



LUND UNIVERSITY
School of Economics and Management

Prudent Capital Management: The Role of Explicitly Stated Long-Term Investment Strategy

An Analysis of Large Publicly Listed U.S. Companies

by

Kasimir Kunnas

Stevan Plavsic

June 2018

Master's Programme in international Strategic Management

Supervisor: Niklas Hallberg

ABSTRACT

The purpose of this thesis is to investigate how companies with an explicitly stated long-term investment strategy manage their capital in comparison to companies without such a statement. The research addresses the topic by analysing leading US companies in the following areas: Short-term vs. long-term perspectives, leverage, earnings & share price, capital structure and capital expenditures. We find that that an explicitly stated long-term investment strategy may be indicative towards more conservative capital management. However, our research also shows that financial data alone is insufficient in tackling this complex issue.

Keywords: Capital management, investment strategy, corporate strategy, short-termism, long-term debt, earnings per share, stock price, capital structure, capital expenditures

Table of Contents

| | | |
|----------|---|-----------|
| 1 | Introduction | 1 |
| 2 | Literature Review | 4 |
| | 2.1 The Link Between Strategic Decision Making and Corporate Finance | 5 |
| | 2.1.1 The Role of Transparent Reporting to Stakeholders | 6 |
| | 2.2 Corporate Debt and Risk Exposure | 7 |
| | 2.3 Strategic Implications on Short-Term versus Long-Term Perspective | 9 |
| | 2.4 Capital Structure | 11 |
| | 2.5 The Role of Capital Expenditures | 14 |
| | 2.6 Summary of Theoretical Review | 16 |
| 3 | Methodology | 18 |
| | 3.1 Research Approach | 18 |
| | 3.2 Research Design and Unit of Analysis | 18 |
| | 3.2.1 Defining Long-Term Investment Strategy | 20 |
| | 3.3 Data Collection | 21 |
| | 3.4 Measures Collected | 23 |
| | 3.5 Statistical Tests | 24 |
| | 3.6 Validity and Reliability | 26 |
| | 3.6.1 Internal Validity | 26 |
| | 3.6.2 External Validity | 27 |
| | 3.6.3 Reliability | 28 |

| | | |
|----------|--|-----------|
| 4 | Results | 31 |
| 4.1 | Descriptive Statistics Results | 31 |
| 4.2 | Hypothesis Testing Results | 34 |
| 5 | Discussion and Conclusion | 42 |
| 5.1 | Discussion | 42 |
| 5.1.2 | Research Limitations | 46 |
| 5.2 | Conclusion | 47 |
| | References | 50 |
| | Appendix 1: Student t-test distribution table | 58 |
| | Appendix 2: The sample of 150 companies | 59 |

List of Tables and Figures

| | |
|---|----|
| Table 1: Summary of the descriptive statistics of the entire dataset | 31 |
| Table 2: Summary of the descriptive statistics of companies with a stated investment strategy | 32 |
| Table 3: Summary of the descriptive statistics of companies without a stated investment strategy | 33 |
| Table 4: SPSS independent samples test for hypothesis 1 (H_1) | 35 |
| Table 5: SPSS independent samples test for hypothesis 2 (H_2), (Stock Price) | 36 |
| Table 6: SPSS independent samples test for hypothesis 2 (H_2), (Earning Per Share) | 38 |
| Table 7: SPSS independent samples test for hypothesis 3 (H_3) | 39 |
| Table 8: SPSS independent samples test for hypothesis 4 (H_4) | 41 |
| Figure 1: The Conceptual Framework of the Thesis | 17 |
| Figure 2: Left-tailed student t-test distribution H_1 | 34 |
| Figure 3: Left-tailed student t-test distribution H_2 (stock price) | 36 |
| Figure 4: Left-tailed student t-test distribution H_2 (earnings per share) | 37 |
| Figure 5: Left-tailed student t-test distribution H_3 | 39 |
| Figure 6: Left-tailed student t-test distribution H_4 | 40 |

1. INTRODUCTION

One of the primary responsibilities of the CEO of any major corporation is to articulate the company's financial goals as a tangible focus for its business mission and strategy. In theory, these goals are imposed by shareholders through stock market responses to company performance. In practice, they are deeply rooted in the CEO's values, and they draw persuasive power from the depth of that conviction (Donaldson, 1985). Reaching these organisational goals may be challenging to say the least, due to a number of reasons. Industry dynamics, individual management cognitive capabilities, agency issues, external economic environment, short-termism, firm size and diversification all play a role.

Because most business activity involves the utilization and/or generation of funds, important management decisions in all areas inevitably have financial implications. Not only must these implications be understood and taken into account in reaching a balanced decision, but also varying interests must be coordinated if the company is to achieve financial success (Donaldson, 1960). Investment capital is precious, and there will never be enough to go around (Leinwand, Mainardi & Kleiner, 2016). The role of corporate financial decisions is a key aspect of strategic management, but somewhat overlooked. Many people pass their entire business careers in happy ignorance of the financial clockwork of the organisation with which they are associated, scarcely aware of its existence except for the comforting "tick" of their monthly paycheck (Donaldson, 1960). The difference between success and failure for many a company lies in the caliber of its financial policies (Baldwin, 1964).

The problem of deciding whether it is wise and proper for a business corporation to finance long-term capital needs through debt, and, if so, how far it is safe to go, is one which most boards of directors have wrestled with at one time or another. For many companies, the debt-capacity decision is of critical importance because of its potential impact on margins of

profitability and on solvency. For all companies, however large and financially sound they may be, the decision is one to be approached with great care (Donaldson, 1978). When companies face economic downturns (which most companies inevitably do at some point), high amounts of debt coupled with insufficient cash funds magnify the troubles to a great degree. Maintaining prudence in financial decision-making is of utmost importance, even during economic boom conditions. By prudence we mean carefulness, not over-leveraging and taking the long-term perspective, even if it comes at the cost of short-term earnings growth.

A main cause for corporate financial distress is short-termism. One way for firms to sustain a competitive advantage is to pursue good long horizon investments, but many scholars have expressed concern that large corporations fail to perpetuate this advantage in the misguided effort to raise quarterly or annual profits instead of a firm's long-run value (Souder & Shaver, 2010). Graham, Harvey & Rajgopal (2005) have found substantial evidence on short-termism in their study of 400 CFOs, where 78% of respondents were willing to give up positive net present value (NPV) projects if it meant missing quarterly earnings expectations. This suggests a time-based agency problem (Flammer & Bansal, 2017). Whether a business should be run for short-term results or the long run, is fundamentally also a value question that management is responsible for (Drucker, 2001).

The purpose of this study is to identify possible patterns in capital management of successful companies. Based on the previous literature, which encompasses various aspects of resource management, capital structure and its components, this thesis seeks to answer the question:

“Do companies with an explicitly stated long-term investment strategy to stakeholders, manage their capital more prudently than companies without such a statement?”

The study seeks to link financial decisions and strategy, by looking into top US companies and how their stated long-term investment strategy influences capital management.

The study brings together long-term strategic directions and capital structure decisions within a company. More precisely, the thesis outlines the importance of leverage and whether a clearly predetermined investment strategy leads to cautious capital management and decision-making.

The research is of open nature, since all data and theoretical frameworks used are publicly available online. Therefore, the research aims to answer the research question by testing hypothesis on real-life companies. With that in mind, this thesis contributes to areas of finance and strategic management by adding on previous research as well as providing practical application of prior theories. The results of the research provide both theoretical and managerial insight.

2. LITERATURE REVIEW

The theoretical review consists of literature revolving around key topics that concern managerial decision-making. The first section shows the contemporary importance of the link between strategic decision-making and its financial implications. It will also cover the role of transparent corporate disclosure and why it matters. Evidence suggests that investment decisions impact a firm's strategic positioning and communicating clearly with stakeholders is important not just from an ethical point of view, but also beneficial for the economy in general (Porter, 1992; Sherman & Young, 2016).

The second section will analyse corporate risk, but more specifically, illuminate on what role debt plays in risk exposure. Risk may be measured in many ways, but we classify excess leverage as increased risk due to higher possibility of default. As cash flows may be unpredictable, firms need to be wary of rising corporate debt (Donaldson, 1978).

The third section will dive into short-term versus long-term decision-making and the trade-offs implied. Short-termism plagues corporate decision-making, and too frequently the pursuit of short-term earnings destroys value (Mauboussin & Callahan, 2015).

The fourth section is on capital structure and how firms choose to finance their operations; evidence suggests that stability in companies' debt-equity ratios is beneficial for firms (Campbell & Rogers, 2018).

The fifth and final section will analyse the topic of capital expenditures, as these are important costs management needs to consider when conducting operations. The academic literature on the topic is somewhat inconclusive, but there is some evidence to suggest that capital spending fluctuates according to the prevailing economic environment (Ozkan, 2001).

2.1 The Link Between Strategic Decision Making and Corporate Finance

We define strategy as the integrated set of choices that position the firm to create greater value relative to the competition (Drucker, 2008). It is the creation of competitive advantage built by objectives involving a compelling value proposition that prepares today's business for the future. Winning should be at the heart of any strategy, however, no strategy lives forever; it can be replicated by the competition, superseded by better ones or completely eviscerated (Leinwand et al. 2016; Lafley & Martin, 2013; Hamel, 2012).

A company's planning process sets a number of corporate goals in response to different priorities (Donaldson, 1985). This process is by no means straightforward, as it involves financial implications. Because a company's financial goals are so visible and tangible, they often become the focal point for tension and dispute at the higher levels of the organisation (Donaldson, 1985). Corporate financial strategy concerns how companies raise and deploy their funds and an organisation's business and financial strategies must operate in tandem to deliver the value demanded by its shareholders (Bender & Ward 2008).

Investment decisions have significant effect on a company's strategic positioning, and it can be the most critical determinant of competitive advantage (Porter, 1992). Wise deployment will create value while mismanagement destroys it. An important factor that distinguishes companies in creating shareholder value is the quality of investment decisions, which are dependent on the quality of the firm's capital budgeting system (Boquist, Milbourn & Thakor, 1998). Agrawal, Gibbs & Monier (2015) find that two-thirds of executives agree that the best way for CFOs to ensure their company's success would be to spend more time on strategy. The challenge is the overlapping roles with traditional industry leaders, such as chief strategy officers (CSOs) and business unit heads.

Since the financial crisis, companies have taken steps to fortify their financial positioning. Corporations have strong cash positions on their balance sheets, and how

executives choose to invest that capital will drive corporate strategies and determine their competitiveness for the next decade and beyond (Jacobs & Shivdasani, 2012). The importance of these decisions cannot be emphasised enough, as the Pareto principle seems to be taking place: Of a sample of 3,000 large, publicly listed non-financial US firms, companies in the top one-fifth of profitability earn about 70 times more economic profit (along with substantially greater growth) than those in the middle three-fifths combined (Wilkin, 2015). A corporation's strategy is an evolving target as global markets and technology shift and resource management remains the fundamental economic task of corporate management (Bower, 2017). Despite the consequences of mismanagement of capital, companies continue to blunder (Boquist et al. 1998).

2.1.1 The Role of Transparent Reporting to Stakeholders

Information asymmetry refers to imbalance of information between a seller and a buyer (Pettinger, 2017). It is a fundamental concept in economics, but its estimation is challenging because private information is generally unobservable (Back, Crotty & Li, 2018). For firm stakeholders, it is in their interest to lower information asymmetry in order to build trust. Giving more information to existing and prospecting investors generally and doing it in an honest and understandable way is good business (Lev, 2011). One challenge to this notion is that financial statements can often be presented in more than one correct and legal way (Stancill, 1981) and despite reforms, corporate accounting remains murky as companies continue to find ways to game the system (Sherman & Young, 2016).

There are several ways corporations can make themselves look more profitable to investors (Young, 2002). One way to do this is off-balance sheet arrangements which can help smooth financial figures from one period to another. Despite this, investors do not always possess enough scepticism to rationally interpret accounting numbers (Lander & Auger, 2008).

Achieving balanced disclosure can be challenging for companies who may be uncomfortable with admitting mistakes or fear it may expose them to criticism or even legal risk (Tennant, 2015). Management may sometimes believe that access to information is a perquisite to power, and thus only they need, or would know how to use sensitive and complex information (O'Toole & Bennis, 2009). Additionally, there is the ever-present trade-off between “delivering earnings” and the long-term objective of making value-maximising investment decisions (Graham et al. 2005).

Organisational transparency makes sense rationally and ethically, and it makes businesses run more efficiently and effectively (O'Toole & Bennis, 2009). In order for financial statements to fulfil their important social and economic function, they must reveal the underlying economic truth of a business. To the extent that they deviate from that truth, scarce capital will continue to be misallocated and wealth – and jobs – will be destroyed (Sherman & Young, 2016).

2.2 Corporate Debt and Risk Exposure

Excessive leverage may impact a company's liquidity and thus increase bankruptcy risk, meaning a company is unable to meet its debt obligations. Bankruptcy risk is the possibility that a company will be unable to meet its debt obligations (Harvey, 2012). Keeping debt levels in control is a measure a firm can take in order to be prepared for unforeseen, drastic events. To put this into context, a great number of American listed companies that have performed remarkably well have also had “near-death” experiences due to major shifts in their industry (Taylor, 2016). A typical situation goes as follows:

“A company enjoys stable success. This success causes shareholders to press management to grow by increasing production capacity, moving into new markets, or even

making acquisitions, often backing up their demands with offers to fund more equity. Simultaneously, the company's banks are eager to lend to what they perceive to be a sure credit risk. Competitors, however, are usually eyeing the very same opportunities. This places market shares and margins under considerable pressure, leaving the company very exposed to a downturn. When it comes, as it inevitably does, the new factory or subsidiary becomes a burden and now the firm struggles to service its increased debt. Eventually, it ends up in breach of its borrowing covenants, and faces the imminent prospect of bankruptcy" (James, 2002 p. 43 & 44).

It has long been conventional wisdom that, whatever its troubling side effects, the aggressive use of financial leverage pays off in higher company values (Piper & Weinhold, 1982). It is easy to see that adding debt to the capital structure, in the vast majority of instances, increases earnings per share more than does raising the same amount of money from common stock. Additionally, it is usually a cheap source of funds for the firm (Sihler, 1971, Donaldson, 1978). Risk – so far as debt is concerned – is the chance of running out of cash. Since no private enterprise has a guaranteed cash inflow, there must always be *some* risk, however remote, that this event could occur (Donaldson, 1978). Andrade & Kaplan (1998) find in their study that high leverage is the primary cause of corporate distress. The study also emphasised that poor firm and industry performance played a much smaller role, as all of the sample firms in the study had positive operating income in the distressed years.

Long-term debt is money that is owed to a lender for a period of more than one year from the date of the current balance sheet (Lancett, 2018). High levels of long-term debt can present risks and financial challenges for a company to thrive over time, as capital has to be allocated to interest payments instead of other business areas. Additionally, long-term leverage limits a firm's ability to build up a safety network of cash savings to cover unexpected turn of events such as decrease in sales (Kokemuller, 2018).

