UNIVERSITY OF VAASA

FACULTY OF BUSINESS STUDIES

DEPARTMENT OF FINANCE

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EXECUTIVE COMPENSATION, CPS AND FIRM PERFORMANCE

Evidence from Finnish Publicly Listed Companies

Master's Programme in Finance

Master's thesis in finance

VAASA 2019

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Degree:	Master of Science in Economics and Business Administration
Department:	Department of Accounting and Finance
Programme:	Master's Programme in Finance
Starting year:	2016
Graduation year:	2019 **Number of pages:** 67

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ABSTRACT

The purpose of the study is to research the relation between executive compensation and firm performance, as well as the significance of equal pay within the executive team. As well as total CEO compensation, the paper uses a measure known as CEO Pay Slice, which is the fraction of compensation that the CEO receives out of total pay to other executives.

Executive compensation and firm performance is widely studied, but there is little research employing data from the Nordic countries. Previous studies have examined CPS either on data from the U.S. or the UK. This study uses data from Finnish listed firms to research the effectiveness of executive compensation strategies, and examine the compensation culture in Finland and Nordic countries. The data set consist of all non-financial firms listed in the OMX Helsinki stock exchange from 2010 to 2017.

The main performance measures in the regressions are industry-adjusted Tobin's Q for firm value, and industry-adjusted ROA for accounting profitability. Main findings are that CEO compensation has a significant positive association with future firm value. This suggests that Finnish CEOs are able to increase firm value in accordance with their compensation level. The correlation with accounting profitability is positive but not significant. Compensation differences within executives seem to have no effect on firm value or accounting profitability. These findings provide useful reference for future research on executive compensation, particularly on the Nordic countries.

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KEYWORDS: executive compensation, ceo pay slice, corporate governance

1. INTRODUCTION

Each year, most major news outlets in Finland report the annual income of the people, who earned the most. In that list are a number of Finnish companies' executives. The level of pay of some companies leads to discussion and scrutiny of executive remuneration. Mostly people are concerned that the compensation is too great in comparison to the responsibilities and their added value to a firm. The discussion on executive compensation is understandable, given the fact that executive pay has been increasing substantially over time (Bebchuk & Grinstein 2005; Forbes, Pogue & Hodgkinson 2016).

Executives are paid relatively high compensation mainly for three reasons. Their salary is a compensation for knowledge and expertise in the area, a recognition for their past performance and investment in the company, and an incentive to carry on the exemplary performance in the future.

Due to the controversy surrounding the level of pay of executives, the topic has been widely discussed and studied. The most interesting topic for researchers seems to be the association between executive compensation and firm performance (e.g. Mehran 1995, Tao 2010, Gigliotti 2013). Generally a proportion of the total compensation to an executive is based on personal or company performance, so one would assume the level of compensation to be somewhat positively correlated with the most widely used measures of firm performance. However, there is no consensus on the level and structure of executive pay that would be the most beneficial for the company. It seems to depend on firm characteristics, industry, culture, and many other factors. The mixed results from previous research could also be due to the complexity of business organizations, varying measures of firm performance or the difficulties associated with modeling firm-value-maximization incentives.

Instead on emphasizing the total level of executive pay to study its relation to firm performance, Bebchuk, Cremers & Peyer (2011) introduced a new variable to research this

relationship, CEO pay slice. CEO pay slice (CPS) is the fraction of pay that the CEO receives out of total pay to top five executives. This variable has been used to study CEO dominance, CEO risk taking, pay inequality, and firm value. However, the initial use for CPS by Bebchuk et al. (2011) was to determine the capability of a 'superstar' CEO in running the firm and bringing added value to the firm. The main research question being: does paying more to the CEO compared to the other top executives increase firm value and accounting performance.

1.1. Purpose of the study

This study is closely related to the fundamentals of agency theory. The principal-agent issue states that executives have no reason to automatically align their personal interest with outside investors' financial objectives. The problem is to get all the shareholders' agents, including top executives, managers and employees, working together to maximize firm value. Corporations deal with this issue through incentives and monitoring. Incentives make sure that executives are rewarded appropriately when they add value to the firm, while monitoring ensures that the right people get rewarded the right amount for their performance. (Brealey, Myers & Allen 2011: 290.)

It is generally assumed that CEO characteristics affect organizational performance. Talented CEOs have superior ability to process economics information and make value-added decisions for shareholders. CEOs are compensated for their abilities with higher remunerations. However, it can be argued that talented CEOs are generally over-valued regarding their skill set and added value they bring to the firm. Therefore, research on the executive compensation is important to understand the determinants and effect of CEO compensation and improve the compensation practices.

Differing compensation structures within the top executive team can create its own issues. A significant difference between the CEOs and the executive teams pay can affect firm

performance in a negative way if the rest of the executive team feel like their efforts are not appreciated enough or the CEO fails to provide the expected performance.

The purpose of the study is to further research the association between executive compensation and firm performance, as well as the significance of equal pay between executives. In particular, the study examines the characteristics of the top executive team measured by their valuation and its effect on firm value and accounting profitability.

Previous studies have examined this relation either on data from the U.S. or the UK (e.g. Bebchuk et al. 2011, Tarkovska 2017). This study intends on using data from Finnish listed firms to research the effectiveness of executive compensation structure, and examine the compensation culture in Finland and Nordic countries in general.

