.2 Firm-specific determinants of capital structure**

Numerous papers have been published on firm specific determinants lately. As stated, most of these assess the effect of these determinants through quantitative models, and find significant explanatory traits in terms of firm leverage. Many papers have, however focussed primarily on finding variables that partly determine capital structure outcomes, rather than exploring the underlying reasons for their emergence. The goal of this section of the thesis is, therefore to review and explain the reasoning behind the significance of said findings. The structure of each of the following sub-sections consists of a) discussion around the importance of, and the reasoning behind the determinant in question, b) an assessment of related empirical evidence, and c) analysis on whether traditional capital structure theories provide plausible explanations for the findings in hand. It is worth keeping in mind, that the following sections assess capital structure decisions mostly through leverage. It covers the most predominant determinants – as pointed out by cited material – in the following order: location, size, profitability, asset structure, age and growth. The section is concluded with an analysis of data on Finnish SMEs.

#### **3.2.1 Location: institutional environment for Finnish SME's**

Regional differences, both within and between nations are bound to affect the operations and capital structures of companies. Contract law (i.e. property rights) is the founding premise, on which all business operations rely on. Accordingly, scholars have found evidence that acknowledges the efficiency and overall characteristics of the legal system of a country as a significant determining factor for SME capital structures. For instance, Mc Namara, Murro and O'Donohoe (2017)

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<sup>2</sup> Although these exist in small quantities within the very few privately listed companies there are, it is safe to assume these as non-existent as an aggregate.

hypothesise that total debt levels are higher in countries that possess less efficient property rights legislation. The reason for this, it is speculated, is that inefficient and costly legal systems result into lenders opting to provide short-term debt rather than long-term debt, due to risk aversion. (Mc Namara et al., 2017.) Further, investors are inclined to be less willing to provide equity capital within inefficient legal systems (Di Pietro, Palacín-Sánchez & Roldan-Salguero, 2015). These analyses seem to be partly supported by Honkanen's (2017) data, which suggest that Finnish SME's prefer long-term debt over short-term debt. The analyses are, however opposed to Mc Namara et al. findings, which suggest that Finnish SME's were among the most indebted in Europe.

The scholars explain this phenomenon by pointing out that effective legal systems often result into a) more capable law enforcement procedures and b) efficient bankruptcy processes, both of which are elements which lead into increased leverage in companies acting within the region. Finland has one of the most efficient judicial systems and bankruptcy laws in the world. Combined, these elements, first of all allow increased debt usage as a source of capital, but more importantly, lower the relative price of debt and subsequently lower possible costs of bankruptcy, which are usually seen as the main cost regarded with debt usage. (Mc Namara et al., 2017.) Finally, effective legal systems also result into low rates of corruption, which impacts on the capital structure decisions of companies (Di Pietro et al., 2015).

Perhaps even more significant, however, is the effect which the bank sector and the surrounding banking environment have on company leverage. Banks are especially important for SME's as sources of finance, and therefore the level of development of a region's bank sector emerges as an extremely important determinant. The concentration of investments to intermediaries such as banks generally leads into the increased effectiveness of fund allocation, which should result into rising leverages (Di Pietro et al., 2015). Along with directly affecting capital structures – in providing finance – the bank sector provides several ways in which information asymmetry between lenders and companies is decreased (Mc Namara et al., 2017). SME's are especially prone to the effects of information asymmetry (Di Pietro et al., 2015). Accordingly, Mc Namara et al. find that the total SME debt levels correspond to the greater sharing of credit information.

Finally, scholars have found that Finns have the highest level of trustworthiness in Europe (Mc Namara et al., 2017) and that in general, leverage ratios for companies seem to increase with the overall economic development of a region (Di Pietro et al., 2015). Trustworthiness, while not necessarily a strong determinant, seems to partly contribute to higher debt ratios (Mc Namara et al., 2017). To conclude, it is easy to perceive, that Finnish SME's may have an inclination to use higher amounts of debt than their foreign counterparts; the relatively high long-term debt levels are not at all surprising. As Finnish bankruptcy processes are efficient, credit information sharing is advanced and the bank sector is well developed, it seems that companies would have the ability to effectively utilize debt at even higher levels, than they currently do.

### 3.2.2 Size

Size emerges as one of the more evident determinants of SME capital structure (Cassar & Holmes, 2003). As firms grow, they a) have a need for obtaining access to increased amounts of capital and b) additionally, generally have access to a wider range of sources to utilize in obtaining said capital (Olofsson & Cressy, 1997). Vigrén (2009) states that in terms of access to debt, size rises as the most important determinant of increased leverage. It is hypothesized, that smaller firms may find it relatively costlier to resolve informational asymmetries with investors and lenders, which leads to these obtaining less debt capital, or at a higher cost, which subsequently leads into the preference of internal capital (Cassar & Holmes, 2003). Further, Peprah (2016) reminds, that where SMEs have difficulties signalling the quality of their businesses to outside investors, financial institutions may also struggle in acquiring the necessary information to thoroughly assess the loan applications, etc. of SMEs.