Based on the theory above, we hypothesise the following:

Hypothesis 1 (H₁): *Companies with an explicitly stated long-term investment strategy to stakeholders experience lower long-term debt than those companies without such a stated long-term investment strategy.*

2.3 Strategic Implications on Short-Term versus Long-Term Perspective

A widely accepted paradigm in business and economic activity is the importance of long-term perspective. Despite this, short-termism in firms' investment decision-making has not disappeared. A main source of this problem is the continuing pressure on public companies from financial markets to maximise short-term results (Barton & Wiseman, 2014). Research suggests that companies make fewer, but more profitable investment decisions if shareholders have a long-term perspective (Harford, Kecskés & Mansi, 2017). The goal should be to create long-term value per share and letting the stock market reflect that value. Companies that dwell on short-term stock price and earnings per share boost, frequently make decisions that are at odds with creating value (Mauboussin & Callahan, 2015). Large institutional holders play a significant role in the problem. Today, they own 73% of the top 1,000 companies in the US, versus 47% in 1973. These institutions are not acting like owners and have a narrow view of the stock's value, resulting in corporate boards and management making suboptimal decisions for creating long-term value. The short-termism undermines the ability of companies to invest and grow, and have far-reaching consequences, including slower GDP growth, higher unemployment, and lower return on investment for savers (Barton & Wiseman, 2014).

Porter & Kramer (2011), argue that there is a constant debate on short-term and long-term trade-offs which are influenced by capital management, utilisation of resources and

strategy which support investment decisions. The desired ultimate goal for most firms that want to sustain future success is to grow, but growth is usually stagnating due to short-term profit maximising investment policies. The article addressed the obvious issue of narrow-minded thinking and short-term outlook that even successful companies follow, in order to optimise short-term financial performance. Thus, the long-term strategy suffers, which in actuality slows down sustainable value creation in the long run (Porter & Kramer, 2011). Especially in times when the economy is prosperous and peaking, firms become too optimistic and are trying to take advantage of the situation by maximising their current profits. This is explained in Massenet & Pettinchi's (2018) research on the German market and how even the most stable economies in the world still have troubles with addressing this the issue. However, this behaviour is seen in other markets as well, especially in the United States, where narrow, short-term outlook of the largest companies cause economic crisis situations, which affect the entire globe. Additionally, companies' growth gradually declines with age, which shows that many of them fail in planning a sound forward looking strategy (Arkolakis, Papageorgiou & Timoshenko, 2017).

Short-termism in many cases is a corporate governance issue, where management strives to boost current performance due to various incentive schemes and benefit plans, which underlines well-known agency problems (Shen & Gentry, 2012). These issues reflect into capital management, since different business units battle for scarce resources in order to pursue their own goals without taking into account what is in company's best interest. Lee, Wang, Chui & Tien, (2018), have found a positive relationship between sound investment policies and managerial competencies; having experienced management aligned with corporate strategy and objectives as a vital component for success.

Therefore, the previous literature suggests that companies without a long-term outlook are prone to short-term opportunistic behaviour. This way of acting is characterised by

escalating stock prices and earning per share in order to attract investors and gain as much profit as possible in the shortest amount of time. This kind of conduct usually translates into increased risk and lack of long-term outlook. However, these variables are also subjected to changes in the external environment, the efficiency market hypothesis must be addressed prior to the hypothesis formulation. In theory, stock prices reflect the discounted value of future cash flows to the present. The Efficient Market Hypothesis (EMH)¹ suggests that stock prices instantly reflect all available information. As a result, efficient markets do not allow investors to earn above average returns without accepting additional risk (Nath, 2015). Thus, this theoretical debate inspires the following hypothesis:

Hypothesis 2 (H₂): Companies with an explicitly stated long-term investment strategy to stakeholders experience lower stock price and earning per share growth, than companies without such a stated long-term investment strategy.

2.4 Capital Structure

Evidence suggest that capital structure influences companies' performance and the decision whether to finance projects with equity or debt is never straight forward, hence most companies use a portion of both. The trade-off theory is widely used to explain the differences between debt and equity financing. Both sides have their advantages (Shahar, Shahar, Bahari, Ahmad, Faisal & Rafdi, 2015). By using equity as a means of finance a company avoids cost of debt and risk exposure arising from economic uncertainties. In the worst scenario, excessive debt can lead to bankruptcy.

¹ We acknowledge that the subject of EMH is fiercely debated both academically and practically. Markets have proved to make egregious mistakes and psychological factors influence securities prices (Malkiel, 2003 p. 61).

On the other hand, companies use debt financing to lower their tax burden, which could be leveraged rather efficiently for financing new projects, especially if the company is liquid enough to pay off its creditors. Liu (2017) in its model tests the theory and supports the fact that companies perform better in the long-run if they are able to manage their debt to equity ratio appropriately. The study suggests that there should be a predetermined optimal ratio the company should follow and adjust to different circumstances.

Although companies use different strategies when it comes to capital structure, there are some patterns that occur more frequently. Campbell & Rogers (2018) in his research finds that companies tend to perform better if their debt to equity ratio is less volatile. Furthermore, companies' strategy should monitor debt-levels, thus at the same time managing capital structure volatility. The evidence suggests that firms that frequently alter their capital structure risk underperformance in relation to their peers.

The current conditions within an industry appear to be highly influential while deciding on capital structure and investment policies. Leary & Roberts (2014), in their study show how companies shape their capital structure, by mimicking the competition. Likewise, Park, Yang & Yang (2017), have found a significant correlation between capital structure and market competition. Companies are pushed by peers to act in the similar manner in order not to fall behind. Interestingly the study shows a U-shaped quadratic curve when it comes to the industry structure. Hence, markets with medium competition have the least peer pressure, because firms have yet to establish themselves and find the appropriate strategic position within an industry. Therefore, industries that have larger gaps between competitors, experience more capital structure imitation and peer effect, since those markets have a clear outline of which companies are performing better and which ones are lagging. It seems that the larger the distinction

between companies, the more peer pressure on capital management they face (Leary & Roberts, 2014).

Strategic directions of competitors and market dynamics have an impact of firm's capital management and investment policies to a large degree. By comparing peers' stock price, companies shape their own strategies and investment strategies. Various research supports this notion. Foucault & Fresard (2014), studied U.S. listed companies and came to the conclusion that an increase in peer valuation leads to an increase focus on corporate investment strategy. Additionally, Chan & Ma (2017), conducted a research with Chinese listed companies, and drew the conclusion that stock price volatility changes investment strategy of competitors. The literature suggests is still unknown to what degree firm's follow each other's footsteps. Sometimes companies try to mimic investment policies whereas at other times, just slightly adjust to changes in the market. Thus, it becomes clear that capital management and investment strategy varies according to external factors of market conditions and competitor positioning.

Another major influencer on capital structure are the shareholders. Naturally, they constantly strive for more return on their investment; hence they prefer to use less debt financing. Since there is elevated risk involved with debt, investors can hedge themselves by choosing companies with low-debt investment policies (Lu, Hwang & Lin, 2016). Thus, the evergreen question is whether there is an optimal debt-equity ratio and do firms have specific targets for their capital structure. Chung, Liu & Wang (2017) explains that companies are trying to monitor their debt to equity ratios and maintain an optimal level, which could be revised according to environment changes. Thus, the study pinpoints high debt levels and greater volatility as a bad influence on long-term performance. This is not easy to measure, since the nature of the business and the specific industry characteristics influence to optimal amount of debt. Some businesses are capital intensive and require more up-front investments such as

manufacturing firms. Furthermore, the inherent risk exposure is specific to the business, which can create significant differences in cost of capital requirements (Chung, Liu & Wang, 2017).

The theory emphasises the importance of managing an optimal debt-equity (D/E) ratio. Having a stable capital structure is key when taking the long-term perspective, hence an appropriate strategy should keep the capital structure in line with a company's long-term objectives. Therefore, we hypothesise the following:

Hypothesis 3 (H₃): Companies with an explicitly stated long-term investment strategy to stakeholders experience less volatility in their capital structure (D/E), than companies without such a stated long-term investment strategy.

2.5 The Role of Capital Expenditures

Capital expenditures (Capex) refer to any spending a company makes on the capital assets. Hence, when an economy is expanding, especially after the great recession period, companies' investment more in capital assets with the aim that these expenditures translate to profits and growth. The degree of capital expenditures depends on the industry and the nature of a business (Maier, Arms, Dannath, & Freyberg, 2010.). Companies that require more intense capital for their operations, such as those in heavy industry, need more capital spending (Rousseau & Caruso, 2015). On the other hand, asset light industries such as retail, which are more labour intensive, generally require less capital spending (Kachaner & Whybrew, 2014). For this reason, it is very difficult to compare companies with different backgrounds, because they can differ significantly in their capital spending. Minton & Wruck (2001) find that many firms with a low-leverage policy do not remain that way and once they take on debt financing, their capex typically increase. Additionally, Ahn, Denis & Denis (2006) find that diversified

firms have higher amounts of leverage than their focused counterparts, along with higher capital spending.

As previously mentioned, companies tend to spend more when market conditions are favourable, and they expect growth Minton & Wruck (2001). Capital expenditures can be expensed through either equity funding or debt funding, therefore capital structure plays a very important role when it comes to the decision on how much to spend for new assets, but different studies show different results. Galizia and O'Brien (2002) study on European countries also show that companies increase their long-term debt in order to finance capital expenditures; however, these results varied from country to country. On the contrary, according to Ryan (2014) the Standard and Poor's report, showed that U.S. companies increase their debt at a much higher rate than their spending. With that in mind, overall investment in capital expenditures falls slightly from one financial quarter to another, which implies that the recent financial crisis took a toll on companies, thus they are more risk averse and they do not want to embark on high capital spending on risky projects.

Mixed results show the complexity of the capital expenditure decision-making process, and that it is difficult to predict how companies spend their funds on assets. However, there has been evidence to support that companies that plan their capital expenditures stick to their strategy in the long-run. Ozkan (2001), study on a large sample of more than 300 British companies suggest, companies set targets for their capital expenditure and tend to maintain the level of expenditures. Adjustments are usually made according to changes in market conditions; however, deviations are not that substantial, which suggests that significant costs are incurred for drifting away from predetermined targets. Likewise, there is evidence that show managers use different return measures to decide on capital expenditures. Gordon & Iyengar (1996) found a positive relation between the return on investment and capital expenditures and show how

managers use the return on investment indicator increasingly while deciding upon new expenditures.

Therefore, it could be argued that investment strategy influences the development of capital expenditures, and that companies with an investment strategy maintain and appropriately adjust their capital expenditures in the long-run. From the above, we hypothesise the following:

Hypothesis 4 (H₄): *Companies with an explicitly stated long-term investment strategy to stakeholders experience less volatility in their capital expenditure (CAPEX), than companies without such a stated long-term investment strategy.*

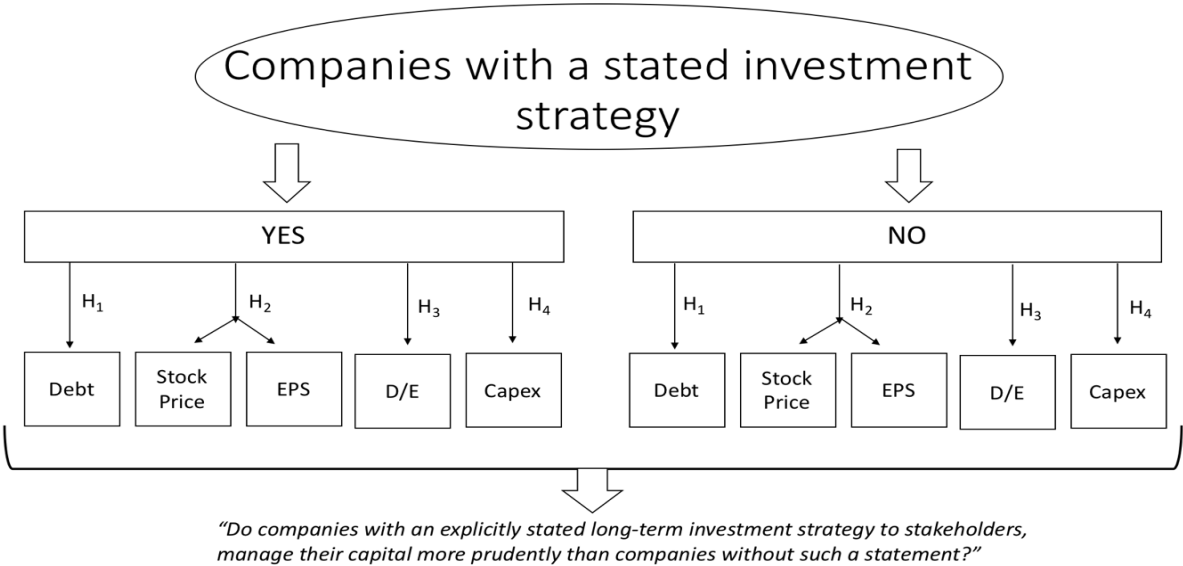
2.6 Summary of Theoretical Review

The literature review has covered important aspects of capital management and points out the significant link of strategy and finance. In the lights of the financial crisis in the US, the level of scrutiny skyrocketed, and the media started paying more attention to companies signalling risky behaviour. Even the largest corporations have short-term outlooks and agendas, which can hamper long-term success and value creation. This being said, it is of great importance for companies to look forward and create strategies which will have long-term impact. This does not mean that the theory suggests some companies do not have a long-term strategy at all, but it rather pinpoints the importance of transparent reporting of one.

This literature review puts attention on how firms manage their capital, and do they act more prudently. Since markets are rising again, after the financial crisis, the literature suggests that it is common place for companies to take on more debt in order to grow their business; however, the evergreen question is how much debt the companies can take before it becomes too risky.

Even though financing with debt could be beneficial, various liquidity problems may occur if the company is unable to pay off its debt due. In actuality, if companies increase their debt to equity ratio, the capital structure becomes increasingly unstable and theory suggests that it might have costly implications in the future. Additionally, excessive debt taking impacts capital expenditures to a degree. The view is that companies finance their growth through capital expenditures using debt, but this could also be reversed if the company starts struggling with liquidity further down the road. This indicated that capital management and sound planning is substantially important, hence an explicitly stated long-term investment strategy could be a gateway to sustainable future success. Even though it seems as if it is common sense to take the long-term perspective, many companies still engage in risky behaviour hoping to gain short-term profits at the expense of long-term value creation. To give a visual representation of our hypotheses testing, a conceptual framework is provided in the figure below:

Figure 1: The Conceptual Framework of the Thesis



3. METHODOLOGY

3.1. Research Approach

Easterby-Smith, Thorpe & Jackson (2015) identify qualitative and quantitative methods as two main approaches to research. However, they also point out the third option of research, the mixed research approach which is commonly used to address broad topics that might require using different methods throughout a case. This type could be referred to as a hybrid, since it has both element of qualitative and quantitative research. Considering the goal of this thesis is to analysis and test the impact of long-term strategy through numerical data, we use the quantitative approach. This method allows testing of the hypothesis drawn from academic literature, which seeks to grasp patterns in data and answer the underlying research question. The quantitative research helps in understanding of relationships between different variables by using numerical data. Throughout a research the data is gathered to quantify a specifics problem and convert it to useable statistics which aid in the hypothesis testing process. These results then are used to draw a conclusion about a population based on the extracted sample (Brandimarte, 2011).

According to Bryman & Bell (2011) there is also a distinction between inductive and deductive approach to research. For the purpose of this thesis, we pursue the deductive approach since numerical data is used to test the hypothesis based on already existing academic literature. The hypotheses are developed in order to test certain assumptions; hence, the format of the deductive study is gathering the theory, setting hypotheses, performing statistical tests and in the end accepting or rejecting the developed hypotheses.