1.2. Hypotheses

This thesis examines the effect of executive compensation on firm performance by two measures: total CEO compensation and CPS. The first part of the study examines the relationship between CEO compensation and firm operational performance and valuation. The null hypothesis for this part of the study assumes no significant relationship between the factors, implying that compensation level has no effect on performance.

H_0: CEO compensation does not affect firm performance

The alternative hypothesis states that there is a significant relationship between CEO total compensation and firm performance. As compensation is generally linked to the amount of work, required level of expertise, or performance, it can be assumed that CEO compensation level and firm performance have a positive correlation. This suggests that an increase in total CEO compensation would result in a positive change in firm value and accounting profitability.

H_1: CEO compensation is positively correlated with firm performance

According to this hypothesis, Finnish CEOs have exceptional skills and knowledge to offer the company, and thus are paid relatively high. This is then reflected onto the firm, increasing its operational performance and value.

Bebchuk et al. (2011) presented in their study the optimal selection hypothesis, which assumes that no firm would be able to increase its value by changing its CPS level. However, CPS levels could relate to firm value to the extent that the optimal CPS level differs across firms.

The optimal CPS level for any given firm depends on four considerations:

> 1. The pool of candidates from which the members of the top executive team are drawn, and the quality and outside opportunities of these candidates clearly differ from firm to firm
>
> 2. The extent to which it is desirable to provide tournament incentives to top executives other than the CEO
>
> 3. The extent to which it is desirable for the firm to have a dominant player model based on one especially important player rather than a management model based on a team of top executives
>
> 4. The optimal CPS level reflects whether it is desirable to concentrate dollars spent on incentive generation on the CEO instead on other top executives.

Existing theory on the subject does not provide an unambiguous prediction as to how the above considerations relate to firm value. Derived from the optimal selection hypothesis are the research hypotheses for this part.

H_0: CPS does not affect firm performance

The null hypothesis assumes no statistically significant relationship between CPS level and firm performance. Thus, pay inequality between executives does not affect firm value and accounting profitability.

H_1: CPS is positively correlated with firm performance

H_2: CPS is negatively correlated with firm performance

The first alternative hypothesis implies that CPS is positively correlated with firm valuation and performance, and having a CEO of high value increases firm performance. This suggests that it is beneficial for a Finnish firm to provide tournament incentives to the CEO, and having a dominant player model rather than a management model.

The second hypothesis implies a negative association between CPS and performance. A high valued CEO or a high level of compensation for the CEO in proportion to the executive team does not increase firm performance or value. This hypothesis supports the management model based on a team of top executives rather than the dominant player model.

1.3. Structure of the study

The structure of the thesis is as following. In the second chapter, this paper presents the theoretical framework related to the research. This research is closely related to the aspects of agency theory and corporate governance, which are both examined in the second chapter. The following part discusses corporate governance and governing principles of a firm. Compensation strategy and its determinants are explained and discussed in the third sub chapter, the final part of the theoretical framework. In the third chapter, the paper presents previous research on the related topics. This chapter examines recent and significant research papers and interprets the results and main findings of the papers.

The empirical part of this paper is presented in chapter's four to six. The fourth chapter shows the sources and data collection methodology as well as the descriptive statistics and cross correlations for the data. The fifth chapter demonstrates the calculations for the variables and methodology used in the regressions. In the next chapter, the results of the

regressions are presented and interpreted. The final chapter summarizes the results from the regressions and discusses the limitations and implications of this study.

2. THEORETICAL FRAMEWORK

2.1. Agency theory

Agency theory is perhaps the most renowned and most used theory associated with the compensation-performance relationship, especially regarding executive compensation. It was first introduced by Jensen and Meckling in 1976 in their paper Theory of the firm. Agency theory has since been used by many respected and influential researchers as the basis for their studies on compensation (e.g. Eisenhardt 1989; Jensen & Murphy 1990; Prendergast 1999; Gomez-Mejia, Wiseman & Dykes 2005; Cadsby, Song & Tapon 2007). Thus, agency theory seems to be especially well suited for studies concentrating on the relationship between compensation and performance. Additionally, agency theory is rather understandable and straight-forward and as such is widely favored in academic studies. Taking into consideration the recent criticism of agency theory (e.g. Donoher, Reed & Storrud-Barnes 2007), it is still a valid theory in studying and explaining executive compensation.

Milton Friedman (2007) explained that a corporate executive is an employee of the owners of the business thus he has a direct responsibility to his employers. This means that executives have to conduct business in a way that the owners of the company want. Generally owners of the company want the business to be as valuable as possible. Creating value for the company and its owners means maximizing profit and the market value of the company while conforming to the basic rules of the society.

According to Harris and Raviv (1979), executives will want their compensation structured so that they bear less personal risk. This implies that executives should prefer fixed cash compensation to equity-based compensation. Fixed cash compensation is constant and agreed upon signing the contract, while equity-based compensation is tied to the firm's stock return. The executive might think that equity pay is more volatile and is to some degree beyond his control. This preference is reinforced because the value of an

executive's human capital will also vary with the firm's stock performance (Jensen & Meckling 1976; Amihud & Lev 1981). Executives might make more risk-averse decisions in operating the firm to reduce their compensation risk. This will reduce the firm's risk, but also impact the profits negatively. These activities conflict with the shareholders' interests creating a so called principal-agent issue.