Theoretically, the increased ability to access debt capital through firm growth seems to stem from the overall diversification of capital sources. To elaborate, SMEs are most often *initially* financed by personal savings (Peprah, 2016). The reason for this, as provided by Cassar & Holmes (2003), could be that small companies face limited access to capital markets. Once operations grow, a firm will inevitably be able access other forms of finance – for instance retained earnings – and more importantly,

various forms of external finance. In addition to savings, Olofsson & Cressy (1997) point out that for most of its early life, companies are financed by bank loans. As they grow, they are less dependent on individual institutions as sources of capital, as they are able to resort to either other types of funds, or to more than one institution for credit (Olofsson & Cressy, 1997). In other words, a failure to signal the quality of the business (i.e. failing to resolve information asymmetries) to a given institution is not as much of a limiting factor for a large corporation, as it is for a smaller company. Additionally, it can be assumed that larger firms – which fundamentally have increased access to various sources of capital – are able to tolerate higher levels of debt due to greater diversification of earnings (Vigrén, 2009). This results into smaller operating risks for large companies (Cassar & Holmes, 2003), which also act as a risk-minimizing factor for lenders, as their returns do not exclusively rely on a single – and in the case of SMEs, seemingly uncertain – sources of income. Furthermore, bankruptcy costs are relatively lower for large corporations, inherently lowering the costs of debt financing (Vigrén, 2009). Therefore, theoretically speaking, it seems that firm leverage is inclined to increase with size due to not only internal reasons, but also due to lenders preferring larger companies.

Another reason for increased leverage amidst firm growth is found with the transaction costs of various sources of capital. Cassar and Holmes (2003) see that transaction costs are likely a function of scale, with smaller scale financing resulting into relatively higher transaction costs. Vigrén (2009) follows on similar lines, but finds the transaction costs of long-term debt entirely fixed. This, then, results into small firms preferring short-term debt over long-term debt (Vigrén, 2017). Substantial empirical backing for the claim exists, but scholars are not fully in agreement on whether this is purely a result of firm size. Some findings suggest that the preference of short-term debt correlates with other traits, that often develop with increased size, such as age and ownership. (Moritz, Block & Heinz, 2016.) Further, Akdal (2010) finds that size has positive relationships with both long- and short-term debt, but that neither is significant.

Empirical evidence on the size and leverage seems to support a positive relationship between the two (Cassar & Holmes, 2003). Empirically obtained results show, for instance that higher levels of fixed assets, which can be partly considered as a by-

product of firm growth, is positively related to leverage. The reason for this is the ability to provide collateral for loans. (Mac an Bhaird & Lucey, 2010.) Moritz et al. (2016) find firm size – among others – to be a factor in the increased demand for, and availability of financing instruments. Akdal (2010) finds a positive relationship with sales levels and leverage. Mc Namara et al. (2017) determine that there is a positive relationship with the amount of total assets of a firm and leverage. Finally, Vigrén (2009) quotes Sogorb-Mira (2005), who found that size is positively related to debt, not only for large firms but also small firms.

Two details seem apparent with both theoretical and empirical evidence: size tends to relate positively with leverage, and while total debt seems to increase with firm size, the use of short-term debt is more common with smaller enterprises. Both in terms of availability and bargaining power, smaller firms seem to have a disadvantage when it comes to utilizing debt. While SME's may be able to access debt capital in the form of a loan, covenants may prohibit the use of further debt – i.e. multiple loans – and the costs seem to be higher. A fair assessment of the issue, therefore, seems to be that it is not as much a matter of preference, but the circumstances, which do not enable the extensive use of debt for smaller companies. Cressy and Olofsson (1997) further emphasize the fact that it is not the constraints, as such, that limit the use of certain forms of capital for SME's. Rather, it is the lack of a suitable “*financing package*” that poses the greatest limits. The scholars explain that for small companies, a major advantage in said packages – for in the case of example angel investors – is the addition of management skills and market knowledge, while a major downside with many sources of capital is the loss of control, which may in itself limit the options for an SME. (Cressy & Olofsson, 1997.)

In terms of size and how it affects the debt ratios of a company, it seems that not many of the traditional theories adequately explain the empirical evidence on small firms. As such, M&M's theorem is not disproved, or in contradiction with these findings, but it is hardly applicable to the companies discussed previously. The same applies to the market timing theory, as while managers of small companies *may* be able to affect the direct costs of the debt by timing the interest rate market, the theory is mainly applicable to companies financing operations through open-market equity issues or buy-backs. The pecking order theory, which suggests that debt is the



primary source of finance for companies, is in obvious contradiction with empirical evidence of small firms, which seem to utilize varying forms of equity capital at significantly higher rates than debt. However, the evidence seems to suit the theoretical assumptions of the classic trade-off theory rather well: the theory suggests that small companies tend to be less indebted than large companies, as bankruptcy risk heightens relatively faster for smaller companies, who witness greater earnings variances (Honkanen, 2017; Jaisinghani & Kanjilal, 2017).

### 3.2.3 Profitability

In the light of discussed theories and empirical data, the relationship between profitability and debt seems predictable. Profitability is the fundamental condition for creating surplus internal funds. General logical reasoning would suggest that profitable firms would require less debt financing to maintain operations. However, the situation is not as self-explanatory as it might seem; traditional theories portray, three differing predictions on the relationship between debt and profitability.