3.2 Research Design and Unit of Analysis

To effectively address the research problem, the research design needs to integrate different components in the study in in a coherent and logical way to constitute the blueprint

for data collection, measurement and analysis (de Vaus, 2001). We use cross-sectional design in our research. In this design, the data is collected in one point of time and is analysed by examining the extent to which variation in the outcome variable is linked with group differences (de Vaus, 2001). The idea is to identify special characteristics within a group of comparable organisations, rather than to establish relationships. By comparing the two groups, we will be able to detect whether there are possible similarities, patterns or substantial differences in the data collected. This type of analysis is based on information gathering and seeks to understand the “what” instead of the “why”. Cross-sectional analysis allows the formation of assumptions, and test hypotheses (Easterby-Smith et al. 2015). Thus, the main restriction of the cross-sectional study is that we cannot answer *why* a certain development has taken place in our sample. Nevertheless, the cross-sectional analysis for our study is appropriate, since the thesis is observational and descriptive in nature, as we do not seek to determine the cause of changes in our variables nor do we recommend a specific course of action from our findings.

The Standard’s Poor’s 500 (S&P 500) is a stock market index of the 500 largest US companies, which are publicly listed on NYSE or NASDAQ with market capitalisations of at least \$6.1 billion. It is a capitalisation index; thus, the top 150 companies are the largest companies by market cap. Though the Dow Jones Industrial Average (DJIA) is the best known and most quoted stock index in the world, it is selective and can be misleading, since it is comprised of only 30 stocks, and is thus less representative of the economy (Imbert and Bearman, 2018). Over time, the S&P 500 evolves to reflect the makeup of the American economy (Waggoner, 2018). Since the index is considered to be the best representation of the US economy, its companies are constantly under an increased level of scrutiny and attention, especially after the recent crisis. For this reason, the high level of transparency and accountability is expected; hence their publicly disclosed data is considered to be reliable. In

2017, the five largest sectors of the index were (in descending order): Information technology, financials, health care, consumer discretionary and industrials (Amadeo, 2018).

In this thesis, our unit of analysis is large publicly listed companies, thus the sample comprises of the top 150 companies listed in the S&P 500 index. Due to time constraints of the study, we are unable to analyse all 500 companies in the index, but a sample of 150 should give a solid data on the development of variables being measured and aid in tackling the research question.

3.2.1 Defining Long-Term Investment Strategy

In order to quantify the consequences of firm investment decision making in the long-term, a period of five years starting from 2012 to 2016 is used. The data is gathered from reports in the years 2012 and 2016. The reason for using five years between is in the authors' view a period where long-term developments start to become clearly visible and it is a common performance measuring period in general (Schmidt 2018, Dobbs & Koller 2005, BDC 2018). In order for the research to be as recent as possible, the years 2012 and 2016 are used, and necessary quantitative data will be publicly available. Furthermore, the previously mentioned period has been quite stable and the economy has been growing steadily; thus, any form of distortion such as major recessions or crisis periods are not influencing the data used in the study.

The academic paradigm is that business performance can be measured quantitatively on a variety of measures. What is beneficial for a firm is not necessarily so for the shareholder and vice versa. Because of inherent differences in performance measures, the literature examined is crudely divided into a business and shareholder perspective, namely Return on Invested Capital (ROIC) and Return on Equity (ROE). To maintain and sustain these measures at healthy rates requires thoughtful capital management and deployment.

Return on Invested Capital. The most successful businesses by far are those that have high returns on capital (Buffett, 2009). The higher the return on invested capital over its cost of capital, the more valuable the business. The importance of high returns on capital is fully revealed when we think about reinvestment and business growth. Businesses must constantly reinvest capital to maintain existing production capability (Gray & Carlisle, 2013). ROIC represents the most important measure of management ability and is often just as important as growth – and occasionally even more so – as a measure of value creation (Hackel, 2010; Cao, Jiang & Koller, 2006).

Return on Equity. The ROE tells you what percentage of profit is made for every dollar of equity invested in the company (Gallo, 2016). ROE tells investors how effectively their capital is being reinvested and for the most part, the higher a company's return on equity compared to its industry, the better (Wilkinson, 2013; Kennon, 2017). The primary test of managerial economic performance is the achievement of a high earnings rate on equity capital employed (without undue leverage) and not the achievement of consistent gains in earnings per share (Buffett, 1980).

In this thesis, we categorise firms into two groups, those that have an investment strategy explicitly stated in their annual reports and those that do not. The ones that have, mention at least one of the following terms in their annual reports as goals to be reached or levels to be maintained: “Return on Invested Capital (ROIC)”, “Return on Equity (ROE)”, “Capital Allocation”. By stating these targets in their annual reports companies show their prospect and long-term outlook, thus they are considered to have a long-term investment strategy.

3.3 Data Collected

According to Sekaran & Bougie (2016) there are two data types that could be used for research. The first type is primary which refers to the data that is gathered directly by the

researcher. This could be achieved by conducting various types of surveys or interviews to extract information about organisations. On the other hand, there is secondary data, which is gathering information that has already been processed and recorded by someone else. This is usually done by collecting public data, which could be easily accessible through different online search engines. Since, this research seeks to draw conclusions from a large sample of 150 U.S. public companies, we use secondary data exclusively.

All information is gathered through annual reports available online, thus there is no primary data collected for this study. Considering that the entire data is extracted from companies reports, Easterby-Smith et al. (2015) describe this approach as archival research, where all information used for analysis derives from governmental and organisational public documentation. The main reason for using secondary, archival data is because of the convenience and accessibility. Due to the limited amount of time for the project, this method allows the research to gather enough data on a substantial sample size in order to perform the necessary hypotheses testing. Once the data is gathered, it is translated into independent and dependent variables. According to Easterby-Smith et al. (2015) independent variables are independent from the observation and they are causing the effects which are observed, whereas dependent variables ought to be predicted by the research. In this case the independent variable is the long-term investment strategy, since the research wants to test the effect of the strategy on capital management. Other variables derived from the literature are dependent, since they are believed to develop according to the investment strategy. These variables represent the measures extracted from financial statements found in annual reports, upon which the analysis and hypotheses testing is based on.

3.4 Measures Collected

Once the independent variable is set and companies are grouped in accordingly, we start the measures collection by going through companies' financials stated in annual reports of the years 2012 and 2016. Each of the four hypotheses derived from the literature review test a specific measure between the groups, with an exception of the second hypothesis which tests two measures.

Hypothesis 1 (H_1) is testing the long-term debt measure, thus this line item is taken from the balance sheet of each company in the year 2012 and 2016. The change in the balance that happened within this time span is calculated as a percentage change using Microsoft Excel software. Companies that did not have any long-term debt on their balance sheet in one of the years were given a 0 for that specific year thus the change for such cases was 100 percent increase or decrease depending on the year in which they had no long-term debt. Furthermore, if a company had no long-term debt in any of the two aforementioned years, the percentage change value was automatically 0. We only incorporated the line-item which was explicitly labeled as long-term debt or obligation without further investigating balances named "other liabilities", since they could encompass various types of liabilities.

Hypothesis 2 (H_2) is testing the growth of stock values and earnings. For the stock price growth, we took the historical share prices for all companies at the first trading day of 2012 and the trading day of 2016 from Yahoo!'s finance database. These number were once again calculated as a percentage change over the years for each company through Microsoft Excel. A couple of companies in the sample went public later in 2012, thus for such cases we used the day they went public as a starting stock price. Additionally, this hypothesis considers the earnings growth, thus the earnings per share (EPS) measure was extracted from annual reports and the percentage change was calculate. To be more precise the diluted earnings per share is taken and the reason for using diluted EPS instead of basic is to give more accurate portrayal

of EPS development, since EPS may be subjected to different accounting policy of a company (Menon, 2013).

Hypothesis 3 (H₃) tests the capital structure of companies. The choice between equity and debt financing of operations is a capital structure decision, thus the debt to equity ratio (D/E) is used to grasp the volatility over the determined timeframe. Though D/E ratios may differ between industries, the main purpose of this research is to analyse how debt to equity changes during the measuring period. The D/E ratio is derived from the balance sheet stated in annual reports by finding total liabilities and total shareholders' equity and dividing them. The procedure for calculating the debt to equity ratio is the same for each company; however, there are companies that run on a shareholder deficit, therefore they are excluded from the sample for this particular test, since the debt to equity ratio cannot be calculated.

Hypothesis 4 (H₄) the last test uses capital expenditures as a measure. The variable is taken from the annual reports as a line item usually named capital expenditures or spending. In some cases, companies did not disclose the entire amount of their capital expenditures, thus as a substitute we use R&D or property, plant and equipment expenditures. Depending on the nature of the business, capital expenditures can vary significantly. Some service companies have very small to no capital expenditures, thus there are companies, especially financial services, that did not report their capital spending in their annual reports. These companies are omitted from the sample for this test exclusively. As well as for all previous measures, capital expenditures are measured at two points in time, and the percentage change is calculated using Microsoft Excel software.

3.5 Statistical Tests

Once the companies are divided in two groups (based in investment strategy) and all the measures mentioned above are extracted from annual reports, the statistical tests are performed. First and foremost, the descriptive statistics is calculated using SPSS software package.

According to Salvatore & Reagle (2001) every quantitative research requires preliminary descriptive analysis which serves a cornerstone of the study. The descriptive statistics are eminently useful, since they show basic characteristics and summarise the data used in the research. For this particular study we seek to find measures of central tendency (mean), along with measures of spread (range, standard deviation and variance) for each sample and variable within that sample, in order to understand whether there are any patterns or similarities in the distribution of these variables.

Following the descriptive analysis, is the test of statistical significance. In order to grasp whether there is a significant difference between the two groups, the means of each measured variable needs to be compared. To compare these means, we use the t-test statistics. Also known as the student's t-test, it compares the means of two groups (Salvatore & Reagle 2001). However, the ANOVA (Analysis of Variance) test could also be performed for mean comparison, but the ANOVA is usually used for multiple variables at the same time (Moore, 2009). Since we only test a single variable at a time, the t-test is reliable enough to produce useful results. Furthermore, the decision to do this particular test is based on the characteristics of two groups taken for this analysis. The groups are normally distributed, independent and large enough ($n \geq 30$) for the t-test to be conducted. All parameters are measured in exactly the same way for both groups and the shape of distributions are similar.

Each hypothesis is phrased in the same way; thus, all tests undergo the same procedure. First, we need to conclude whether the two groups have significantly different means, hence the null hypothesis states that $\mu_1 = \mu_2$, meaning that if the initial position is not rejected there is no difference between means or that there is a difference which is not statistically significant enough to draw any concrete conclusions. On the other hand, each alternative position is based on the literature, meaning that we assume that one mean is either higher or lower than the other. If there is enough evidence to reject the null hypothesis, we would not reject the alternative

hypothesis, thus we vouch for our premise to hold true at a certain level of significance. Therefore, by plugging the numbers into the formula for t statistics and comparing that value with the critical point, we will be able to test our hypotheses, which is vital for answering the posed research question. The most common levels of significance used for t-tests are 0.05 and 0.01. Since there are four hypotheses based on the reviewed literature, t-tests are performed independently from one another for each of the premises.

3.6 Validity and Reliability

3.6.1 Internal Validity

The internal validity shows to a what degree the results of the study aid in drawing unambiguous conclusions (de Vaus, 2001). In other words, the internal validity, also called credibility, looks into the data selection, groups selection and tests which are performed in order to establish whether the study is legitimate. According to Willis (2007) the degree of internal validity refers to how the research can be replicated. For quantitative type of study this could be assessed by testing triangulation, which according to Altrichter, Feldman, Posch & Somekh (2008) gives a more detailed representation of the study. According to Denzin's (1978) "Sociological Methods" triangulation can take four elementary forms:

Data triangulation – refers to cross checking the data using different sources in order to assure accuracy. However, considering the scope of the thesis and the limited time the data triangulation is weak, since everything than was gathered comes from public annual reports.

Investigator triangulation – means that the research involved more than one researcher while checking the data. Even though, our research did not involve many researchers, there is a decent degree of investigator triangulation, since all data used for hypothesis testing was double-checked by both researchers.

Theory triangulation – refers to incorporating various theoretical frameworks and to describe a certain situation. With regards to this type of triangulation, our study has a high degree of it, since there is no cornerstone theory or study which the thesis revolves around. Each hypothesis is derived by taking into consideration various theories and sources.

Methodological triangulation – The last type refers to the number of methods used whilst collecting data. This research is exclusively quantitative, and all the data is extracted from companies' annual reports using the same method, thus the degree of methodological triangulation is rather low.

Overall, the internal validity of our study may be described as moderate, since it has two out of four triangulation types. Even though theory and investigator triangulation exist, we acknowledge that the use on only one method for the study and data collection could have a possible impact on the hypothesis test results, which are to follow.

3.6.2 External Validity

Also known as transferability, external validity addresses the issue of results validity and can they be applied to a different setting (Last, 2001). In other words, the degree of generalisability of the research is measures through external validity. According to Mohajan (2017) there are four components which can increase external validity of a study.

Random selection – influences generalisability directly, since it refers to how well the sample chosen represents the entire group. Considering, we had a predetermined agenda to test top 150 companies of the S&P 500 there was no random selection, thus we cannot safely say that the results would be the same if we were to take mid or bottom 150 companies from the index.

Heterogeneous groups – refers to whether there was any specific characteristics used to allocate data into different groups. In our case the only distinction was made between

companies that do state and do not state their investment strategy, since that is the gist of the entire study. However, no other distinctions were made, thus the two groups are rather diverse, since companies within the same groups come from various industries and backgrounds. Thus, the groups can be considered heterogeneous which increases external validity of the research.

Non-reactive research – indicated the degree to which researchers' engagement with companies or individuals influence the results of the study. Considering that we do not have a specific case study, and that we have no direct involvement with any of the companies in the sample, this effect does not influence our research.

Precise description – refers to how well the entire research process is explained so that it could easily be replicated by other researchers. The previous section describes the whole process and data and measures collection, as well and how the statistical test is performed; thus, it would be easy for anyone to replicate this study.

The degree of external validity is moderate. The sample size is large enough to draw conclusions from, due to substantial heterogeneity and variety of measures included. While the sample is not made up of all 500 companies in the S&P 500 index, it still represents almost a third of the index. Our research methods and approaches are also highly replicable, further increasing external validity. Nevertheless, we must acknowledge the fact that the companies were not chosen at random, which could decrease the overall generalisability of the study.

3.6.3 Reliability

Reliability refers to the inherent repeatability and generation of results of the research, where other researchers would use the same methods under similar conditions (Shuttleworth, 2018). According to Blumberg, Cooper & Shindler (2005) properties of reliability are consistency, precision and repeatability; hence, an increase in any of the three contributes to higher reliability. The ability to be objective and reduce any possible subjective judgement during the process is vital for conducting reliable research. Therefore, studies that are of

quantitative nature are usually more reliable than qualitative studies, since there is less room for interpretation. Even though, validity requires measures and tests performed to be reliable, a research model can be reliable but not valid, which means reliability of the data is quintessential for any research (Kimberling & Winterstein, 2008).

According to Mohajan (2017) the reliability of a thesis can be measured through stability and internal consistency reliability.