In principal-agent issue, the managers have no reason to automatically align their personal interest with outside investors' financial objectives. The problem is to get all the shareholders' agents, including top managers, middle managers and employees, working together to maximize value. Corporations deal with this issue through incentives and measuring performance. Incentives make sure that managers are rewarded appropriately when they add value to the firm, while performance measurement ensures that the right people get rewarded the right amount for their performance. (Brealey et al. 2011: 290.)

Agency costs arise from the process that tries to alleviate the principal-agent issue in the company. Agency costs are an expense either the principal pays to the agent or uses for the monitoring of the agent. Monitoring is an effective way for a company to prevent the more obvious agency costs. Evaluating executives can determine if they are putting enough effort to their work. Despite monitoring requiring time and money, some amount of monitoring is always useful. However, monitoring follows the law of diminishing marginal utility in a way that at some point, price of extra monitoring doesn't reduce the agency costs. (Brealey et al. 2011: 292.)

According to Barkema and Gomez-Mejia (1998) reducing agency costs can be done through two different methods. The principal may monitor the agent either through purchasing information about the agents' efforts or linking incentives to the agents' outcomes. Since agency costs have been shown to be directly related to the cost of replacing executives (Jensen & Meckling 1976), replacing agents should be only the last option to reduce agency costs.

Monitoring and incentive alignment might be relatively straight-forward methods to control agents, but they can also result in unwanted consequences. Agents are affected by

incentives, but not always in a beneficial way to the principal (Prendergast 1999). Yet it is not assumed in agency theory that agent is prone to opportunism, but that the agent has self-interest which can show in opportunism under certain conditions (Gomez-Mejia et al. 2005). To avoid the opportunism of an agent, principals need to have the resources deemed necessary by the agent in developing and enacting strategy and operations within the firm. The necessary resources will give principals the leverage they need to influence the agent in aligning their interests. (Perkins 2008.)

According to Eisenhardt (1989), in situations with difficult contradicting problems where opportunism by the agent is likely, agency theory is most relevant. A good example of this is the relationship between shareholder and executive, and their conflict of interest in running the firm.

Intensive monitoring or relying solely on monitoring can also have some unwanted consequences. Too much monitoring is said to hinder the alignment of agents and principals interests, resulting in diminishing returns from monitoring. (Tosi & Gomez-Mejia 1994.)

Agency theory can be used in examining CEO and executive compensation in general. According to Tosi and Gomez-Mejia (1994), agency theory can explain the logic of executive compensation. Equity holders (principals) delegate the responsibility of managing the company to the CEO or executive (agent), but control problem arises because of the differing interests between them. The executive may use the position given to pursue own objectives, which the principal tries to prevent by developing a monitoring system to inhibit the agent's actions. The monitoring primarily occurs through using fixed and contingent incentive in order to align the interests of the executive and shareholders. Fixed compensation is used to reduce opportunism in the short-term in that an executive will get fired and not get paid this fixed compensation if he doesn't act according to the shareholders' guidelines, whilst contingent compensation reduces opportunism in the long-term as it forces the executive to make effort in fulfilling the long-term goals of the shareholders in order to receive this contingent compensation.

Agency theory suggests that market forces should determine the level of executive compensation, since the shareholders (principals) value market performance it seems logical to reward agents according to market performance. However, Tosi and Gomez-Mejia (1989) point out that markets fail to set the compensation level and discipline executives in larger firms, because the assumptions underlying the theory of effective market control of managerial behavior is very stringent and seldom met and because the actual control of large firms is not with the shareholders, but with the executives whose interests aren't aligned with the owners. This imperfection of market forces in larger firms can be overcome by using agency contracts.

The purpose of an agency contract is to align the interests of owners and executives. By linking executives' compensation on profits and stock price, the executive has an incentive to make decisions beneficial to the owners. In addition, according to Eisenhardt (1989: 65), outcome uncertainty coupled with differences in level of risk borne should influence contracts between principal and agent.

In the presence of an agency contract linking executive compensation and firm performance, one could assume that agency problems would be eliminated. However, this is not always the case. Gomez-Mejia and Wiseman (1997) studied various empirical studies of the executive compensation sensitivity to firm performance of agency contracts. All of these studies were conducted under the assumption that optimal contracts should result in strong compensation-performance sensitivity. However, there was no strong empirical link between compensation-performance sensitivity in these contracts.

Due to indecisive results of using agency contracts to control agents, other methods need to be considered as well. Agency contracts seem to be more incentive driven rather than focused on behavioral monitoring. In fact, when comparing agency-based compensation on using only performance-based incentives and behavioral monitoring, it might actually be possible to utilize complementarities of both perspectives (Makri, Lane & Gomez-Mejia 2006). The idea behind this is that some of these methods would work in a way that executive compensation would have some kind of effect on future firm performance. Albeit empirical results being inconclusive, a positive relationship between executive

compensation and firm performance would be consistent with agency theory, implying the incentive mechanism of executive compensation affecting positively the performance of the firm (Barkema & Gomez-Mejia 1998).