First of all, the *M&M (1963) theorem* suggests that as capital structure is irrelevant. This implies, is that no firm-specific determinant should affect the capital structure of the firm. Popescu & Visinescu (2009) remind that within the framework, the capital structure decision of a company is an entirely isolated decision, in which the company essentially merely determines how to allocate its capital between investors. Rather surprisingly, some empirical evidence has indeed been found to support this claim: Thiele and Wendt (2018) found no correlation between profitability and debt ratio in their recent study.

Secondly, the *Trade-off Theory* suggests that companies which generate higher levels of profit will have higher leverage ratios (Akdal, 2010). The trade-off theory suggests – among other benefits and costs of debt –the balancing of the income tax shield and bankruptcy costs. It can be assumed that a) more profitable firms have higher income, and therefore a greater tax shield (Akdal, 2010) and b) that profitability will eventually lead into the generation of surplus internal funds, which in and of itself diversifies the use of financing sources. Both of these factors imply the use of greater debt; first of all, in order better utilize the available tax shield

(Akdal, 2010), and secondly due to the fact that diversified uses of capital would theoretically suggest a lower risk of bankruptcy. As internal financing becomes an option for a company, diversifying the use of capital sources, the costs of debt (i.e. the risk for bankruptcy) is lowered, suggesting that a firm is more inclined to utilize debt in the future. It seems that recent papers do not find much backing for this claim, whereas past papers do. For instance, Jensen (1986) states that there is a possibility for the positive correlation between profitability and leverage. Akdal (2017) points to Myers (2001), who found a positive correlation between profitability and debt ratio. Along the same lines, Acedo-Ramírez, Ayala-Calvo and Navarrete-Martínez (2017) explain that these hypotheses might be the result of an overinvestment problem, where debt is issued to combat investments on negative NPV projects. Akdal (2017) also mentions that evidence on the positive relationship between the two could partly be explained by financial institutions being inclined to prefer highly profitable companies as debtors. Finally, Vanden (2016), finds that small and profitable firms tend to have high optimal leverage ratios. This would suggest that SME's would be more inclined to follow on the lines of the Trade-off Theory than large corporations. It has to be noted, that the Trade-off has significant short-comings when it comes to predicting the relationship between profitability and leverage (Akdal, 2017); most importantly, a notable number of studies quote empirical evidence that would rather support the Pecking Order theory, as will be shown.

Thirdly, the *Pecking Order* theory suggests that profitability is negatively related to leverage (Honkanen, 2017; Cassar & Holmes, 2003; Vigrén, 2009; Mc Namara et al. 2017; di Pietro et al., 2015). It is reminded, that within the framework, companies will hold to an order of preference, where internally created funds are used first, and external finance after that, with debt being the preferred form of external capital (Myers, 1984). Therefore, as profitable firms inevitably generate internal funds, it can be argued that they do not have the need to use debt capital to finance their operations (Honkanen, 2017). Akdal (2010) points to Majluf (1984) in supporting this claim, who suggests that less profitable firms will fund positive NPV projects with debt in order to eventually increase their profitability. Di Pietro et al. (2015)

state that most empirical evidence finds a negative relationship between SME debt and profitability<sup>3</sup>, which they confirm in their study. Mc Namara et al. (2017) find that profitability is one of the statistically most important determinants for firm leverage, and that the relationship is indeed negative. Vigrén (2009) points out that as long as retained earnings are available, firms should be inclined to follow the Pecking Order-approach, even if profitability is lowered temporarily. Finally, Cassar and Holmes (2003) also conclude that profitability is an important factor in SME leverage ratios<sup>4</sup>.

Furthermore, previous studies have shown that not only does profitability have an effect on leverage, but the relationship between the two seems to be reciprocal. Jaisinghani and Kanjilal (2017) conclude that there are benefits to be made in terms of profitability by rebalancing the capital structure of a firm. They find that capital structure affects the profitability of firms, but that small and large firms witness differing effects. With small firms, profitability tends to decrease with increased leverage, while the effect on leverage in the profitability of large firms seems to increase; possibly due to a better ability to utilize debt capital. (Jaisinghani & Kanjilal, 2017.) The notion of indebtedness affecting profitability is supported by, for instance Habib, Khan and Wazir (2016), who state that the right proportion of debt and equity financing will help in increasing the profitability of a firm.

To conclude, it can be rightfully stated that profitability as a determinant of capital structure is fairly complex. While scholars seem to be in unison regarding the significance of profitability as a determining factor, they quote widely different outcomes for the changes in leverage and provide contradictory reasoning for their findings. The effect of profitability on debt usage can seemingly be attributed to both the Pecking Order theory and the Trade-off theory, but it can be argued that the former provides a more convincing explanation. The suggestions of the M&M theorem have also gained some empirical backing. Furthermore, it is found that not

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<sup>3</sup> The scholars point to, for instance studies by Van der Wijst and Thurik (1993), Michaelas et al. (1999), Sogorb-Mira (2005), Heyman et al. (2008), Degryse et al. (2012).

<sup>4</sup> They look at studies by Wijst and Thurik (1993), Chittenden *et al.* (1996), Jordan *et al.* (1998), Coleman and Cohn (1999), Mishra and McConaughy (1999), and Michaelas *et al.* (1999), who find a negative relationship between profitability and leverage.

only is there a relationship between profitability and debt but it is, in fact, reciprocal. Debt usage affects the profitability of a firm, but the effects are found to differ with the size of the company in question. Therefore, it seems that in the context of this thesis, the most important finding is that in some situations, there *is a intercorrelative relationship between size, profitability and leverage*. To elaborate, it has to be noted that the relationship seems, by no means, to be causal. It is merely observed that a) profitability and size both affect the leverage of a company, b) leverage may affect the profitability of a firm and c) size can affect the way, in which a change in leverage affects the profitability of a company. Leverage does not in and of itself seem to have an effect on the size of a company.