Stability – refers to how stable the measures of the tests are, and if the same result is achieved when measured again using the same test in the future (Allen & Yen, 1979). This could be evaluated by using the test-retest reliability. The stability is strong in our case, since all data gathered is archival, and the mean comparison test is basic and universally accepted. Thus we can say that neither measures nor tests performed will alter in the future, meaning that the retesting will give the same outcome.

Internal consistency reliability – measures the consistency of data collection through either inter-rater consistency or split-half reliability. The inter-rater consistency captures whether the way the data is collected can differ if another researcher or observer conducted the same research (Keyton, King, Mabachi, Manning, Leonard & Schill, 2004). In this case data was cross checked by two researchers who came up with the same measures which increases reliability to a degree; however, this does not mean that every researcher conducting the research will generate exactly the same measure due to subjective judgement of an individual. On the other hand, the split-half reliability splits the data in half, and measures the same thing, but it is usually used when the testing process is very long and robust (Ganesh, 2009); thus, this method for assessing consistency does not apply in this thesis.

Overall, we consider our study to rank high in terms of reliability, since the data is secondary, archival and all tests performed are standard in the field. Financial statements are a snapshot in time, and thus the data they provide should be treated at their stated value. However,

there is always a degree of subjectivity, since researchers' judgements may differ. In the case of this particular study the nature of the research is quantitative, thus there is less room for possible biases. Nonetheless, the straightforward research model gives a high degree of replicability and the overall results should be the same in the future, if a researcher collects the data in the exact same way and performs the statistical tests in the same manner as they were conducted in this thesis.

4. RESULTS

4.1 Descriptive Statistics Results

As a preliminary step in the thesis we seek to find measures of central tendency (mean), along with measures of spread (range, standard deviation and variance) for each sample and variable within that sample, in order to understand whether there are any patterns or similarities in these variables.

- Interpreting the descriptive statistics of the entire dataset

Table 1: Summary of the descriptive statistics of the entire dataset

| | | DEBT % CHANGE | STOCK PRICE % CHANGE | D/E % CHANGE | EPS % CHANGE | CAPEX % CHANGE |
|----------------|-----------|------------------|----------------------------|-----------------|-----------------|-------------------|
| N | Statistic | 150 | 150 | 146 | 150 | 143 |
| Range | Statistic | 11951 | 929 | 15433 | 35136 | 1303 |
| Minimum | Statistic | -100 | -25 | -98 | -336 | -100 |
| Maximum | Statistic | 11851 | 904 | 15335 | 34800 | 1203 |
| Mean | Statistic | 210.17 | 124.92 | 191.69 | 346.99 | 39.69 |
| Std. Deviation | Statistic | 998.825 | 122.626 | 1320.033 | 2871.222 | 138.217 |
| Variance | Statistic | 997652.359 | 15037.183 | 1742486.813 | 8243918.396 | 19103.933 |

The table above provides a summary of five variable for the entire sample used in answering the research question. N represents the number of observation, which was initially 150 companies; however, some companies had a shareholder deficit or did not disclose their capital expenditures, thus SPSS excluded them from the analysis. Therefore, D/E percentage change and capex percentage change column have less observation even though they derive from the exact same data set as the other three variables.

The range shows the actual difference between the minimum and the maximum value, which grasps the entire spread of observations for each variable. Since the S&P 500 comprises of various different companies at different stages and from different industries, it is not unusual to see such major spreads in all variables. One variable that stands out significantly is the earnings per share percentage change which increased over three times in the span of five years. Nevertheless, all variables support the state of the US economy at the time of observation, since

the markets are booming companies on average take on more debt and increase expenditures in order to take advantage of the situation and increase their stock price and earnings. We can see a noticeable increase especially in the long-term debt and earnings per share growth, which could have indicated riskier behaviour in order to obtain short-term gains.

- Interpreting the descriptive statistics of companies with a stated investment strategy

Table 2: Summary of the descriptive statistics of companies with a stated investment strategy

| | | DEBT % CHANGE | STOCK PRICE % CHANGE | D/E % CHANGE | EPS % CHANGE | CAPEX % CHANGE |
|----------------|-----------|------------------|----------------------------|-----------------|-----------------|-------------------|
| N | Statistic | 43 | 43 | 41 | 43 | 40 |
| Range | Statistic | 467 | 661 | 4471 | 1307 | 1303 |
| Minimum | Statistic | -69 | -25 | -98 | -194 | -100 |
| Maximum | Statistic | 398 | 636 | 4373 | 1113 | 1203 |
| Mean | Statistic | 76.97 | 120.00 | 182.88 | 108.47 | 51.09 |
| Std. Deviation | Statistic | 118.972 | 116.763 | 705.886 | 259.738 | 205.032 |
| Variance | Statistic | 14154.437 | 13633.629 | 498275.550 | 67464.068 | 42038.082 |

The first group comprises of companies with a stated investment strategy, and the hypotheses based on the literature presume that they are more cautious with their capital management, thus they experience slower growth with less debt taking and a more stable spending and capital structure. The descriptive statistics showed that these companies do experience lower growth and debt developments than the average of all companies taken for the study; however, the capital expenditure development showed opposite results, meaning that companies with a stated investment strategy increase their expenditures more than the overall average. The long-term debt increase and the earnings per share increase was noticeably different than the overall average with less noticeable differences for the other three variables. Another, noticeable observation is each variable has a standard deviation over 100, which indicates that the companies are spread out and that some are significantly far away from the average. Especially, the capital structure which has a range of 4471 percent show a wide array of possible financing options companies can take. Even though the results show more prudent capital management in companies with a stated investment strategy than the average of all

companies taken into consideration, there is a high number of exemptions that do not follow any specific pattern.

- Interpreting the descriptive statistics of companies without a stated investment strategy

Table 3: Summary of the descriptive statistics of companies without a stated investment strategy

| | | DEBT % CHANGE | STOCK PRICE % CHANGE | D/E % CHANGE | EPS % CHANGE | CAPEX % CHANGE |
|----------------|-----------|------------------|----------------------------|-----------------|-----------------|-------------------|
| N | Statistic | 107 | 107 | 105 | 107 | 103 |
| Range | Statistic | 11951 | 914 | 15415 | 35136 | 772 |
| Minimum | Statistic | -100 | -10 | -80 | -336 | -91 |
| Maximum | Statistic | 11851 | 904 | 15335 | 34800 | 681 |
| Mean | Statistic | 263.70 | 126.89 | 195.13 | 442.84 | 35.27 |
| Std. Deviation | Statistic | 1177.566 | 125.385 | 1495.908 | 3395.448 | 102.233 |
| Variance | Statistic | 1386662.689 | 15721.414 | 2237741.710 | 11529066.69 | 10451.536 |

The second group of companies are the ones without a stated investment strategy, thus the assumption is that they are more likely to mismanage their capital. This means that they are prone to taking more debt in order to boost short-term growth. The descriptive analysis on the group shows that there are some signs of riskier behaviour, since they on average take on almost four times more debt than their peers from the first group. Additionally, the earnings per share increased on average about four times in just five years, which is significantly more than the first group. However, the stock price increase is higher in this group, but just by a couple of percent, which is also the case for debt to equity ratio. The only variable which had a mean lower in the second group than the first group was capital expenditures, which suggests that these companies spend less, even though they take on more debt.

Standard deviation and Range for all five variables are very high and much higher than the first group. This suggest that companies without a stated investment strategy are even more spread out, thus there are companies that stand out especially by their earnings growth pace which ranged from -336 to 34800 percent. Likewise, long-term debt and debt to equity ratio development differ between companies significantly, hence it is not possible to spot any patterns or come to any valid conclusions. Even though the numbers are escalating in the second

group more than compared to the first one, the statistical significance of these differences could not be known without further testing.

4.2 Hypothesis Testing Results

- Long Term Debt Hypothesis (H_1)

$H_{(1)}$ *Companies with an explicitly stated long-term investment strategy to stakeholders experience lower long-term debt than those companies without such a stated long-term investment strategy.*

Mathematical formulation of the hypothesis:

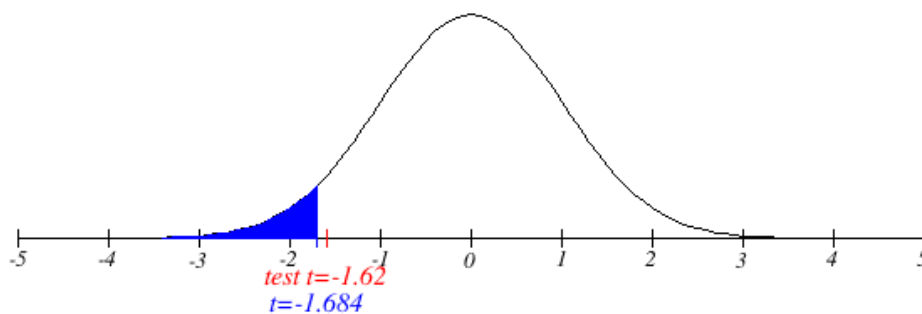
$$H: \mu_1 = \mu_2; \Rightarrow \mu_1 - \mu_2 = 0$$

$$H_1: \mu_1 < \mu_2; \Rightarrow \mu_1 - \mu_2 < 0, \text{ thus a left tailed t-test is used for this hypothesis}$$

Therefore, by plugging in the values from the SPSS table above we get the t value of **-1.62** for this hypothesis.

Testing at the 0.05 level of significance

Figure 2: Left-tailed student t-test distribution H_1



$t > t_{\text{critical}}, (-1.62 > -1.684)$, thus the result falls into the white, accept region.

In order to double check our test we use SPSS independent t-test to compare the p – value of the statistic to the level of significance.

Table 4: SPSS independent samples test for hypothesis 1 (H₁)

| Group Statistics | | | | | |
|------------------|-----|--------|----------------|-----------------|--|
| group | N | Mean | Std. Deviation | Std. Error Mean | |
| V6 YES | 43 | 76.97 | 118.972 | 18.143 | |
| NO | 107 | 263.70 | 1177.566 | 113.840 | |

| Independent Samples Test | | | | | | | | | | |
|--------------------------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|---------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| V6 | Equal variances assumed | 2.266 | .134 | -1.036 | 148 | .302 | -186.726 | 180.303 | -543.027 | 169.576 |
| | Equal variances not assumed | | | -1.620 | 111.272 | .108 | -186.726 | 115.276 | -415.147 | 41.696 |

Since our variances are not assumed to be equal we use the results from the second row of the Independent Samples Test table.

Sig. – represents the p value of the test, which should be, in our case, divided by 2 since we only test a left-tail side.

$p > \alpha$, ($0.054 > 0.05$), since the p value is greater than the level of significance, the result falls into the white, accept region.

At 0.05 level of significance the null hypothesis not rejected, hence the alternative hypothesis is rejected; thus, automatically we accept the null hypothesis at 0.01 level of confidence. This result indicates that the difference in means between the two groups is not statistically significant in the Hypothesis 1.

- Short-Term Versus Long-Term Perspective Hypothesis (H₂)

H₍₂₎ *Companies with an explicitly stated long-term investment strategy to stakeholders experience lower stock price and earning per share growth, than companies without such a stated long-term investment strategy.*

Mathematical formulation of the hypothesis (for both stock price and earnings per share):

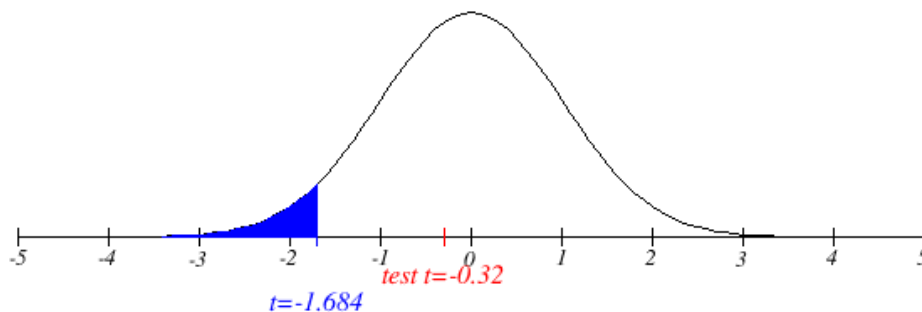
$$H_0: \mu_1 = \mu_2; \Rightarrow \mu_1 - \mu_2 = 0$$

$H_1: \mu_1 < \mu_2; \Rightarrow \mu_1 - \mu_2 < 0$, thus a left tailed t-test is used for this hypothesis

Therefore, by plugging in the values from the SPSS table above the t value equals -0.32 for the stock price variable and -1.01 for the earnings per share variable.

Testing at the 0.05 level of significance for the stock price variable

Figure 3: Left-tailed student t-test distribution H_2 (stock price)



$t > t_{critical}$ ($-0.32 > -1.684$), thus the result falls into the white accept region.

In order to double check our test we use SPSS independent t test to compare the p – value of the statistic to the level of significance.

Table 5: SPSS independent samples test for hypothesis 2 (H_2), (Stock Price)

| Group Statistics | | | | | |
|------------------|-----|--------|----------------|-----------------|--|
| group | N | Mean | Std. Deviation | Std. Error Mean | |
| V9 YES | 43 | 120.00 | 116.763 | 17.806 | |
| NO | 107 | 126.89 | 125.385 | 12.121 | |

| Independent Samples Test | | | | | | | | | | |
|--------------------------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|--------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| V9 | Equal variances assumed | .001 | .971 | -.310 | 148 | .757 | -6.894 | 22.209 | -50.782 | 36.993 |
| | Equal variances not assumed | | | -.320 | 82.893 | .750 | -6.894 | 21.540 | -49.738 | 35.949 |

Since our variances are not assumed to be equal we use the results from the second row of the Independent Samples Test table.

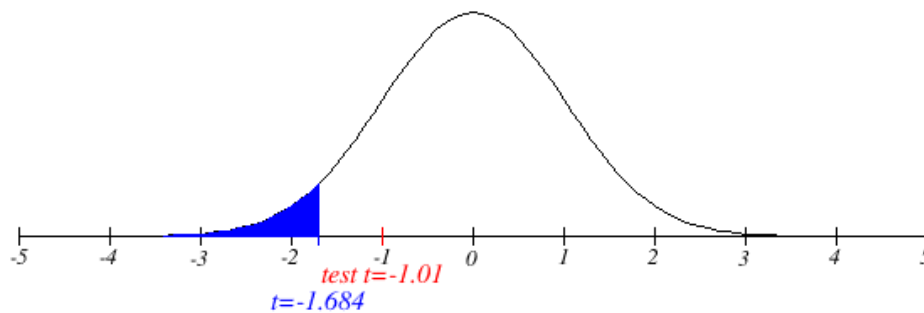
Sig. – represents the p value of the test, which should be, in our case, divided by 2 since we only test a left-tail side.

$p > \alpha$, ($0.375 > 0.05$), since the p value is greater than the level of significance, the result falls into the white, accept region.

At 0.05 level of significance the null hypothesis not rejected, hence the alternative hypothesis is rejected; thus, automatically we accept the null hypothesis at 0.01 level of confidence. This result indicates that the difference in means between the two groups is not statistically significant in the Hypothesis 2 for the stock price variable.

Testing at the 0.05 level of significance for the earnings per share variable

Figure 4: Left-tailed student t-test distribution H_2 (earnings per share)



$t > t_{critical}$ ($-1.01 > -1.684$), thus the result falls into the white accept region.

In order to double check our test we use SPSS independent t test to compare the p – value of the statistic to the level of significance.