According to the research by Tosi and Gomez-Mejia (1994), the monitoring of executive compensation is significantly related to firm performance. The monitoring also reduces the influence of executives and consultants in the process of setting compensations (Tosi & Gomez-Mejia 1989), preserving the compensation at lower levels. Although monitoring might be an effective way to counter executive opportunism, it can only do so much. A study by Coombs and Gilley (2005) show, that if executives were to pursue non-shareholding stakeholder-related initiatives they risk jeopardizing their personal wealth. Even though in most cases these initiatives are expected from the executive and are monitored for, executives are hesitant to pursue them due to the risk of losing personal wealth.

Even though performance linked executive compensation rests on the principles of agency theory, the pay-performance relationship can be argued to have very little relation to agency theory. The primary reason is that contingent compensation shifts risk from the principal to the agent, so that the agent's personal risk increases. In addition, performance related compensation strategy becomes illogical as an agent's control over the results decreases. Performance might suffer under the second best executive candidate, making it risky to replace the executive. (Gomez-Mejia et al. 2005.)

Cadsby et al. (2007) presented another approach to pay-performance and agency theory relationship. Basing executive compensation on performance results in increased productivity, which is in accordance with the agency theory. However, risk-averse executives will be less responsive to the incentives related to this compensation.

The general assumption underlying agency theory is that agents tend to be opportunists who will exploit owners, unless monitored effectively. Information asymmetries between agents and principals are expected to provide the basis for opportunism. It is assumed that an agent will exploit this to his own advantage, unless controlled or incentivized to do

otherwise. However, Miller and Sardais (2011) proposed another perspective on the principal-agent issue implying that the relationship is more complex than assumed previously.

According to U.S. corporate law, agents are employed to serve one primary stakeholder, which are the owners of an institution. This is the key assumption in agency theory. Therefore, it is considered illegal for an agent to take any action or initiative that is determined not to be in the best interest of the owners. This statement assumes the owners to always be the responsible parties with the company's best interest in mind, while the agents are seen as self-seeking opportunists. However, sometimes an executive may be more motivated than an owner to do what is best for a company and its stakeholders. In this case, agent influence and independence as well as owner-agent information asymmetry may become beneficial for the sustainability of a firm. This can be argued to be in the best interest of most stakeholders. (Miller & Sardais 2011.)

There has also been criticism of the assumptions related to agency theory. These three assumptions being the principal-agent issue, nature of risk, and mechanisms to reduce agency costs. Some argue that human behavior and individual risk preferences are not fully and objectively covered by the generally assumed rules in agency theory. A study by Cuevas-Rodríguez, Gomez-Mejia & Wiseman (2012) presents criticism on these factors. They argue that the context is the key factor in examining both interest and mechanisms for aligning interests of principals and agents. They use behavioral and organizational sciences to introduce an alternative perspective to describe the circumstances, which contradict the underlying assumptions in agency theory. These circumstances are in which honesty, loyalty, and trust in agents' behavior is possible and also the development of cooperative rather than contentious relationships.

2.2. Corporate governance

In theory, the need for corporate governance rests on the fundamental idea of agency problem, where the ownership and the management of the company are separated and the executives have the opportunity to make business decisions in their own benefit with shareholders and stakeholders bearing the costs. These costs, generally referred as agency costs, can be lessened with some type of control and monitoring system incorporated in the organization. This system of checks and balances is generally referred as corporate governance. (Larcker & Tayan 2016: 4.)

Corporate governance consists of the institutional structures, legal rules, and best practices that determine which body within a company is empowered the make particular decisions, how the members of that body are chosen, and the norms that should guide decision-making. Governance principles are based on rules of best practice, based on social norms or laws. (Monks 2011.)

The most simplistic monitoring system of corporate governance consists of a board of directors to oversee management and an external audit to express an independent opinion on the reliability of accounting and financial statements. However, usually governance systems are influenced by a larger number of entities, as presented in Figure 1. These constituents include firm owners, creditors, customers, suppliers, labor unions, investment analysts, the media, and regulators. (Larcker & Tayan 2016: 7.)