#### 3.2.4 Asset structure

Asset structure is another important – if not the most influential – factor in determining the level of leverage a company uses (Di Pietro et al. 2015). Generally, asset structure as a determinant refers to the tangibility of assets; that is, the proportion of total assets, which have physical properties. It is widely suggested that asset tangibility and leverage are positively related (Cressy & Olofsson, 1997; Vigrén, 2009; Mc Namara et al. 2017; Thiele & Wendt, 2017, Daskalakis, Balios & Dalla 2017). Cressy and Olofsson (1997) state that this is the direct result of the firm having greater liquidation value, which will inherently reduce the financial losses that would be incurred at bankruptcy. The possession of tangible assets enables the firm to pledge these as collateral, and this generally lowers the costs of debt capital along with providing easier access to capital, and ultimately, higher indebtedness. (Cressy & Olofsson, 1997.) It is assumed that intangible assets are not effective forms of collateral as their value is difficult to determine, and therefore do not, as such, act as a certain guarantee for a lender (Serrasqueiro & Caetano, 2014).

Vigrén (2009) points out that the fundamental reason for this lies with the costs that are incurred due to information asymmetry between the lender and the debtor. She suggests that lenders value *certain* capital in the form of collateral over *uncertain* future earnings. (Vigrén, 2009.) Acedo-Ramírez et al. (2017) further elaborate by stating that greater rates of tangible assets enable lenders to more effectively assess the firm, and subsequently, the probability of default. Vice versa, low levels of

tangible assets seem to reveal greater asymmetry in information and affect this assessment in a negative manner. (Acedo-Ramírez et al. 2017.) Mac an Bhaird and Lucey (2009) add to the discussion by stating that it is not only informational symmetry, but the combination of it and possible agency problems that may result into restrictions in the access to debt, which can be circumvented through the use of collateral.

While empirical evidence generally agrees that as an aggregate, leverage and asset structure have positive relationship (Cressy & Olofsson, 1997), the notion is hardly straightforward. Firstly, there seem to be differing results depending on the type of debt in question. Even though regarded as somewhat inconclusive by Cressy and Olofsson (1997), for instance Van der Wijst and Thurik (1993) find a positive relationship between tangible assets and long-term debt, but negative associations between asset structure and short-term debt. This negative relation was also pointed out by at least Chittenden et al. (1996) and Örtqvist et al. (2006). The reason for this, it is argued, is that lenders do not generally require collateral for short-term debt (Di Pietro et al., 2015), whereas the increased degree of uncertainty with long-term debt almost certainly involves pledged assets (Thiele & Wendt, 2017). Additionally, Moritz et al. (2016) point out that firms tend to follow, what they maintain as the “Golden Rule of capital structure” in that long-term assets are financed by long-term capital, and that short-term assets with short-term capital. Thus, it could be assumed that in the lack of long-term – usually fixed and tangible – assets, the use of short-term debt would increase. Mac an Bhaird and Lucey (2009) elaborate in stating that firms attempt to match the maturity of debt with the maturity of collateral. Therefore, they conclude, that for small companies, the amount of long-term debt is expected to increase until they are able to finance their operations – at least partly – through retained profits (Mac an Bhaird & Lucey, 2009).

Finally, it is hard to determine whether any of the models mentioned in section two of this thesis are in indeed in line with the evidence on asset structure. Akdal (2010) points to the theory on agency costs, as portrayed by Jensen and Meckling (1976), in stating that this would suggest a positive correlation between asset tangibility and indebtedness. In turn, Di Pietro et al. (2015) maintain that the pecking order theory is the most explanatory of the traditional capital structure theories – and finally –

Serrasqueiro and Caetano (2014) find alternative hypotheses based on both the Pecking Order theory and the Trade-off theory. It can be argued that the evidence remains inconclusive on this front, as the relationship between asset structure and leverage hardly suits the suggestions of any of the aforementioned models perfectly. Granted, an increased amount of fixed assets lowers the costs of bankruptcy – as per the Trade-off theory – and firms will use these assets to reduce asymmetric information, but one is inclined to maintain that no comprehensive explanation is offered by these theories.

### 3.2.5 Age

It is suggested that leverage decreases by age, due to the fact that young firms are largely financed by external capital, as they do not have access to retained earnings. Additionally, it is argued that young firms receive less debt capital at a higher price than larger firms. (Acedo-Ramírez et al. 2017.) The debt ratios of small firms also increase relatively more aggressively due to a smaller amount of total assets (Acedo-Ramírez et al. 2017; Mc Namara et al. 2017). Honkanen (2017) agrees that there seems to be a negative relationship with age and indebtedness, but adds that the relatively higher leverage for young companies may be explained by the lack of collateralizable assets and therefore higher usage of short-term debt, as discussed in the previous section.