Table 6: SPSS independent samples test for hypothesis 2 (H₂), (Earning Per Share)

| Group Statistics | | | | | |
|------------------|-----|--------|----------------|-----------------|--|
| group | N | Mean | Std. Deviation | Std. Error Mean | |
| V17 YES | 43 | 108.47 | 259.738 | 39.610 | |
| NO | 107 | 442.84 | 3395.448 | 328.250 | |

| Independent Samples Test | | | | | | | | | | |
|--------------------------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|---------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| V17 | Equal variances assumed | 1.531 | .218 | -.644 | 148 | .521 | -334.365 | 519.447 | -1360.857 | 692.126 |
| | Equal variances not assumed | | | -1.011 | 109.051 | .314 | -334.365 | 330.632 | -989.663 | 320.932 |

Since our variances are not assumed to be equal we use the results from the second row of the Independent Samples Test table.

Sig. – represents the p value of the test, which should be, in our case, divided by 2 since we only test a left-tail side.

$p > \alpha$, ($0.157 > 0.05$), since the p value is greater than the level of significance, the result falls into the white, accept region.

At 0.05 level of significance the null hypothesis not rejected, hence the alternative hypothesis is rejected; thus, automatically we accept the null hypothesis at 0.01 level of confidence. This result indicates that the difference in means between the two groups is not statistically significant in the Hypothesis 2 for the earnings per share variable.

- Capital Structure Hypothesis (H₃)

H (3) *Companies with an explicitly stated long-term investment strategy to stakeholders experience less volatility in their capital structure (D/E), than companies without such a stated long-term investment strategy.*

Mathematical formulation of the hypothesis:

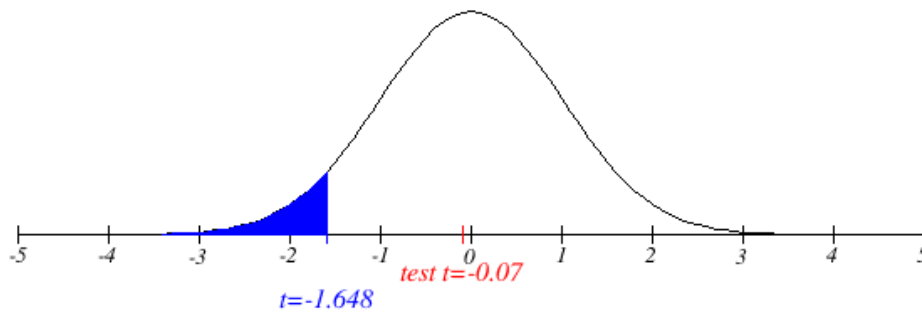
$$H: \mu_1 = \mu_2; \Rightarrow \mu_1 - \mu_2 = 0$$

H₁: $\mu_1 < \mu_2; \Rightarrow \mu_1 - \mu_2 < 0$, thus a left tailed t-test is used for this hypothesis

Therefore, by plugging in the values from the SPSS table above the t value equals -0.07 for the capital structure volatility.

Testing at the 0.05 level of significance:

Figure 5: Left-tailed student t-test distribution H_3



$t > t_{critical}$ ($-0.07 > -1.684$), thus the result falls into the white accept region.

In order to double check our test we use SPSS independent t test to compare the p – value of the statistic to the level of significance.

Table 7: SPSS independent samples test for hypothesis 3 (H_3)

| Group Statistics | | | | | |
|------------------|-----|--------|----------------|-----------------|--|
| group | N | Mean | Std. Deviation | Std. Error Mean | |
| V14 YES | 41 | 182.88 | 705.886 | 110.241 | |
| NO | 105 | 195.13 | 1495.908 | 145.986 | |

| Independent Samples Test | | | | | | | | | | |
|--------------------------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|---------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| V14 | Equal variances assumed | .018 | .894 | -.050 | 144 | .960 | -12.255 | 243.935 | -494.410 | 469.901 |
| | Equal variances not assumed | | | -.067 | 138.951 | .947 | -12.255 | 182.934 | -373.949 | 349.440 |

Since our variances are not assumed to be equal we use the results from the second row of the Independent Samples Test table.

Sig. – represents the p value of the test, which should be, in our case, divided by 2 since we only test a left-tail side.

$p > \alpha$, ($0.474 > 0.05$), since the p value is greater than the level of significance, the result falls into the white, accept region.

At 0.05 level of significance the null hypothesis not rejected, hence the alternative hypothesis is rejected; thus, automatically we accept the null hypothesis at 0.01 level of confidence. This result indicates that the difference in means between the two groups is not statistically significant in the Hypothesis 3.

- Capital Expenditures Hypothesis (H_4)

H₄ *Companies with an explicitly stated long-term investment strategy to stakeholders experience less volatility in their capital expenditure (CAPEX), than companies without such a stated long-term investment strategy.*

Mathematical formulation of the hypothesis:

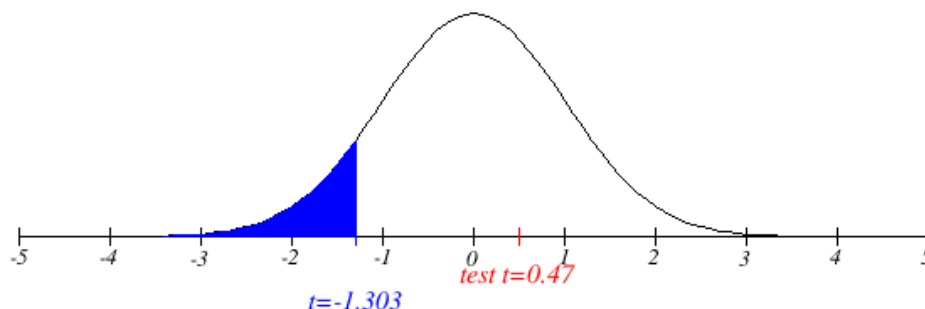
H: $\mu = \mu_0$; $\Rightarrow \mu - \mu_0 = 0$

H₁: $\mu < \mu_0$; $\Rightarrow \mu - \mu_0 < 0$, thus a left tailed t-test is used for this hypothesis

Therefore. using the values from the SPSS table we compute the t value of **0.47** for the capital expenditures variable.

Testing at the 0.05 level of significance:

Figure 6: Left-tailed student t-test distribution H_4



$t > t$ critical ($0.47 > -1.303$), thus the result falls into the white accept region.

In order to double check our test we use SPSS independent t test to compare the p – value of the statistic to the level of significance.

Table 8: SPSS independent samples test for hypothesis 4 (H4)

| Group Statistics | | | | |
|------------------|-----|-------|----------------|-----------------|
| group | N | Mean | Std. Deviation | Std. Error Mean |
| V20 YES | 40 | 51.09 | 205.032 | 32.418 |
| NO | 103 | 35.27 | 102.233 | 10.073 |

| Independent Samples Test | | | | | | | | | | |
|--------------------------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|--------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| V20 | Equal variances assumed | 2.524 | .114 | .613 | 141 | .541 | 15.827 | 25.807 | -35.192 | 66.845 |
| | Equal variances not assumed | | | .466 | 46.728 | .643 | 15.827 | 33.947 | -52.477 | 84.130 |

Since our variances are not assumed to be equal we use the results from the second row of the Independent Samples Test table.

Sig. – represents the p value of the test, which should be, in our case, divided by 2 since we only test a left-tail side.

$p > \alpha$, ($0.322 > 0.05$), since the p value is greater than the level of significance, the result falls into the white, accept region.

At 0.05 level of significance the null hypothesis not rejected, hence the alternative hypothesis is rejected; thus, automatically we accept the null hypothesis at 0.01 level of confidence. This result indicates that the difference in means between the two groups is not statistically significant in the Hypothesis 4.

5 DISCUSSION AND CONCLUSION

5.1. Discussion

This thesis was inspired by many previous research papers that emphasise the importance of strategy and its link to financial success. The underlying problem found in the literature is not the existence of the strategy, but rather the lack of the long-term outlook of one. The evidence from previous studies support the fact that even though long-term success is the aim of every company, short-term behaviour is present in companies around the world. This business conduct translates into increased risk, which affects companies further down the road. With a short-term orientation debt accumulates, which could lead to severe liquidity issues. Therefore, the focus of the analysis was on long-term strategy and possible implications and consequences of the opposing short-term outlook. Thus, we split companies from the sample into two group to see whether one would differ from the other, by analysing components of capital management. More precisely, the analysis focuses on short-term profit maximisation and earnings growth, and debt development along with capital spending. These components summarised in four hypotheses were tested. However, even though the theory suggested on a possible impact strategy may have on capital management, all four assumptions ended up being rejected; the difference in means between the groups were not significant enough.

For the first hypothesis on long-term debt, the descriptive statistics showed a substantial difference between the two groups. Companies with a stated long-term investment strategy had much lower long-term debt levels than companies without a stated long-term investment strategy. However, the t-test rejected the hypothesis and shows that the difference is not statistically significant to draw any conclusions. This could be due to the fact that the time period in which the observation took place (2012-2016) is the period of expansion after the recent crisis. Thus, companies want to take advantage of cheap debt and a favourable

macroeconomic environment. Since, this is a natural behaviour for this specific period of the economic cycle, even companies with long-term outlook increase their debt to finance their upcoming projects.

The second hypothesis on short-term behaviour of companies showed the same results, meaning that there was no statistical significance in means of the two groups. Initially, the descriptive statistics indicated that the group of companies without a stated investment strategy experienced higher stock price increases and higher earnings per share increase than companies with a stated investment strategy. Even though the stock price difference was not significant, there was a noticeable difference in EPS. Companies in the second group showed more inclination towards short-term behaviour, with the mean almost four times greater than of companies in the first group. Regardless of the fact that the t value for EPS was fairly close to the critical value, we did not have enough evidence to support our hypothesis.

The results could be due to the market conditions, which were very favourable at the time of observation, thus even the companies with a stated investment strategy were growing steadily. Additionally, growth could be overestimated by the market and stock prices could increase rapidly if investors become too optimistic. Especially in the tech sector, some companies experienced substantial growth in both earning per share and stock price, regardless of the stated strategy, which could be due to the fast-changing environment. Market leaders such as Facebook, Amazon, Netflix and Alphabet (Google) (collectively known as “FANG”), had a massive leap recently with P/E ratios that skyrocketed, which could be a signal that people are overestimating the value of these companies. Additionally, EPS value is subjected to companies differing policies, thus is it difficult to connect the earnings growth solely to strategy. All the above can be potential factors which could influence the results, and since these variables are influenced externally to a large degree, the test showed no clear link of these variables to strategy.

When it comes to the capital structure hypothesis, the results were the same; however, the difference between the two groups was almost non-existent. Even though the literature states that companies with a long-term outlook should keep their capital structure relatively stable, the test rejected that notion. This result may be due to the restrictions in the model used for the analysis. The debt to equity ratio is influenced by many different forces. In our model we had companies from different industries with different natures of operations in the both groups. Some companies have easier access to capital or lower average cost of capital, which can be specific to the industry and differ significantly from industry to industry. The 2018 research by Damodaran from NYU Stern Business School show that industries such as chemical or steel industries have an average cost of capital as high as 12% whereas at the same time utility and power industries have the average cost of capital as low as 4%. Considering our sample was 150 companies, the division between industries would create too many groups of just a few companies, thus the statistical tests would be very difficult to perform. If this matter was to be approached in previously mentioned manner, a substantially larger sample would have been necessary.

Regarding the capital expenditure measure, the test had once again no statistical significance between the groups. The descriptive analysis showed that companies with a stated long-term investment strategy spend a bit more on average on their capital assets. However, the literature had different perspectives on this measure. Some argued that companies take on more debt to finance their expenditures, and some argued that companies tend to maintain a certain level of capital expenditures over time. Companies in both groups, regardless of the strategy, increased capital spending from 2012 to 2016 which could be related to the favourable market conditions and linked to the increase in long-term debt. This notion would support the literature that companies take on more debt to increase their capital expenditures, but this would apply for all companies; hence, a stated investment strategy does not play a role in that scenario. Even

though the capital expenditures did not rise as much as other measures over the five years, there is not enough evidence to support the fact that companies maintain their capex and even less indications that a stated investment strategy influences such behaviour.

In retrospect, the descriptive statistics indicated riskier behaviour of companies without a stated long-term investment strategy. The t-tests rejected the hypotheses, as the difference in means of the two groups were not substantial enough to draw any clear conclusions. The complexity of the matter is obvious, thus in order to come up with positive results, other factors must be considered. Decision-making processes, strategy implementation, performance measurement systems and various human factors could possibly influence the results of this study. Looking at the qualitative side is important, and this study showed that financial data, even though accurate, is not enough to explain or predict companies' behaviour and future success. Furthermore, an important part of this topic is, as mentioned previously, the fact that companies do not have to state their strategies and targets in their annual reports. Even though the theory suggests they should, it is not obligatory.

The sample was quite diverse, and it comprised of various different companies from different industries, thus the range and standard deviation of observations in both groups was quite large. Even though deviations from the mean were greater in the second group, both had a lot of dispersion, which indicates that there is no clear pattern in companies' behaviour. Another important aspect of the sample was the number of observations in both groups. The number of companies without a stated long-term investment strategy was substantially higher with 107 observations, whilst companies with a stated long-term investment strategy were 43 out of 150. Therefore, there was more room for deviations and exceptions in the former group, which could possibly disrupt the testing model. Some of these issues came from the nature of the thesis and the research methods which were used for the analysis, thus this study is subjected to some research limitations.

5.1.2 Research Limitations

The research was subjected to various constraints due to the nature of the study, limited resources and constricted time. Since this thesis is focusing primarily on quantitative research, it is disregarding the qualitative managerial side. The thesis aimed to detect and describe patterns in capital management, and not to explain the reasons why a company makes a specific capital management decision. Likewise, we seek to find whether a company has a stated long-term investment strategy, without evaluating performance or measuring the success of the strategy or the implementation process. Furthermore, capital allocation theories, such as internal capital markets, are not taken into account due to various difficulties arising from the measurement process as well as the availability of data. Hence, the study is based solely on public data and annual reports. Internal documents or private data is not used for the analysis, since we are looking into transparency of strategy disclosed in annual reports.

The focus is on the S&P 500 listed companies. Due to time constraints the sample is 150 out of 500. A larger sample could possibly increase the accuracy of the results; however, a sample size of 150 is believed to be enough to draw representative conclusions, since it is almost one third of the entire index. Furthermore, companies that are subject to analysis come from different sectors and could be substantially different in size, hence their capital structure might differ significantly. Therefore, the research is grasping a percentage change in variables over time. Looking further into the actual amounts of balances is not a part of the study because it does not help in answering the predetermined research question. Finally, the aim is not to provide a specific conclusion or recommend an optimal capital management strategy, but rather to observe and describe the influence of strategy on capital management, thus the chosen methods for analysis are designed to strictly focus on the underlying research question.

5.2 Conclusion

The purpose of this research was to gain insight into capital management of well-known corporations and more specifically, to find patterns of behaviour depending on an explicitly stated investment strategy. Our research question and tested hypotheses were well positioned in providing knowledge on these issues. Theory suggested that increased leverage comes with risk, and short-termism is still very prevalent. Open corporate disclosure was also suggested to be valuable, and companies that disclose more, radiate increased trust to stakeholders. Despite compelling theoretical literature, we could not accept our proposed hypotheses.