Societal and Cultural Values

Efficient Capital
Markets

Regulatory
Enforcement

Legal Tradition

Accounting
Standards
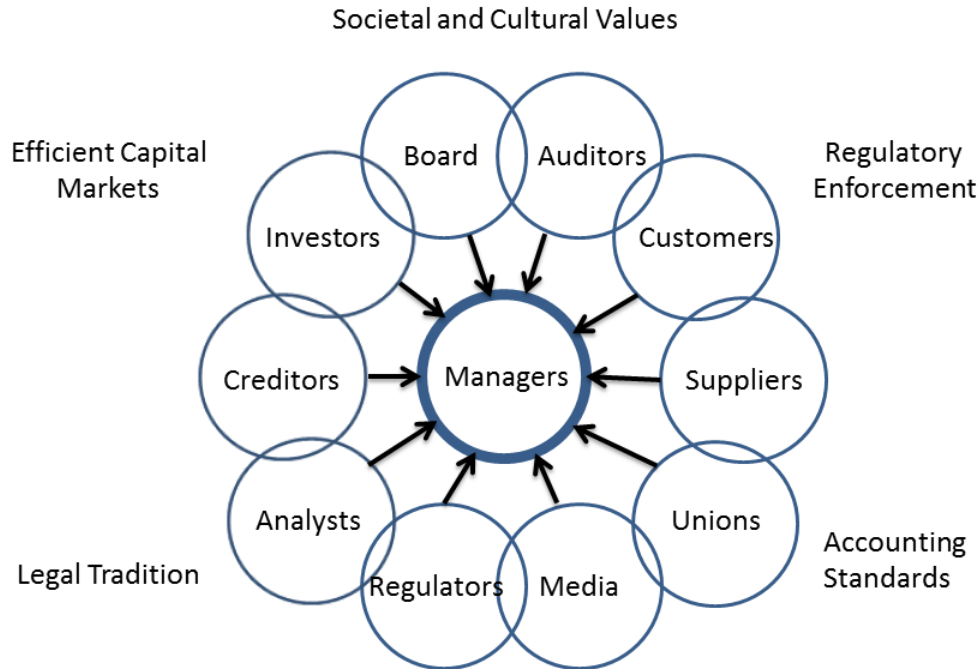
Figure 1. Determinants and participants in CG systems. Larcker & Tayan (2016): 7

In addition to the entities directly influencing the corporate governance system of a firm, there are a broad set of external forces that influence the structure of the governance system. These forces include the efficiency of local capital markets, legal tradition, accounting standards, regulatory enforcement, and societal and cultural values. They serve as an external guiding and disciplining mechanism on managerial behavior. (Larcker & Tayan 2016: 8.)

Figure 2 shows the governing bodies of Finnair Oyj, as presented in their corporate governance statement. The authority in Finnair is vested in the general meeting of shareholders. Annual general meeting decides on adoption of the financial statements, the use of profit, constitution of the Board and the members' remuneration, discharging CEO of liability, election of the Chairman of the Board, and election and remuneration of the auditor.
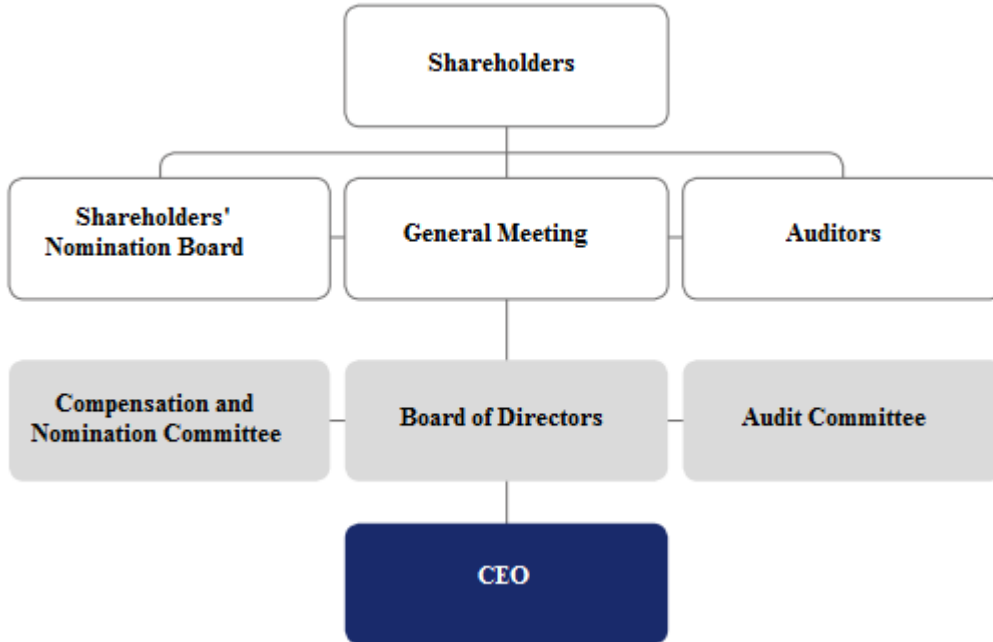
Figure 2. Governing bodies of Finnair. Finnair (2017)

Shareholders' Nomination Board prepares and presents for the annual meeting the proposals for remuneration, structure, and size of the Board. The Nomination Boards responsibility is also to seek potential future candidates for Board members. (Finnair 2017.)

The Board represents all shareholders of the company and has a general duty to act diligently in the interest of the shareholders. The Board is accountable to the shareholders for the appropriate governance of the company and ensuring the companies operational activities are executed accordingly. The governance is specifically related to the reliability of financial reporting and effectiveness of the company's system of internal controls. (Finnair 2017.)

The Board delegates some of its functions to the Audit Committee and the Compensation and Nomination Committee. Members for these committees are chosen among the members of the Board. The Audit Committee assists the Board in financial monitoring and

governance activities, especially related to accounting and financial reporting. The Compensation Committee assists the Board in matters related to the compensation and benefits of the CEO and other executives, as well as their performance evaluation, appointment and successor panning. (Finnair 2017.)