Mac an Bhaird and Lucey (2009) add that this effect is extended with young companies with limited turnovers<sup>5</sup>. In addition, Vigrén (2009) explains the phenomenon by stating that a firm will, by time, create a track-record for itself, which consequently provides backing for the company's claim to fulfilling its possible obligations to debtors. Further, Huyghebaert and Van de Gucht (2007) find that financial institutions seem to prefer providing short-term debt rather than long-term debt to companies at early stages of operation due to the fact that such agreements are more easily terminated. On the other hand, the sales levels of SME's

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<sup>5</sup> The scholars add that limited turnovers are usually the case with sectors of business that typically require large initial investments but do not provide short-term returns (Macn an Bhaird & Lucey, 2009).

tend to fluctuate more than those of large corporations as they attempt to match their sales to cost figures. This may create additional risk to a potential finance providers (Jaisinghani & Kangilal, 2016.), which justifies the preference of short-term capital provision for financiers.

While these explanations are compelling, the composition of the relationship is one that is equally complex to those discussed in previous sections of this thesis. Through logical reasoning, it can be established that the size of a firm can only grow by time – some, during shorter, and some in longer periods. The size of a firm may also diminish, but as an aggregate, it feels safe to assume that a positive relationship between age and size exists. This is supported by the empirical findings of, for instance Mac an Bhaird and Lucey (2009), who point out that size and age are linked to the extent that the two cannot be assessed entirely as separate determinants. The underlying tone with various hypotheses, therefore, seems to contain the assumption of a firm growing by time – which suggests that age, in and of itself, is unlikely to be a meaningful determinant of leverage. Findings and hypotheses seem to compare young firms to for instance “established” or “matured” firms (e.g. Moritz et al., 2016; Vigrén, 2009), which is not entirely accurate. To elaborate, it can be argued that both terms, *established* and *matured*, while also referring to the passing of time, also contain an assumption which suggests that these firms have grown in size with time.

Empirical evidence (e.g. Chittenden et al., 1996; Moritz et al., 2016; Mc Namara et al., 2017) generally seems to support the hypothesis of age and leverage being negatively related. Additionally, Acedo-Ramírez et al. (2017) find support for the hypotheses, but only for family companies; they also point out that this might be due to older corporations being more risk averse than younger companies. Vigrén (2009) and Honkanen (2017) both find evidence in their papers that supports the negative relationship, but in the latter analysis, the relation was found to be weak, and therefore not explanatory for capital structure decisions.

What is notable, when comparing the effects of size and age – which can be assumed to have effects in the same direction – is that this is not always the case, as a major portion of the empirical evidence on the relationship between size suggests a positive relation. On the other hand, scholars seem to agree on the notion that both small and

young companies favour short-term debt. To conclude, it has to be said that it is extremely challenging to generate worthwhile results by assessing age alone. Nevertheless, the empirical evidence on the hypothesis seems to mostly support the suggestions of the Pecking Order theory, in that firms will seek to use internal funds first. The leverage ratios for young companies, who generally do not have access to such funds, are found to be higher.

### 3.2.6 Growth

To begin discussion on the determinant, it may prove beneficial to divide growth into several categories. This is necessary, because the growth figures that a company reports arguably reflect past decisions and their outcomes, making the assessment of present implications difficult. Thus, some papers divide the analysis into two; one determinant being *past growth* and the other being *growth opportunities* (Vigrén, 2009.), while others only assess growth opportunities (Huyghebaert & Gucht, 2007; Acedo-Ramírez et al., 2017.), or growth as an all-inclusive determinant (Cassar & Holmes, 2003; Moritz et al., 2016.). It is suggested that growth is positively related to debt (Honkanen, 2017; Acedo-Ramírez et al., 2017; Vigrén, 2009; etc.), as companies which witness fast growth tend to exhaust internal funds rapidly, and are likely to be forced to issue more debt (Di Pietro et al. 2015.). It can also be speculated that for a high-growth SME, the risk of dilution of ownership may limit the plausible finance sources (Acedo-Ramírez, 2017.). Additionally, it is found possible that financiers – most notably, banks – are inclined to generate fruitful relationships with small companies which have high growth potential. Therefore, banks tend to provide debt capital more eagerly to high growth SMEs. (Huyghebaert & Gucht, 2007.)

Once again, though, the explanatory characteristics of growth as a determinant for leverage are many-sided. First of all, growth should increase the use of short-term debt relatively more than long-term debt (Cassar & Holmes, 2003). Some evidence is found on the issue by Moritz et al. (2016), who find that high growth rates suggest higher leverage. They attribute the finding to high growth firms generally requiring external funds and bank lending preferences. Contrarily, Chittenden (1996) found that young, high growth firms have higher levels of long-term debt. Vigrén's (2009)



findings agree with this, and adds that growth rates seem to only affect the leverage of unlisted SME's, which have exhausted internal funds and are forced to use debt to finance operations. After acknowledging this assumption, Vigrén's (2009) findings would be in line with earlier statements on the effect of growth.

Further, overall empirical evidence seems to be rather divided and inconclusive on the direction of the correlation between growth and leverage. There seems to be a positive, yet insignificant relationship between bank financing and growth (Cassar & Holmes, 2003). Huyghebaert & Gucht (2007) find a positive relationship, but their data maintains that this finding is significant. The relationship also seems to change depending on the size of a company. Acedo-Ramírez et al. (2017) findings show a positive relationship between growth and indebtedness in high growth medium-sized firms, but a negative relationship in small firms. Moritz et al. (2016) indeed find a positive relationship between the two, but maintain that this finding could be skewed by the profitability rates and differing levels of innovation activity. It therefore seems that the relationship between leverage and growth depends on a) whether the firm has exhausted internal funds and b) whether the firm is able to access equity capital – and that results vary widely depending on the assumptions which are made, and the data available.