Numerical data aids managerial decision-making and is an important factor in building competitiveness. Understanding the numbers reduces uncertainty, but uncertainty in business can never be completely removed. Our study shows that strategic management and its financial implications are inseparable from each other. However, numeric data alone is insufficient in dealing with business reality. There is a very real qualitative aspect of business that should not be ignored. Organisations are made up of people, and therefore decisions are also tied to individual cognitive capabilities, as well as limitations.

Even though our study does not give fully conclusive answers to corporate behaviour, what was shown, is that an explicitly stated investment strategy may lead toward a more stable firm in terms of financial decision-making; specifically considering lower standard deviation in the measured variables. We speculate that decision-makers base their judgment on the information available to them at a certain moment in time, but there is an array of cognitive influences from within individuals and outside, that may steer a decision towards a specific direction. Our thesis is meaningful in the sense that we reduce the ignorance in the link of strategic management and financial implications. Additionally, the research clearly demonstrates the importance of acknowledging the qualitative aspects of business reality. For business practitioners and professionals within strategic management, we want to emphasise

that should they ignore the link of financial implications in their decisions, they do so at their own (and stakeholders) peril. With regards to communication with stakeholders, we suggest managers to follow a simple rule: “What would I want to know about the firm’s decision-making, if our roles were reversed?”. The role of finance in strategy is clear, and CFOs play an increasingly important role in companies pursuing organic growth (Agrawal, Joshi & Seth 2013). Working together, finance chiefs and strategy leaders can complement each other, helping the CEO, the board, and the rest of the executive team face the challenges of creating growth over the long term in the face of so many short-term challenges (Agrawal et al. 2015).

Our descriptive statistical findings initially suggested that the proposed hypotheses could have held true. This gives direction for future research in the field of capital management and its link to strategic management. What we suggest for future researchers is to test a wider array of variables in relation to stated investment strategy, such as growth of book value or measuring return on assets to quantify if capital expenditures have generated or destroyed value. Further research on capital management can be conducted by dividing firms between capital intensive and capital light industries in search for patterns between the two. Our thesis also demonstrates the importance of the qualitative aspects in capital management decisions. Future research in this area may be conducted by for example conducting case studies on organisations that manage capital exceptionally compared to their competitors. Research here could also look into how these companies resist the pressure on short-term earnings in favour of long-term competitive strategy, and how does the market perceive such companies.

In summary, a stated investment strategy may give insight into managerial decision-making regarding capital management, and if a firm favours stability over short-term earnings. However, in order to gain comprehensive knowledge into capital management decisions, qualitative elements need to be examined and evaluated. Our descriptive findings give a suggestive path for on where to look for those interested in the relationship between strategic

management and finance. We hope our thesis will encourage more interest in this engaging but overlooked topic.

6. REFERENCES

- Agrawal, A., Joshi, K., Seth, I. (2013). The CFO's Role in the Pursuit of Growth. Available: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-cfos-role-in-the-pursuit-of-growth>. Last accessed 24.5.2018.
- Agrawal, A., Gibbs, E., Monier, J-H. (2015). Building a Better Partnership Between Finance and Strategy. Available: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/building-a-better-partnership-between-finance-and-strategy>. Last accessed 24.5.2018.
- Ahn, S., Denis, D J., Denis, D K. (2006). Leverage and Investment in Diversified Firms. *Journal of Financial Economics*. Vol. 79, p. 317-337.
- Allen, M. J., & Yen, W. M. (1979). Introduction to Measurement Theory. Monterey, CA: Brooks/Cole Publishing Company.
- Altrichter, H., Feldman, A., Posch, P. & Somekh, B. (2008). Teachers investigate their work; An introduction to action research across the professions. 2nd ed. Routledge
- Amadeo, K. (2018). The S&P 500 and How It Works. Available: <https://www.thebalance.com/what-is-the-sandp-500-3305888>. Last accessed 12.5.2018.
- Andrade, G., Kaplan, S. (1998). How Costly Is Financial (Not Economic) Distress? Evidence from Highly Leveraged Transactions That Became Distressed. *The Journal of Finance*. Vol. 53, p. 1443-1493.
- Arkolakis, C., Papageorgiou, T. and Timoshenko, O. (2017). *Firm Learning and Growth*. [ebook] Available at: <http://www.econ.yale.edu/~ka265/research/Learning/firm-learning-growth%20Arkolakis%20Papageorgiou%20Timoshenko.pdf> [Accessed 16 May 2018].
- Back, K., Crotty, K., Li, T. (2018). Identifying Information Asymmetry in Securities Markets. *Review of Financial Studies*. Vol. 31, p. 2277.
- Baldwin, R. (1964). Advances in Financial Management. Harvard Business Review. Jan-Feb.
- Barton, D., Wiseman, M. (2014). Focusing Capital on the Long Term. *Harvard Business Review*. Jan-Feb.
- BDC. (2018). 4 Ways to Assess Your Business Performance Using Financial Ratios. Available: <https://www.bdc.ca/en/articles-tools/money-finance/manage-finances/pages/financial-ratios-4-ways-assess-business.aspx>. Last accessed 12.5.2018.

- Bender, R., Ward, K. (2008). *Corporate Financial Strategy*. 3rd ed. Oxford: Elsevier.
- Berenson, M., Levine, D., Szabat, K., O'Brien, M., Jayne, N. and Watson, J. (2015). *Basic business statistics*. 13th ed. Essex: Pearson.
- Blumberg, B., Cooper, D. R., & Schindler, P. S. (2005). *Business Research Methods*. Berkshire: McGrawHill Education.
- Boquist, J. Milbourn, T., Thakor, A. (1998). How Do You Win the Capital Allocation Game? *Sloan Management Review*. Vol. 39, p. 59-71.
- Bower, J. (2017). Managing Resource Allocation: Personal Reflections From a Managerial Perspective. *Journal of Management*. Vol. 43, p. 2421-2429.
- Brandimarte, P. (2011). *Quantitative Methods: An Introduction for Business Management*. Wiley.
- Bryman, A. and Bell, E. (2011). *Business Research methods*. 3rd ed. Oxford: Oxford University Press.
- Buffett, W. (1980). Chairman's Letter. Available:
<http://www.berkshirehathaway.com/letters/1979.html>. Last accessed 12.5.2018.
- Buffett, W. (2009). Letter to Shareholders. Available:
<http://www.berkshirehathaway.com/letters/2009ltr.pdf>. Last accessed 12.5.2018
- Campbell, G., Rogers, M. (2018). Capital structure Volatility in Europe. *International Review of Financial Analysis*. Vol. 55, p. 128-139.
- Cao, B., Jiang, B., Koller, T. (2006). Balancing ROIC and Growth to Build Value. Available:
<https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/balancing-roic-and-growth-to-build-value>. Last accessed 12.5.2018.
- Chan S., Ma H. (2017). Peer effects in decision-making: Evidence from corporate investment. *China Journal of Accounting Research*. Vol. 10, p. 167-188.
- Chung, C., Liu, C., Wang, K. (2017). Do Firms Have Target Capital Structures? Evidence From Institutional Monitoring. *International Review of Economics & Finance*. Mar.
- Damodaran, A. (2018). Cost of equity and capital. Available:
www.stern.nyu.edu/~adamodar/pc/datasets/wacc.xls. Last accessed 22.5.2018.
- De Vaus, D. (2001). *Research design in social research*. SAGE Publications Ltd.

- Denzin, N. (1978). *Sociological Methods: A Sourcebook*. 2nd ed. Aldine Transaction.
- Dobbs, R., Koller, T. (2005). *Measuring Long-Term Performance*. McKinsey Quarterly. Available: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/measuring-long-term-performance>. Last accessed 12.5.2018.
- Donaldson, G. (1960). *Looking Around*. Harvard Business Review. Jan-Feb.
- Donaldson, G. (1978). *New Framework for Corporate Debt Policy*. Harvard Business Review. Sep-Oct.
- Donaldson, G. (1985). *Financial Goals and Strategic Consequences*. Harvard Business Review. May-June.
- Drucker, P. (2001). *Management Challenges for the 21st Century*. New York: Harper Business Publishing.
- Drucker, P. (2008). *Management*. New York: HarperCollins.
- Easterby-Smith, M., Thorpe, R. and Jackson, P. (2015). *Management & Business Research*. 5th ed. Los Angeles: SAGE.
- Flammer, C., Bansal, P. (2017). *Does a Long-Term Orientation Create Value? Evidence From a Regression Discontinuity*. *Strategic Management Journal*. 38, p. 1827-1847.
- Foucaulta, T. and Fresard, L. (2014). *Learning from peers' stock prices and corporate investment*. *Journal of Financial Economics*, [online] 111(3), p.554-577. Available at: <https://www.sciencedirect.com/science/article/pii/S0304405X1300295X> [Accessed 16 May 2018].
- Galizia, F., O'Brien, D. (2002). *Do Capital Expenditures Determine Debt Issues?*. Available: http://www.eib.org/attachments/efs/efr_2001_v02_en.pdf. Last accessed 26.5.2018.
- Gallo, A. (2016). *A Refresher on Return on Assets and Return on Equity*. Harvard Business Review.
- Ganesh, T. (2009). *Reliability and Validity Issues in Research*. *Integration and Dissemination Research Bulletin*, 4, p. 35-40.
- Gordon, L., Iyengar, R. (1996). *Return On Investment and Corporate Capital Expenditures: Empirical Evidence*. *Journal of Accounting and Public Policy*. Vol. 15, p. 305-325.

- Graham, J., Harvey, C., Rajgopal, S. (2005). The Economic Implications of Corporate Financial Reporting. *Journal of Accounting and Economics*. 40, p. 3-73.
- Gray, W., Carlisle, T. (2013). *Quantitative Value*. New Jersey: Wiley.
- Hackel, K. (2010). Use ROIC, Not EBITDA for Superior Performance. Available: <https://www.forbes.com/sites/kenhackel/2010/10/07/use-roic-not-ebitda-for-superior-performance/#46d2697e20f4>. Last accessed 12.5.2018.
- Hamel, G. (2012). *What Matters Now: How To Win In a World of Relentless Change, Ferocious Competition, And Unstoppable Innovation*. New Jersey: Wiley.
- Harford, J., Kecskés, A., Mansi, S. (2017). Do Long-Term Investors Improve Corporate Decision Making?. *Journal of Corporate Finance*. Sep.
- Harvey, C. (2012). *Bankruptcy Risk*. Available: <https://financial-dictionary.thefreedictionary.com/Bankruptcy+risk>. Last accessed 20.5.2018.
- Imbert, F., Bearman, S. (2018). Why The Dow Isn't The Best Stock Index to Follow. Available: <https://www.cnbc.com/2018/02/08/why-the-dow-isnt-the-best-index-to-follow-the-stock-market.html>. Last accessed 26.5.2018.
- Jacobs, M., Shivdasani, A. (2012). Do You Know Your Cost of Capital? *Harvard Business Review*. Jul-Aug.
- James, D. (2002). The Trouble I've Seen. *Harvard Business Review*. Mar. p. 43-44.
- Kachaner, N., Whybrew, A. (2014). *When "Asset Light" is Right*. Available: <https://www.bcg.com/publications/2014/business-model-innovation-growth-asset-light-is-right.aspx>. Last accessed 26.5.2018.
- Kennon, J. (2017). *Return on Equity (ROE) and Income Statement Analysis*. Available: <https://www.thebalance.com/return-on-equity-roe-357601>. Last accessed 26.5.2018.
- Keyton, J., King, T., Mabachi, N. M., Manning, J., Leonard, L. L., & Schill, D. (2004). *Content Analysis Procedure Book*. Lawrence, KS: University of Kansas.
- Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and Reliability of Measurement Instruments Used in Research. *American Journal of Health-System Pharmacists*, 65(1), p. 2276-2284

- Kokemuller, N. (2018). *Problems With Long-Term Debt*. Available: <http://smallbusiness.chron.com/problems-longterm-debt-51915.html>. Last accessed 12.5.2018.
- Lafley, A., Martin, R. (2013). *Playing To Win: How Strategy Really Works*. Boston: Harvard Business Review Press.
- Lancett, P. (2018). *Types of Long-Term Debt*. Available: <http://smallbusiness.chron.com/types-longterm-debt-43406.html>. Last accessed 12.5.2018.
- Lander, G., Auger, K. (2008). The Need for Transparency in Financial Reporting: Implications of Off-Balance-Sheet Financing and Inferences for the Future. *Journal of Accounting & Organizational Change*. Vol. 4, p. 27-46.
- Last, J. (Ed.) (2001). International Epidemiological Association, *A Dictionary of Epidemiology* (4th Ed.). New York: Oxford University Press.
- Leary, M., Roberts, M. (2014). Do Peer Firms Affect Corporate Financial Policy?. *The Journal of Finance*. Vol. 69, p. 139-178.
- Lee, C., Wang, C., Chiu, W. and Tien, T. (2018). *International Review of Financial Analysis*, [online] Managerial ability and corporate investment opportunity (57) p. 65-76. Available at: https://ac-els-cdn-com.ludwig.lub.lu.se/S1057521918301303/1-s2.0-S1057521918301303-main.pdf?_tid=fcab417a-45e4-412e-a379-105c59ece2ba&acdnat=1527340195_d9435a013fad18d94b95528a40129bf5 [Accessed 16 May 2018].
- Leinwand, P., Mainardi, C., Kleiner, A. (2016). *Strategy That Works: How Winning Companies Close the Strategy-to-Execution Gap*. Boston: Harvard Business Review Press. p. 14, 22, 336.
- Lev, B. (2011). How to Win Investors Over. *Harvard Business Review*. Nov.
- Liu, W-C. (2017). Trade-Off Theory of Capital Structure: Evidence From Estimations of Non-Parametric and Semi-Parametric Panel Fixed Effect Models. *Investment Management and Financial Innovations*. Vol. 14, p. 115-123.
- Lu, J., Hwang, C. and Lin, C. (2016). Do shareholders appreciate capital investment policies of corporations?. *International Review of Economics & Finance*, 43, p.344-353. Available at: <https://www.sciencedirect.com/science/article/pii/S1059056016000022> [Accessed 16 May 2018].
- Maier, R., Arms, H., Dannath, U., Freyberg, A. (2010). *Pulling the Capex Lever*. Available: http://www.atkearney.com.au/strategy/ideas-insights/article/-/asset_publisher/LCcgOeS4t85g/content/pulling-the-capex-

lever/10192?inheritRedirect=false&redirect=http%3A%2F%2Fwww.atkearney.com.au%2Fst
ra. Last accessed 26.5.2018.

Malkiel, B. (2003). The Efficient Market Hypothesis and Its Critics. *The Journal of Economic Perspectives*. Vol. 17, p. 61.

Massenot, B. and Pettinicchi, Y. (2018). Can firms see into the future? Survey evidence from Germany. *Journal of Economic Behavior & Organization*, 145(c), p.66-79. Available at: <https://reader.elsevier.com/reader/sd/9DF0CAB3E469EA2B0E2002D8020ED46E539B52EF9996AF9DEFF23032E551BA12D1C356F09C6E29CDF825B7FEABE0E574> [Accessed 16 May 2018].

Mauboussin, M., Callahan, D. (2015). Capital Allocation - Updated: Evidence, Analytical Methods, and Assessment Guidance. Credit Suisse.

Menon, C. (2013). The Limitations of Earnings Per Share. Available: <http://www.morningstar.co.uk/uk/news/105269/the-limitations-of-earnings-per-share.aspx>. Last accessed 14.5.2018.