As seen previously in Figure 1, there are several factors that influence the corporate governance system of a company. However, a governance system that a company adopts is not independent of its environment. Country-specific factors shape the governance system to work most efficiently in that specific scenario. These factors are efficient capital markets, legal traditions, accounting standards, regulatory enforcement, and societal and cultural values. Differences in these factors have to be taken into account when evaluating the prevalence and severity of agency problems and the type of governance mechanism needed to monitor and control opportunism. (Larcker & Tayan 2016: 19.)

Markets determine the prices for labor, natural resource and capital. When markets are efficient, prices reflect all the information made available to market participants at any given time. Accurate pricing is necessary for firms to make rational decisions about allocating capital to its most efficient uses, which in part will result in an increase in shareholder and firm value. If the markets are inefficient, prices are distorted, which will hinder corporate decision making. (Larcker & Tayan 2016: 20.)

The rights afforded to business owners and minority shareholders are greatly influenced by a country's legal tradition. Countries whose legal system is based on a tradition of common law afford more rights to shareholders than countries whose legal systems are based on civil law. However, if the legal system is corrupt or ineffective, alternative disciplining mechanisms are necessary in the governance process. (Larcker & Tayan 2016: 22-23.)

Accounting standards are critical in ensuring that financial statements give accurate information. Reliable accounting standards also ensure the proper oversight of management, because shareholders and governing bodies have information to measure performance and detect any underlying agency problems. Additionally, the board uses this

information to structure appropriate compensation incentives and bonuses. (Larcker & Tayan 2016: 23-24.)

Accounting systems vary in different countries. In some countries, like the U.S. and Japan, accounting systems are rule-based. There are detailed rules for how accounting standards should be applied to various business activities. In other countries, like many European nations, general accounting concepts and recommendations are outlined, but the specific application is not always dictated. (Larcker & Tayan 2016: 24.)

Managerial behavior is also strongly influenced by the society in which a company operates. Activities that might be deemed acceptable in some countries are considered inappropriate in others. Cultural values also influence the relationship between the company and its shareholders and stakeholders. (Larcker & Tayan 2016: 27.)

The principal legislative authorities on corporate governance of Finnish listed companies are the Companies Act, the Securities Market Act, the Market Abuse Regulation (MAR), the regulations and guidelines issued by the Financial Supervisory Authority, the rules and instructions for listed companies issued by Nasdaq Helsinki and the Finnish Corporate Governance Code.

The Finnish Corporate Governance Code is a collection of recommendations on good corporate governance for listed companies. The recommendations supplement the obligations set forth in the legislation. The objective of the code is to maintain and promote openness, transparency, and comparability, as well as good corporate governance, in a manner that enhances the competitiveness and success of Finnish listed companies. (Securities Market Association 2015.)

The Corporate Governance Code is to be applied in accordance with the 'comply or explain' principle. Therefore, it is expected that a company complies with all recommendations of the Corporate Governance Code. Deriving from the recommendations is acceptable for a good reason, but the reasons for this must be explained in the company reports along with which recommendations it is departing from and how the decision was

made. In other words, the company is deemed to be in compliance with the Corporate Governance Code even if it departs from individual recommendations, provided that the departures are reported and explained. (Securities Market Association 2015.)

All publicly listed companies in Finland are expected to comply with the reporting principles introduced in October 2010. This states, among other things, that all firms must disclose the determinants and amount of compensation granted to the board members and the CEO. Executive team compensation should be reported as well, but some companies decide not to disclose the individual compensation for each member of the executive team.

2.3. Compensation strategies

Compensation strategy should attempt to tackle the existing agency problem. Rewards flexibility, through such incentive aligning methods as financial compensation and stock options, delivers rewards that have greater market sensitivity. (Sparrow 2008.)

The pay packages for the company's top executives are not the same as the normal employee salaries or other kinds of employee compensations in the terms of purposes and form of payments. Top executives normally receive executive pay packages in addition to their basic salary as an extra reward or as compensation for their dedication to the company as well as for their success of boosting shareholder value. The pay package designs include six major compensation components such as salary, long-term incentives, short-term incentives, employee benefits, severance. (Bolton, Mehran & Shapiro 2015: 2139–2181.)

Compensation package is generally divided to employment or severance agreement, incentive compensation and supplemental retirement plans. These three main components are usually used in conjunction, creating a structured compensation package to incentivize the employee for short-term and long-term performance. The use of these components is

also influenced by firm characteristics, which include organizational goals and time frames of achievement. (Bevan 2001.)

Executive compensation consists of the actual financial compensation and usually some kind of other non-financial pay. The financial compensation usually includes salary, options, shares or bonuses in some ratio and amount. Executive compensation can be divided in cash and equity-based components of CEO compensation. Cash based compensation consists of salary and bonuses whilst equity-based compensation covers stock options and long-time incentive plans. (Brealey et al. 2011: 296-297.)

According to Conyon (2014), "The base salary for executive pay is normally stated as an annual salary, although it is typically paid monthly or bi-weekly, similar to other salaried staff". In fact, the amount of pay for executives will be different depending on the type of job, size of organization, type of industry and the region of the country. The search shows that 40% to 60% of the executive's annual compensations originates from their salaries (Conyon 2014). However, it is not a significant amount of money because it will have to be deducted for tax calculation. Therefore, most of the companies tend to choose other forms of executive compensation like attractive perks or offered incentives, which can help their top executives to avoid the deduction.