Finally, views are also slightly mixed upon the applicability of traditional capital structure theories to the relationship between leverage and growth. The Pecking Order theory suggests that once internal funds are exhausted, firms will tend to use debt before other forms of external capital. This would therefore suggest a positive relationship between growth and indebtedness (Vigrén, 2009; Mac an Bhaird & Lucey, 2009), and as Di Pietro et al. (2015) state, this notion has gained wide support. Also, Akdal (2010) points to the Pecking Order theory with respect to his findings, but surprisingly argues that there is an inverse relationship between leverage and growth. Arguably, this can be attributed to the scholar assuming that internal funds have not yet been exhausted for given companies.

### 3.3 Overview of Finnish SME firm-specific characteristics

Honkanen (2017) provides a useful overview of the capital structure characteristics and firm-specific determinants of Finnish SME's. The sample that was used consisted of roughly 3200 Finnish companies that fit the following criteria:

- A. Employed personnel under 200 people
- B. Annual balance sheet total and revenue both over 500 euros
- C. Has operated over five years. (Honkanen 2017, 37.)

It is useful to acknowledge that the criteria used for Honkanen's analysis differs from the generally recognized definition of staff headcount between 10 and 250 personnel, and balance sheet total *or* turnover from 2 to 43 million euros (European Commission, 2003). This undoubtedly affects the results obtained from the analysis, but nevertheless provides a valuable cross-section of Finnish SME characteristics.

According to her paper, the national average for SME long-term, and short-term debt, proportional to total assets were at 16,4 and 34,8 percent, respectively. This level of short-term debt places Finnish SME's significantly under the European average, which was around 45 percent. In turn, Finnish SME's use significantly more long-term debt than their European counterparts. (Honkanen, 2017). Mc Namara et al. (2017) results only support *the latter* of Honkanen's figures. They suggest that Finnish SME's are among the most highly levered companies in Europe (Mc Namara et al., 2017). Honkanen's (2017) findings do not seem to suggest that Finnish SMEs might not fully utilize the favourable environment for SME debt usage. Nevertheless, Mc Namara et al. (2017) find backing for their claims on the favourability of debt usage in Finland. It is probable, that low leverage within Finnish companies is the result of other firm specific determinants.

The growth figures for Finnish SMEs obtained by Honkanen (2017) are visibly low, at 3,8 percent per year. The main reason for this seems to be the stagnant state of the Finnish post-2008 economy. The financial crisis decreased the national GDP by 18,1 percent by 2009 and kept the relative GDP growth figure negative until 2015 (Valtiovarainministeriön Kansantalouselosasto, 2010; 2015; 2017). It has to be noted, that the variation of growth rates within the sample was significant in Honkanen's

(2017) study, which inherently skews the obtained results. Low growth figures would seem to be an explanatory factor for the low debt usage of Finnish SMEs. As an aggregate, high growth would seem to indicate higher than average leverage, especially in medium-sized firms, and so, when overall growth rates are low, it seems likely that leverages also be lower than average. Granted, as Honkanen (2017) does not distinguish between previously experienced growth and growth prospects, one is uncertain on the amplitude of the positive relation. What Honkanen's (2017) findings do, however, support largely is Cassar and Holmes' (2003) notion of short-term debt usage being affected relatively more by growth, or the absence thereof.

On average, Finnish SME's have 25,6 percent of fixed assets on their balance sheet. This has been decreasing within the last decade in the midst of technological advancement, and is lower than the average level of fixed assets for European SME's, which is around 30 percent. (Honkanen, 2017) As stated previously, the level of tangibility seems to be positively related to leverage. This would, therefore, suggest lower leverage than average. However, it is to be kept in mind, that the reasoning behind the effect of asset structure as a determinant is mostly related to the idea that fixed assets can be utilized as collateral. It can be argued that as Finnish bank systems along with the judicial and economic environments are favourable as for accessing debt, and that, therefore the importance of asset structure in Finland is undermined.

According to Honkanen's (2017) data, the average SME in Finland has been in operation for 19 years. This would place Finnish SMEs among the youngest in Europe, only Italian, Belgian and Spanish companies are comparatively aged. Additionally, Finnish SMEs seem to be very small in size, compared to their European counterparts. The amount of micro-enterprises seems to, however be similar to that abroad. As is made evident previously, size and leverage seem to have a positive relation, while age and leverage are found to have a negative relation. In this light, the effects of age and size might be miscellaneous, as young companies are assumed to utilize more debt – but contrarily, small firms are found to have lower debt levels.

Finally, Honkanen found that Finnish companies are among the most profitable SME's within Europe – amounting to a 6,6 percent profitability rate – and only falling short to their Irish (10,0%) and Belgian (7,8%) counterparts (Honkanen, 2017). This may be the most important reason for the relatively low leverage levels of Finnish SMEs. As stated, profitability seems to affect debt usage negatively due to the fact that companies seem to prefer the use of internal funds over debt – as per the Pecking order theory. As profitable Finnish firms are assumed to use internally generated funds before debt, leverage ratios should indeed be found to be lower than average.