Minton, B., Wruck, K. (2001). *Financial Conservatism: Evidence on Capital Structure from Low Leverage Firms*. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=269608. Last accessed 21.5.2018.

Mohajan, H. (2017). Two Criteria for Good Measurements in Research: Validity and Reliability. [PDF] Munich Personal RePEc Archive, Chittagong. Available: https://mpra.ub.uni-muenchen.de/83458/1/MPRA_paper_83458.pdf. Last accessed 22.5.2018.

Moore, D. (2009). *The Basic Practice of Statistics*. 5th ed. New York: W.H. Freeman & Company.

Nath, T. (2015). *Investing Basics: What Is The Efficient Market Hypothesis, and What Are Its Shortcomings?*. Available: <https://www.nasdaq.com/article/investing-basics-what-is-the-efficient-market-hypothesis-and-what-are-its-shortcomings-cm530860>. Last accessed 20.5.2018.

O'Toole, J, Bennis, W. (2009). What's Needed Next: A Culture of Candor. *Harvard Business Review*. June.

Ozkan, A. (2001). Determinants of Capital Structure and Adjustment to Long Run Target: Evidence From UK Company Panel Data. *Journal of Business Finance & Accounting*. Vol. 28 (d), p. 175-198.

Park K., Yang I., Yang T. (2017). The peer-firm effect on firm's investment decisions. *The North American Journal of Economics and Finance*. Vol. 40, p. 178-199.

- Pettinger, T. (2017). *Asymmetric Information Problem*. Available: <https://www.economicshelp.org/blog/glossary/asymmetric-information/>. Last accessed 26.5.2018.
- Piper, T., Weinhold, W. (1982). How Much Debt is Right for Your Company? *Harvard Business Review*. Jul-Aug.
- Porter, M. (1992). Capital Disadvantage: America's Failing Capital Investment System. *Harvard Business Review*. Sep-Oct.
- Porter, M.E. & Kramer, M.R. (2011). "Creating Shared Value", *Harvard Business Review*, Jan-Feb.
- Rousseau, F., Caruso, L. (2015). *Improving Returns in Capital-Intensive Industries*. Available: <http://www.bain.com/publications/articles/improving-returns-in-capital-intensive-industries.aspx>. Last accessed 26.5.2018.
- Ryan, V. (2014). *Profits and Debt Build, But Capex Drops*. Available: <http://ww2.cfo.com/credit/2014/07/profits-debt-build-capex-drops/>. Last accessed 16.5.2018.
- Salvatore, D. and Reagle, D. (2001). *Schaum's Outlines Statistics and Econometrics* (2nd Edition). Blacklick, USA: McGraw-Hill Professional Publishing.
- Schmidt, M. (2018). Growth Metrics for Business, Cumulative Average Growth Rate CAGR. Available: <https://www.business-case-analysis.com/growth-metrics.html>. Last accessed 12.5.2018.
- Sekaran, U. and Bougie, R. (2016). *Research Methods for Business*. 7th ed. John Wiley & Sons Australia.
- Shahar, W., Shahar, W., Bahari, N., Ahmad, N., Faisal, S., Rafdi, N. (2015). *A Review of Capital Structure Theories: Trade-Off Theory, Pecking Order Theory and Market Timing Theory*. Available: <http://www.kuis.edu.my/icommm/2nd/download/IC%20019.pdf>. Last accessed 26.5.2018.
- Shen, W. and Gentry, R. (2012). *A cyclical view of the relationship between corporate governance and strategic management*. 18th ed. New York: Springer Science + Business Media New York, p. 959-973.
- Sherman, D., Young, D. (2016). Where Financial Reporting Still Falls Short. *Harvard Business Review*. Jul-Aug.

Shuttleworth, M. (2018). Validity and Reliability. Available: <https://explorable.com/validity-and-reliability>. Last accessed 12.5.2018.

Sihler, W. (1971). Framework for Financial Decisions. *Harvard Business Review*. Mar-Apr.

Souder, D., Shaver, M. (2010). Constraints and Incentives for Making Long Horizon Corporate Investments. *Strategic Management Journal*. 31, p. 1316-1336.

Stancill, J. (1981). Managing Financial Statements - Image and Effect. *Harvard Business Review*. Mar-Apr.

Taylor, B. (2016). Companies Can't Be Great Unless They've Almost Failed. *Harvard Business Review*.

Tennant, F. (2015). *Overcoming Opacity: The Importance of Corporate Transparency*. Available: <https://www.financierworldwide.com/overcoming-opacity-the-importance-of-corporate-transparency/#.WuxNFNNuZfQ>. Last accessed 9.5.2018.

Waggoner, J. (2018). S&P 500 Evolves to Reflect Makeup of the Economy. Available: <http://www.investmentnews.com/article/20180402/FREE/180409993/sp-500-evolves-to-reflect-makeup-of-the-economy>. Last accessed 12.5.2018.

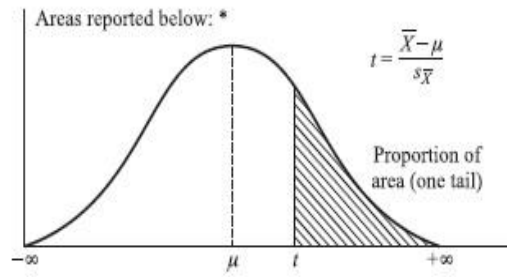
Wilkin, S. (2015). Even for Companies, the U.S. Is Split Between Haves and Have-Nots. *Harvard Business Review*.

Wilkinson, J. (2013). Return on Equity Analysis. Available: <https://strategiccco.com/return-on-equity-analysis/>. Last accessed 12.5.2018.

Willis, J. (2007). Foundations of Qualitative Research: Interpretive and Critical Approaches.

Young, M. (2002). *James Van Horne: Shedding Light on Dubious Accounting*. Available: <https://www.gsb.stanford.edu/insights/james-van-horne-shedding-light-dubious-accounting>. Last accessed 26.5.2018.

Appendix 1: Student t-test distribution table



Proportions of Area for the *t* Distributions

| <i>df</i> | 0.10 | 0.05 | 0.025 | 0.01 | 0.005 | <i>df</i> | 0.10 | 0.05 | 0.025 | 0.01 | 0.005 |
|-----------|-------|-------|--------|--------|--------|-----------|-------|-------|-------|-------|-------|
| 1 | 3.078 | 6.314 | 12.706 | 31.821 | 63.657 | 18 | 1.330 | 1.734 | 2.101 | 2.552 | 2.878 |
| 2 | 1.886 | 2.920 | 4.303 | 6.965 | 9.925 | 19 | 1.328 | 1.729 | 2.093 | 2.539 | 2.861 |
| 3 | 1.638 | 2.353 | 3.182 | 4.541 | 5.841 | 20 | 1.325 | 1.725 | 2.086 | 2.528 | 2.845 |
| 4 | 1.533 | 2.132 | 2.776 | 3.747 | 4.604 | 21 | 1.323 | 1.721 | 2.080 | 2.518 | 2.831 |
| 5 | 1.476 | 2.015 | 2.571 | 3.365 | 4.032 | 22 | 1.321 | 1.717 | 2.074 | 2.508 | 2.819 |
| 6 | 1.440 | 1.943 | 2.447 | 3.143 | 3.707 | 23 | 1.319 | 1.714 | 2.069 | 2.500 | 2.807 |
| 7 | 1.415 | 1.895 | 2.365 | 2.998 | 3.499 | 24 | 1.318 | 1.711 | 2.064 | 2.492 | 2.797 |
| 8 | 1.397 | 1.860 | 2.306 | 2.896 | 3.355 | 25 | 1.316 | 1.708 | 2.060 | 2.485 | 2.787 |
| 9 | 1.383 | 1.833 | 2.262 | 2.821 | 3.250 | 26 | 1.315 | 1.706 | 2.056 | 2.479 | 2.779 |
| 10 | 1.372 | 1.812 | 2.228 | 2.764 | 3.169 | 27 | 1.314 | 1.703 | 2.052 | 2.473 | 2.771 |
| 11 | 1.363 | 1.796 | 2.201 | 2.718 | 3.106 | 28 | 1.313 | 1.701 | 2.048 | 2.467 | 2.763 |
| 12 | 1.356 | 1.782 | 2.179 | 2.681 | 3.055 | 29 | 1.311 | 1.699 | 2.045 | 2.462 | 2.756 |
| 13 | 1.350 | 1.771 | 2.160 | 2.650 | 3.012 | 30 | 1.310 | 1.697 | 2.042 | 2.457 | 2.750 |
| 14 | 1.345 | 1.761 | 2.145 | 2.624 | 2.977 | 40 | 1.303 | 1.684 | 2.021 | 2.423 | 2.704 |
| 15 | 1.341 | 1.753 | 2.131 | 2.602 | 2.947 | 60 | 1.296 | 1.671 | 2.000 | 2.390 | 2.660 |
| 16 | 1.337 | 1.746 | 2.120 | 2.583 | 2.921 | 120 | 1.289 | 1.658 | 1.980 | 2.358 | 2.617 |
| 17 | 1.333 | 1.740 | 2.110 | 2.567 | 2.898 | ∞ | 1.282 | 1.645 | 1.960 | 2.326 | 2.576 |

(Salvarote & Reagle, 2001)

Appendix 2a: The sample of 150 companies

| Sector | Company | Stated Investment Strategy | | Change in Lt. Debt. (%) | Share Price Change (%) | Change in D/E (%) | EPS Growth (%) | CAPEX Growth (%) |
|----------------------------|-------------------------------------|----------------------------|----|-------------------------|------------------------|---------------------|----------------|------------------|
| | | Yes | No | | | | | |
| Information Technology | 1 Apple Inc. | | x | 352,63 | 96,27 | 206,12 | -81,18 | 24,27 |
| Information Technology | 2 Microsoft Corporation | | x | 280,69 | 145,81 | 104,82 | 5,00 | 6,12 |
| Consumer Discretionary | 3 Amazon.com Inc. | | x | 166,76 | 318,85 | 29,29 | 1130,00 | 175,00 |
| Information Technology | 4 Facebook Inc. | | x | -99,33 | 271,13 | -64,29 | 34800,00 | 262,10 |
| Financials | 5 JPMorgan Chase & Co. | | x | 18,56 | 144,03 | -16,67 | 19,04 | 8,33 |
| Financials | 6 Berkshire Hathaway Inc. | | x | 0,00 | 113,35 | 148,94 | 63,00 | 32,52 |
| Health Care | 7 Johnson & Johnson | | x | 95,33 | 77,71 | 16,09 | 53,63 | 18,18 |
| Energy | 8 Exxon Mobil Corporation | x | | 264,93 | 6,04 | -4,26 | -80,62 | 8,84 |
| Information Technology | 9 Alphabet Inc. | | x | -33,19 | 131,84 | -8,00 | 74,28 | 211,64 |
| Financials | 10 Bank of America Corporation | x | | -21,32 | 257,61 | -13,64 | 500,00 | / |
| Information Technology | 11 Intel Corporation | | x | 57,19 | 43,64 | 9,23 | -0,47 | -12,50 |
| Financials | 12 Wells Fargo & Company | | x | 100,25 | 90,43 | 8,75 | 18,75 | / |
| Energy | 13 Chevron Corporation | | x | 193,71 | 8,67 | 11,43 | -100,00 | -25,00 |
| Information Technology | 14 Visa Inc. | | x | 100,00 | 209,85 | 111,11 | -54,19 | 39,10 |
| Health Care | 15 United Health Group Incorporated | | x | 83,58 | 203,68 | 41,18 | 37,31 | 59,35 |
| Health Care | 16 Pfizer Inc. | | x | 1,17 | 50,58 | 47,24 | -7,14 | 26,67 |
| Telecommunication Services | 17 AT&T Inc. | | x | 71,31 | 43,30 | 15,98 | 89,60 | 13,13 |
| Information Technology | 18 Cisco Systems Inc. | | x | 50,23 | 60,32 | 15,19 | 41,61 | 0,00 |
| Consumer Discretionary | 19 Home Depot Inc. | x | | 135,87 | 179,88 | 580,15 | 115,00 | 23,08 |
| Telecommunication Services | 20 Verizon Communications Inc. | | x | 121,41 | 39,26 | 461,96 | 935,48 | 5,56 |
| Consumer Staples | 21 Procter & Gambel Company | x | | -10,13 | 26,70 | 11,21 | 0,82 | -16,40 |
| Industrials | 22 Boeing Company | | x | 9,37 | 110,44 | -65,37 | 48,92 | 52,94 |
| Financials | 23 Citigroup Inc. | | x | -23,35 | 108,16 | -21,36 | 93,44 | -23,53 |
| Consumer Staples | 24 Coca-Cola Company | x | | 80,05 | 20,28 | 23,77 | 148,33 | -18,71 |
| Information Technology | 25 Mastercard Incorporated | | x | 100,00 | 201,40 | 186,25 | -83,18 | 123,96 |
| Consumer Staples | 26 Philip Morris International Inc. | | x | 46,62 | 18,69 | Shareholder Deficit | -13,35 | 6,55 |
| Consumer Staples | 28 PepsiCo Inc. | x | | 27,65 | 60,01 | 141,20 | 11,22 | 12,01 |
| Consumer Discretionary | 29 Comcast Corporation | | x | 29,13 | 179,60 | -9,52 | 56,58 | 72,13 |
| Health Care | 30 Merck & Co. Inc. | | x | 49,34 | 53,03 | 50,55 | -29,50 | -20,00 |
| Consumer Discretionary | 31 Walt Disney Company | x | | 35,58 | 161,14 | 18,99 | 83,07 | 26,14 |
| Health Care | 32 AbbVie Inc. | | x | 148,70 | 81,56 | 88,62 | 8,36 | 124,49 |