Cash bonuses have been until recently the primary method of incentive compensation. Bonuses are generally linked to some organizational or individual goal, which is based on employee performance or time in the firm. Performance criteria can base on accounting measures such as net income and equity or asset targets, but can also be based on a comprehensive analysis of an organizations economic performance. This links the cash bonus to fluctuations in stockholder value. (Bevan 2001.)

Equity, or the non-cash payment that represents ownership in the firm an executive receives, is an essential part of executive compensation. Equity-based compensations usually need to be approved by a shareholder vote. The amount of equity used in compensation packages doubled between 1993 and 2003 (Bebchuck and Grinstein 2005) which speaks volumes of its popularity as a part of the compensation package. While in

theory "executives who hold equity in the companies they manage -- have greater incentive to improve the economic value of the firm" (Larcker & Tayan 2016), in practice the results are mixed.

Equity compensation is catching on to the traditional cash bonus compensation becoming the primary means of incentivizing executives. Equity compensation is directly correlated with organizational performance, which answers to the increasing pressure from the board of directors and shareholders that prefer the executive compensation structured so it reflects individual as well as company performance. Stock-based incentive plans are generally categorized into four main types, which are employee stock options, restricted stock, phantom stock and stock appreciation rights (SAR). Including stock options to the total compensation tie the executives' compensation even more to company performance, motivating the individual to enhance firm performance as well as stay with the company. (Bevan 2001.)

Stock options work in a way that the employee has the right, but not obligation, to buy the company stock at a predetermined exercise price. Generally the exercise price is equal to the company's stock price on the day of granting the option. If the company performs well and stock price increases, the employee will benefit from the increase in stock price and should execute the option. The employee will profit from the difference in exercise price and current price. In case the stock price decreases below the level of the initial exercise price, the executive can leave the option contract unexercised, which will result in no financial profit or loss. Alternatively, the employee can wait for the stock price to make a recovery or hope for compensation through other channels. (Brealey et al. 2011: 297)

Restricted stock refers to unregistered shares of ownership in a company that are issued to employees under some conditions. The stock is nontransferable and must be held typically for a set amount of years. Performance shares on the other hand are regular stock awarded only if the company meets an earnings or some other target (Brealey et al. 2011: 297.)

Phantom or shadow stock plans simulate stock option plans but without actually issuing any equity. Rather than getting any physical stock, the employee receives phantom stock

that follows the price movement of the company's actual stock, paying out any resulting profits. Like phantom stock, stock appreciation rights (SAR) follow the stock price fluctuation providing for a cash bonus equal to the excess of the fair market value of the company's stock at the date of exercise over the value at the date of grant. (Bevan 2001.)

Vesting is a process through which an employee acquires full ownership of a certain asset, usually retirement funds, stock options or other benefit plan. Vesting schedule is simply the timetable for the process of earning full ownership of the asset. Traditionally one becomes "fully vested" over time, which is referred to as time-based vesting, but vesting schedule may also be based on performance. This type of vesting process can use accounting performance, stock performance or nonfinancial performance as metrics to evaluate the level of achieved performance (Larcker & Tayan 2016). Performance-based vesting seems to have started replacing time-based vesting in the last years. While time-based vesting may create an incentive to stay in the company, it doesn't provide a sufficient financial motivation whereas performance-vesting companies seem to outperform the control groups (Bettis, Bizjak, Coles & Kalpathy, 2010).

Optimally structured compensation should generally include all the elements of cash and equity based compensation. However, the amount of compensation should be in line with the company's financial variables as well as the employee's performance variables.

Cao and Wang (2013) produced an extensive study on optimal executive compensation. The purpose of the study was to examine the relationship between CEO's pay-to-performance sensitivity (PPS) and a firm's risk. The paper also examines the factors that explain the recent trend of significantly increasing CEO compensation, which came with increase in firm size.

According to standard agency models, pay-to-performance sensitivity does not change with firm risk if the agent is risk neutral and decreases if the agent is risk averse. However, the empirical evidence on the firm risk on PPS is mixed. The study argues that PPS is significantly affected by two factors, which are CEO job mobility and composition of risk faced by a firm. When different firms are competing for CEOs, each firm wants to

structure the contract so that their firm has the best chances in retaining the CEO. Therefore, changes in market conditions might have an effect on PPS by affecting the level of competition for CEOs. PPS is affected by risk structure through the change in idiosyncratic or unsystematic risk when the CEO switches between firms. The empirical test using executive compensation data confirm that the equilibrium pay-to-performance sensitivity depends positively on a firm's idiosyncratic risk and negatively on the systematic risk. Moreover, optimal PPS ratio is less than one even when the CEO is risk neutral. (Cao & Wang 2013.)

The board of directors is initially accountable in matters pertaining to the compensation and benefits as well as performance evaluation of the CEO and other senior management. However, in larger companies, a compensation committee is nominated to assist the Board in such matters. The Committee assists the Board also in establishing and evaluating compensation structures and other personnel policies. They review and confirm the achievements of targets for short-term incentives and approve of the payment of incentives to the according executives.