To conclude, it seems that Finnish SMEs seem to be largely affected by the regional economic environment, in that they seem to use high levels of debt – as per Mc Namara et al. (2017). Firm specific determinants would not suggest, as an aggregate, higher debt levels than European average, but it seems that the effect of a well-functioning business environment, such as that of Finland, may overcome these limitations.

## 4 CONCLUSIONS

The goal of this thesis is to provide a qualitative and analytic review on capital structure theories, the Finnish economic and regulatory environment for SMEs, and firm specific determinants of capital structure which have been found notably important. It aims to answer the questions: “1) *Why are certain firm specific determinants important in explaining a firm’s capital structure decisions?* 2) *Do empirical findings on SME capital structures support traditional capital structure theories?* 3) *What effects do the Finnish economic and regulatory environments impose upon SMEs?*”

### 4.1 The Importance of firm Specific determinants as explanatory factors of SME capital structures

It is extremely challenging to compress the findings regarding firm specific determinants – and the challenge is not made easier by the fact that this thesis, in itself, is a compressed account on the nature of these determinants. Worth mentioning, is also the fact that the further it is researched, the more determinants seem to emerge. In this light, it seems obvious that aspects, which some scholars may consider as pivotal, had to be left out. Nevertheless, a number of findings arise as notably important. Firstly, a major portion of findings on the relationship between a determinant and leverage seem to be either inconclusive, or contradicting to other findings. It can be argued, that this is a result of scholars generating dissimilar assumptions for analysing their data and creating respective hypotheses. Nearly all determinants have been seen to have both positive, negative and/or inconclusive relations with leverage, some being more significant than others. Secondly, the determinants mentioned in this thesis seem to be largely interconnected, making the assessment of the effect of a single factor extremely challenging. It can be argued that these connections inevitably skew the results of single variable correlations. In order to study the effects of determinants, such as profitability and size, it seems paramount to estimate the relationship between the two first, in order to be able to assess the effect that either of the determinants have on leverage. Finally, as it turns out, it seems that with any research done on capital structure, the underlying assumptions dictate a majority of the findings of the paper. Capital structure is such a

complex concept, that models will never be able to address it as an entirety, and thus, assumptions are to be made for the study to create meaningful results.

#### 4.1.1 Relationship between leverage and determinants: Findings

*Location.* Finland, as an economic region, seems to enable and arguably favour higher debt usage in firm capital structures in comparison to, for instance, European averages. As an aggregate, efficient property rights legislation and law enforcement along with efficient bankruptcy processes and bank sector activity seem to correlate with the increased use of debt capital. Additionally, Finns are among the most trustworthy people in Europe (Mc Namara et al. 2017) and act in a well-developed economic environment where credit information is largely available. Additionally, Finnish empirical evidence by, for instance Honkanen (2017) seem to support earlier hypotheses (by e.g. Mc Namara et al.) which suggest that efficient legal systems increase the use of short-term debt over other forms of capital.

*Size.* Size emerges as one of the more evident, and unequivocal determinants of leverage. Increased size seems to correlate positively with debt for a number of reasons. As a determinant, it lacks interconnections and inconclusive evidence which are perceivable with others, and which make generating worthwhile conclusions troublesome. Increased size often leads to increased access to all types of financing which again will – by time, assessed as an aggregate – inevitably increase the use of debt. Short-term debt levels are higher for smaller companies, most likely due to the risk aversion of both the financier and the company and transaction costs are relatively lower for large companies. They are also able to lower the levels of asymmetric information to a higher degree than small companies. It therefore seems, not as such a matter of preference for larger companies to utilize debt at higher levels, but a case of having the ability to.

*Profitability.* Profitability is a convoluted determinant. Most empirical evidence finds that it is negatively related with leverage (e.g. Honkanen, 2017; Cassar & Holmes, 2003; Vigrén, 2009; Mc Namara et al. 2017). Regardless, other empirical evidence seems to support both a positive relationship (Akdal, 2017; Acedo-Ramírez et al., 2017; Vanden, 2016) and an insignificant relationship (Thiele and Wendt, 2018). As

firms generate profit, they can either be assumed to prefer internally generated funds – as per the Pecking Order theory – or follow on the lines of the Trade-off theory by maximising their tax shield. Of these hypotheses, one is perhaps more inclined to subscribe to the suggestions of the Pecking Order theory in practice, while acknowledging that the Trade-off might provide more favourable outcomes in theory. Finally, it seems that *profitability* may have a ‘*three-way*’ correlation with *size* and *leverage*: profitability and leverage seem to be interconnected in a number of ways and the effect of their relationship seems to be altered by size.

*Asset Structure.* Asset structure and leverage in capital structure seem to have a positive correlation. Fixed assets can be used to decrease the amount of information asymmetry between a provider of a loan and the company, and this enables firms to access debt capital to a larger degree. Empirical evidence seems somewhat inconclusive in providing a conclusion for the hypothesis as the effect of asset tangibility on leverage seems to differ between types of debt.