Appendix 2b: The sample of 150 companies

| | | | | | | | | | |
|------------------------|----|---|---|---|---------|--------|---------------------|---------|--------|
| Information Technology | 33 | NVIDIA Corporation | | x | 331,09 | 635,12 | 108,82 | 173,40 | 26,17 |
| Information Technology | 34 | Oracle Corporation | | x | 0,00 | 42,78 | 73,08 | 5,10 | 85,19 |
| Information Technology | 35 | International Business Machines Corporation | | x | 43,91 | -9,07 | -15,32 | -10,89 | -6,98 |
| Information Technology | 36 | Netflix Inc. | | x | 1582,00 | 904,06 | -6,00 | 48,28 | 159,67 |
| Industrials | 37 | 3M Company | x | | 117,21 | 114,19 | 147,73 | 29,11 | -5,41 |
| Consumer Discretionary | 38 | McDonald's Corporation | | x | 89,83 | 20,99 | Shareholder Deficit | 1,49 | -53,85 |
| Consumer Staples | 39 | Walmart Inc. | x | | -13,29 | 17,15 | 93,55 | -17,36 | -9,62 |
| Consumer Staples | 40 | Altria Group Inc. | | x | 11,77 | 135,45 | -79,76 | 253,40 | 52,42 |
| Industrials | 41 | General Electric Company | x | | -64,37 | 69,44 | -7,07 | -31,01 | 7,23 |
| Health Care | 42 | Amgen Inc. | | x | 25,63 | 125,77 | -13,51 | 57,30 | 7,11 |
| Information Technology | 43 | Adobe Systems Incorporated | | x | 27,05 | 258,46 | 42,00 | 39,76 | -24,82 |
| Industrials | 44 | Honeywell International Inc. | | x | 90,49 | 111,06 | -19,91 | 68,02 | 9,39 |
| Health Care | 45 | Medtronic plc | | x | 311,02 | 145,37 | -1,08 | -27,27 | 116,12 |
| Industrials | 46 | Union Pacific Corporation | x | | 62,77 | 92,82 | 31,39 | 22,46 | -5,41 |
| Information Technology | 47 | Texas Instruments Incorporated | x | | -28,86 | 145,03 | -31,33 | 130,46 | 7,27 |
| Health Care | 48 | Abbott Laboratories | | x | 14,35 | 43,32 | 2,67 | -74,73 | -35,29 |
| Consumer Discretionary | 49 | Booking Holdings Inc. | | x | 263,00 | 168,03 | 61,90 | 54,19 | / |
| Health Care | 50 | Gilead Sciences Inc. | | x | 273,44 | 277,45 | 52,71 | 506,10 | 88,41 |
| Information Technology | 51 | Broadcom Inc. | | x | 1259,59 | 524,41 | 733,33 | -100,00 | 25,96 |
| Health Care | 52 | Bristol-Myers Squibb Company | | x | -12,97 | 70,78 | -34,36 | 128,45 | 118,98 |
| Health Care | 53 | Schlumberger NV | | x | 73,13 | 23,86 | 15,58 | -100,00 | -56,23 |
| Information Technology | 54 | Accenture Plc | | x | 11,17 | 125,99 | -33,46 | 67,97 | 14,00 |
| Financials | 55 | Goldman Sachs Group Inc. | | x | 13,17 | 156,32 | -21,93 | 15,29 | 199,27 |
| Industrials | 56 | United Technologies Corporation | | x | 0,46 | 48,34 | -9,17 | 14,58 | 22,32 |
| Industrials | 57 | Caterpillar Inc. | | x | -17,78 | -3,15 | 13,97 | -101,30 | -66,90 |
| Consumer Discretionary | 58 | NIKE Inc. | | x | 773,91 | 107,47 | 53,06 | 80,00 | 91,46 |
| Health Care | 60 | Thermo Fisher Scientific Inc. | | x | 168,43 | 196,30 | 59,74 | 48,40 | 61,27 |
| Industrials | 61 | Lockheed Martin Corporation | x | | 147,29 | 212,50 | -97,11 | 108,73 | -99,89 |
| Consumer Discretionary | 62 | Starbucks Corporation | | x | 482,18 | 137,67 | 134,43 | 111,11 | -20,00 |
| Information Technology | 63 | salesforce.com inc. | | x | 2375,89 | 170,91 | -1,27 | -250,00 | 87,59 |
| Consumer Staples | 64 | Costco Wholesale Corporation | | x | 193,85 | 97,35 | 49,57 | 37,02 | 53,33 |
| Information Technology | 65 | QUALCOMM Incorporated | | x | 100,00 | 16,10 | 132,14 | 8,55 | -58,02 |
| Financials | 66 | U.S. Bancorp | | x | 41,95 | 85,12 | 6,68 | 14,08 | / |

Appendix 2c: The sample of 150 companies

| | | | | | | | | | |
|------------------------|-----|-----------------------------------|---|---|---------|--------|----------|---------|--------|
| Health Care | 67 | Eli Lilly and Company | x | | 51,60 | 84,43 | 32,33 | -29,51 | 15,22 |
| Financials | 68 | Morgan Stanley | | x | -2,83 | 165,72 | -11,01 | 100,00 | -2,74 |
| Consumer Discretionary | 69 | Time Warner Inc. | | x | 17,10 | 175,49 | 28,57 | 60,52 | -32,81 |
| Utilities | 70 | NextEra Energy Inc. | x | | 21,58 | 102,75 | 8,96 | 37,06 | 1,85 |
| Energy | 71 | ConocoPhillips | | x | 26,08 | -9,48 | 9,15 | -100,00 | -65,42 |
| Industrials | 72 | United Parcel Service Inc. | x | | 11,77 | 56,02 | 1268,93 | 366,27 | 37,71 |
| Consumer Discretionary | 73 | Lowe's Companies Inc. | | x | 59,40 | 170,01 | 219,85 | 136,09 | -0,91 |
| Financials | 74 | PNC Financial Services Group Inc. | x | | 0,00 | 95,23 | 8,08 | 37,74 | / |
| Health Care | 75 | Celgene Corporation | x | | 397,62 | 244,39 | 207,55 | 50,91 | 112,79 |
| Financials | 77 | Blackrock inc. | | x | -13,57 | 108,24 | -4,69 | 38,07 | -20,67 |
| Health Care | 78 | Celgene Corp. | x | | 397,54 | 221,68 | 206,60 | -24,55 | 111,79 |
| Financials | 79 | American Express Company | x | | -20,32 | 47,43 | -4,93 | 45,24 | / |
| Real Estate | 80 | American Tower Corp. | x | | 110,44 | 67,52 | 15,60 | 23,75 | 174,16 |
| Financials | 81 | Chubb Limited | | x | 275,30 | 90,00 | -2,54 | 12,42 | -32,25 |
| Health Care | 82 | CVS Health Corporation | | x | 180,47 | 89,22 | 110,81 | 62,05 | 9,56 |
| Consumer Staples | 83 | Colgate-Palmolive Company | | x | 32,36 | 45,26 | 15334,78 | -47,18 | 4,96 |
| Industrials | 84 | Raytheon Company | x | | 12,77 | 198,79 | -12,00 | 31,68 | 55,16 |
| Financials | 85 | Charles Shwabb Corporation | x | | 76,23 | 239,74 | 7,27 | 89,86 | 155,80 |
| Consumer Staples | 86 | Mondelez International | | x | -15,13 | 17,08 | 8,27 | -38,24 | -23,98 |
| Industrials | 87 | General Dynamics Corporation | x | | -23,01 | 150,45 | 220,97 | 1113,00 | -12,89 |
| Energy | 88 | EOG Resources Inc. | x | | 18,19 | 90,84 | 4,76 | -193,84 | -79,52 |
| Industrials | 89 | Northrop Grumman Corporation | | x | 79,59 | 300,74 | 117,42 | 56,08 | 177,95 |
| Information Technology | 90 | Micron Technology inc. | | x | 201,32 | 193,03 | 91,53 | 74,00 | 32,70 |
| Health Care | 91 | Danaher Corporation | x | | 82,96 | 96,48 | 33,33 | -4,64 | 28,60 |
| Industrials | 92 | Fedex Corporation | | x | 1007,04 | 104,34 | -13,04 | 1,56 | 20,24 |
| Information Technology | 93 | Applied Materials Inc. | | x | 61,51 | 165,96 | 52,24 | 1611,11 | 56,17 |
| Health Care | 94 | Biogen Inc. | | x | -5,26 | 143,35 | 95,56 | 193,92 | -73,85 |
| Consumer Discretionary | 95 | Charter Communications Inc. | x | | 366,26 | 406,92 | -98,11 | 228,00 | 332,38 |
| Health Care | 96 | Becton Dickinson and Company | x | | 180,50 | 111,90 | 35,06 | -15,28 | 42,18 |
| Health Care | 97 | Anthem Inc. | | x | 1,32 | 125,06 | 8,16 | 12,59 | 12,91 |
| Consumer Staples | 98 | Walgreens Boots Alliance Inc. | | x | 359,24 | 150,24 | 68,67 | 57,85 | -39,98 |
| Health Care | 99 | Allergan Plc | | x | 378,99 | 253,42 | -73,96 | 4923,68 | 336,81 |
| Health Care | 100 | Aetna Inc. | | x | 193,57 | 184,78 | 270,13 | 33,26 | 64,94 |
| Financials | 101 | CME Group Inc. | | x | 5,90 | 141,32 | 197,53 | 67,78 | -73,93 |

Appendix 2d: The sample of 150 companies

| | | | | | | | | | |
|------------------------|-----|--------------------------------------|---|---|----------|--------|--------|---------|--------|
| Energy | 102 | Duke Energy Corporation | | x | 25,38 | 22,04 | 25,28 | 20,85 | 43,63 |
| Financials | 103 | Bank of New York Mellon Corporation | | x | 32,02 | -5,83 | -5,22 | 55,17 | / |
| Health Care | 104 | Stryker Corporation | x | | 282,93 | 117,43 | 113,21 | 28,32 | 133,33 |
| Consumer Discretionary | 105 | TJX Companies Inc. | | x | 187,60 | 122,22 | 16,35 | 35,69 | 4,81 |
| Materials | 106 | Monsanto Company | | x | 265,70 | 28,09 | 391,18 | -21,11 | 42,88 |
| Information Technology | 107 | Activision Blizzard Inc. | | x | 0,00 | 195,62 | 264,00 | 26,73 | 86,30 |
| Information Technology | 108 | Automatic Data Processing Inc. | | x | 11850,60 | 115,12 | 116,34 | 15,25 | 13,34 |
| Industrials | 109 | Deere & Company | | x | 5,82 | 19,80 | 9,46 | -36,96 | -51,10 |
| Industrials | 110 | CSX Corporation | | x | 21,10 | 60,67 | -15,48 | 1,12 | 15,55 |
| Energy | 111 | Occidental Petroleum Corporation | x | | 39,81 | -25,10 | 66,67 | -113,23 | -73,43 |
| Financials | 112 | S&P Global Inc. | | x | 762,08 | 136,11 | 52,72 | 125,74 | 18,56 |
| Financials | 113 | American International Group Inc. | x | | -36,26 | 160,85 | 20,44 | -117,57 | -66,77 |
| Industrials | 114 | Illinois Tool Works Inc. | x | | 56,40 | 130,98 | -13,41 | 470,00 | -28,53 |
| Real Estate | 115 | Simon Property Group Inc. | x | | -0,59 | 37,69 | 41,62 | 37,71 | -0,50 |
| Financials | 116 | MetLife Inc. | x | | -13,43 | 52,27 | 3,45 | -41,67 | -50,96 |
| Information Technology | 117 | Cognizant Technology Solutions Corp. | | x | 100,00 | 56,58 | -5,88 | -25,87 | 68,93 |
| Consumer Discretionary | 118 | General Motors Company | | x | 427,91 | 46,29 | 33,33 | 105,48 | 16,05 |
| Health Care | 119 | Intuitive Surgical Inc. | | x | 0,00 | 38,41 | -7,69 | 17,21 | 51,28 |
| Financials | 120 | Capital One Financial Corp. | x | | 106,76 | 90,40 | -3,27 | 11,85 | 42,49 |
| Real Estate | 121 | Crown Castle International Corp. | | x | 10,49 | 79,48 | -55,06 | 48,44 | -66,42 |
| Energy | 122 | Southern Company | | x | 121,17 | 8,36 | 35,22 | -4,49 | 287,93 |
| Financials | 123 | Prudential Financial Inc. | x | | -27,05 | 81,55 | -5,88 | 967,03 | 39,76 |
| Energy | 124 | Dominion Energy Inc. | x | | 79,40 | 53,86 | -3,85 | 549,06 | 178,72 |
| Industrials | 125 | Emerson Electric Co. | x | | 7,26 | 9,38 | 44,53 | -5,62 | -32,78 |
| Consumer Discretionary | 126 | Ford Motor Company | | x | -10,00 | -1,53 | -37,19 | -78,17 | -54,55 |
| Financials | 127 | Intercontinental Exchange Inc. | | x | 299,28 | 146,68 | -53,95 | -68,48 | 681,25 |
| Financials | 128 | Marsh & McLennan Companies Inc. | | x | 69,11 | 114,47 | -22,76 | 58,69 | -20,94 |
| Information Technology | 129 | Intuit Inc. | | x | -2,20 | 103,61 | 280,00 | 41,92 | 132,00 |
| Health Care | 130 | Vertex Pharmaceuticals Inc. | | x | -100,00 | 101,46 | -8,66 | 8,00 | -39,52 |
| Health Care | 131 | Cigna Corporation | | x | -4,61 | 202,25 | -25,89 | 28,16 | 12,99 |
| Materials | 132 | Praxair Inc. | x | | 33,39 | 10,56 | 40,11 | -7,13 | -32,80 |
| Financials | 133 | BB&T Corporation | | x | 14,92 | 71,83 | -17,49 | 2,59 | -90,37 |

Appendix 2e: The sample of 150 companies

| | | | | | | | | | |
|------------------------|-----|---------------------------------|---|---|--------|--------|---------------------|---------|---------|
| Energy | 134 | Halliburton Company | | x | 153,40 | 46,93 | 153,42 | -335,56 | -77,62 |
| Consumer Discretionary | 135 | Marriott International Inc. | x | | 224,25 | 141,86 | Shareholder Deficit | 53,49 | -54,46 |
| Health Care | 136 | Zoetis Inc. | | x | 22,68 | 60,30 | -29,43 | 63,37 | 17,39 |
| Energy | 137 | Valero Energy Corp. | | x | 22,02 | 213,09 | -16,55 | 31,73 | -56,40 |
| Energy | 138 | Phillips 66 | | x | 37,74 | 154,48 | -10,69 | -54,94 | 65,25 |
| Consumer Staples | 139 | Constellation Brands Inc. | x | | 181,50 | 635,60 | -7,27 | 143,19 | 1203,07 |
| Health Care | 140 | Express Scripts Holding Company | | x | -0,90 | 35,63 | 47,30 | 206,25 | 106,24 |
| Consumer Staples | 141 | Kimberly-Clark Corp. | x | | 27,00 | 67,73 | 4372,73 | 35,52 | -29,46 |
| Industrials | 142 | Norfolk Southern Corp. | | x | 13,40 | 50,72 | -13,81 | 4,66 | -15,80 |
| Consumer Discretionary | 143 | Twenty-First Century Fox Inc. | | x | 27,11 | 70,05 | 81,45 | 202,13 | -71,99 |
| Financials | 144 | Travelers Companies Inc. | | x | 1,37 | 109,76 | 5,75 | 63,17 | -91,01 |
| Information Technology | 145 | eBay Inc. | | x | 82,88 | 125,41 | 63,64 | 219,10 | -50,20 |
| Consumer Discretionary | 146 | Target Corp. | | x | -18,49 | 42,92 | 26,84 | 3,98 | -52,79 |
| Energy | 147 | Exelon Corp. | | x | 83,68 | -10,21 | 21,07 | -14,08 | 47,75 |
| Health Care | 148 | Boston Scientific Corp. | | x | 27,47 | 264,09 | 12,00 | -108,65 | 66,37 |
| Information Technology | 149 | Electronic Arts Inc. | | x | 83,49 | 331,43 | -13,01 | 1421,74 | -45,93 |
| Financials | 150 | State Street Corp. | | x | 53,86 | 98,21 | 7,97 | 18,33 | 72,68 |
| Health Care | 151 | Humana Inc. | | x | 45,23 | 127,95 | 9,60 | -45,52 | 28,54 |
| Energy | 152 | Marathon Petroleum Corporation | | x | 215,50 | 163,47 | -4,00 | -77,65 | 110,21 |
| Information Technology | 153 | HP Inc. | x | | -68,98 | 17,55 | Shareholder Deficit | -122,46 | -88,32 |

*Note: The appendix displays a sample of 150 companies used for the analysis. However, 3 companies were taken out of the sample because they were merged or acquired between 2012 and 2016; therefore, the number of companies in the table is 153.