*Age.* Age seems to correlate negatively with leverage within a SME’s capital structure. There is, nevertheless, some complexity to age as a determinant. Many analyses regarding age and leverage seem to include the underlying assumption of a firm growing by time, and this provides challenges in assessing the determinants separately (Mac an Bhaird and Lucey, 2009). Therefore, it is hard to assess whether age, in and of itself is a valuable determinant for SME leverage, but when analysed jointly with size, it is safe to state that leverage seems to decrease by time. What is peculiar, is that size and age seem to have opposite relationships with leverage depending on the research in question.

*Growth.* Finally, empirical evidence points to a positive relationship between SME growth and indebtedness. High-growth SMEs are likely to be forced to use external funds to finance operations, and financiers may have an incentive to provide debt capital for such companies in the hopes of creating long-lasting relationships. It is, however worth noting that the determinant is comprised of two components: *past growth* and *growth potential*, which may – depending on the situation – provide differing results regarding indebtedness. Regardless, it is once again challenging to make generalisations on the relationship of the determinant, as empirical evidence

rarely finds a significant relationship between growth and leverage in either direction. A useful finding, nevertheless, is that among the assessed determinants, growth seems to be one that is most interconnected with other factors.

#### **4.2 Explanatory levels of Traditional Capital Structure Theories**

Two of the traditional theories, as mentioned in the second section of this thesis, rose as more explanatory than others with respect to firm specific determinants. The trade-off theory and the Pecking Order theory seem to both be able to provide, at least, some fundamental reasoning for the findings projected by cited scholars. As mentioned, no model is expected to fully explain capital structures fully, as – after all – they’re models of what is expected to happen in the actual market place. Of the theories, the M&M theorem and the Market Timing theory seemed significantly less applicable to SMEs. However, what was interesting to see, is that no research applied the market timing theory to the interest and debt markets. Granted, the focus of the theory is with equity markets, but it seems that the same ideas might also apply to other areas.

The *Pecking Order theory* seems to explain the effects of *age* relatively comprehensively. Empirical evidence shows that firms are indeed inclined to use internally generated funds first. Therefore, leverage ratios for young companies who do not yet generate surplus funds should seek debt capital. This phenomenon should be found to be even higher among SMEs, which generally do not raise equity capital on public capital markets. The *Trade-off theory* explains the findings regarding size adequately. Small companies tend to be more indebted than large companies due to the fact that bankruptcy risks heighten relatively faster for such companies. Additionally, both the *Pecking Order theory* and the *Trade-off theory* seem to partly explain the findings for *profitability and asset structure*, while leaving relatively significant portions unexplained. Finally, it seems that none of the mentioned theories are able to fully explain the findings on *growth*, but this can be mostly attributed to its complexity and the fact that in the analysis of growth as a determinant, the chosen assumptions largely dictate the outcomes.



### **4.3 The Effect of the Finnish Environment on SME capital structures**

Finally, it could be concluded that an average Finnish SME, according to the environment, is likely – or at least inclined to – have higher debt levels than its foreign counterparts. The economic and regulatory environments both enable and increase the benefits of debt usage. As many of the findings on firm-specific determinants provide uncertain suggestions, it is hard to determine the exact implications on Finnish SMEs. However, the Finnish business environment seems favourable for debt usage to the extent that the effects of firm specific determinants are all skewed towards increased debt usage.

Finnish short-term debt levels reflect the effectiveness of the *legal environment*. They are able to utilize long-term debt at higher levels and short-term debt at lower levels than their European counterparts. It seems that the efficiency of these systems lowers the risks for both lenders and companies alike. Furthermore, the spreading of *credit information* and the efficiency of the Finnish *bank sector* seem to undermine the importance of asset structure as a determinant: i.e. the ability to access debt capital seems to be less affected by the ability to pledge collateral for loans than in other economic regions. Finnish companies seem to be among the *youngest and smallest* in Europe. Notable with this finding, is that the two determinants act in opposite directions with respect to leverage, and it can indeed be argued that these effects may ‘cancel out’ each other. This remains to be determined definitively. Finally, it seems impossible to make generalisations on the effect of growth on leverage due to its nature as a determinant and the sub-optimal post-2008 macroeconomic conditions in Finland.

### **4.4 Avenues of further research and closing words**

As is evident from this review, many sections of the capital structure field of research have been comprehensively covered. Numerous theories have been proposed as to explain the formation of the capital theories of companies in general. A point of expanding this theoretical framework could be to form theories that are applicable specifically for certain types of companies, such as SMEs. Additionally, theories related to agency conflicts and the elimination of information asymmetry still seem

to have some way to go. Further, a plethora of mathematical models seem to exist with the sole purpose of pointing out relationships between determinants and capital structure. Arguably, this sub-field of study has been largely exhausted.

However, amidst such models, it seems that not many have provided a comprehensive solution into determining the exact effects of given determinants on capital structures. To elaborate, it seems a fair evaluation to say that in order to accurately establish the effect that a determinant has on company capital structures, the connections and correlations between determinants should be found and accounted for. Therefore, a promising avenue for future research could be the creation of a model that has a mechanism, which counteracts the effects of inter-determinant correlations, and so eliminates skewed results.

The goal here would to be to take a multitude of environmental and company specific variables, finding their relative weights and finally formulating an equation by which a theoretically optimal capital structure can be calculated for a given company. The fruitfulness of such research remains to be seen, but a great example of what can be done is Morgan Stanley's Empirical model of optimal capital structure (2011), which can be definitely recommended for further reading.

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