Firms can quite freely dictate the level and structure of executive compensation, but there are some limitations. Following the economic meltdown of 2008 triggered by the collapse of such established investment services as Lehman Brothers, Merrill Lynch, Bear Stearns and AIG, the emphasis shifted to excessive executive pay. The compensation experts noticed that executive compensation was both the symptom and the cause of the instability in the financial sector. This led to an increased focus on excessive executive remuneration resulting in significant level of involvement by the federal government in regulating the structure and disclosure of executive compensation. (Schneider 2011.)

The government involvement led to the introduction of new legislation, in particular the Emergency Economic Stabilization Act of 2008 and the American Recovery and Reinvestment Act of 2009. First to be affected by the new legislation were institutions that were receiving financial assistance through the Treasury Department's Troubled Assets Relief Program (TARP). They experienced several rounds of increasingly intrusive restrictions on executive compensation. Shortly after, the Dodd-Frank Wall Street Reform

and Consumer Protection Act (the Act) was signed into law that had a direct and significant impact on the executives, directors and shareholders of publicly traded companies. The Acts executive compensation and corporate governance provisions affected several matters, including recovery of erroneously awarded compensation, executive compensation disclosures and internal pay equity, disclosures regarding executive and director hedging, voting by brokers, CEO duality and compensation committee independence. (Schneider 2011.)

3. LITERATURE REVIEW

3.1. Corporate governance and firm performance

Agency theory suggests that companies with better corporate governance standards perform better. In particular, it implies that a better governance system should result in better performance and higher valuation due to lower agency costs. This prediction is supported by a number of studies. However, the research results and the significance seem to have some variation, which could be due to different measures of corporate governance.

The empirical studies can be divided into two approaches. The first approach is to use a composite index in measurement of corporate governance. The second approach is to focus on a single attribute of corporate governance, such as ownership structure and board characteristics.

McKinsey & Company conducted a survey to examine the relevance of corporate governance to institutional investors. Nearly 80 percent of the investors responded that they would pay a premium for a well-governed company. The size of the premium varied across countries and markets. (Coombes & Watson 2002.)
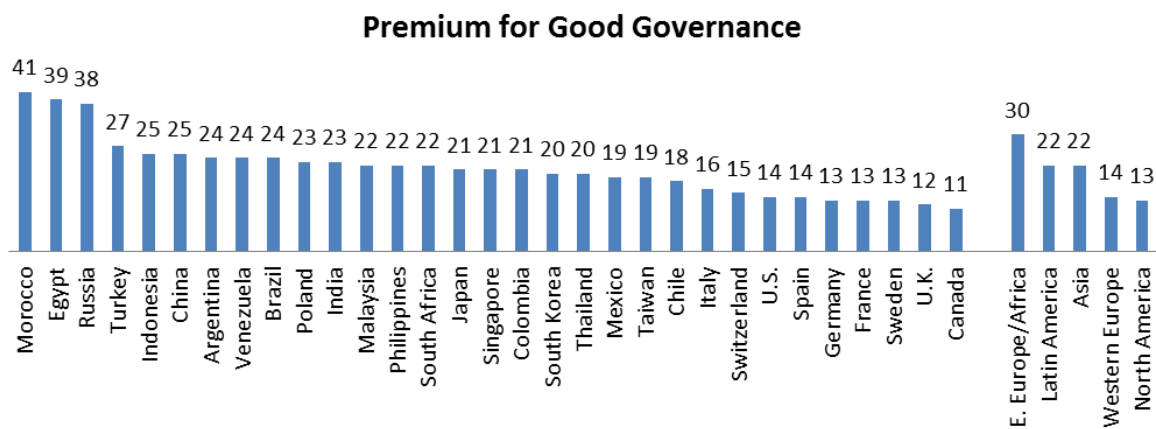
Figure 3. Indicated premiums for good corporate governance. Coombes & Watson (2002)

As seen in Figure 3, the size of the premium is significantly higher in countries with perceived unstable conditions, which highlights the importance of good corporate governance. These results imply that investors perceive well-governed firms to be better investments than poorly governed firms.

A study by Gompers, Ishii and Metrick (2003) examines corporate governance and firm performance by constructing a Governance Index (G-Index) with 24 governance rules to examine shareholder rights. Their data consist of 1500 large firms during the 1990s. The study finds that better corporate governance is associated with higher firm valuation as measured by Tobin's Q, as well as higher profits, higher sales growth, lower capital expenditure, and fewer corporate acquisitions.

Brown and Caylor (2006, 2009) use a similar approach by constructing a Gov-Score that is based on 51 firm-specific provisions representing both external and internal governance. Both studies imply this measure in the regression and find that better-governed U.S. firms have higher return on equity, higher return on assets, and higher Tobin's Q.

Bhagat & Bolton (2008) examine the effect of corporate governance on firm operating performance and stock performance. The study uses the G-Index (Gompers et al. 2003), as well as the E-Index (Bebchuk, Cohen & Ferrell 2009), to measure the corporate governance of a firm. Findings suggest that better governance measured by these indices, stock ownership of board members, and CEO-Chair separation is significantly positively correlated with better contemporaneous and subsequent operating performance. However, none of the governance measures are correlated with future stock market performance.

Dittmar and Mahrt-Smith (2007) research how corporate governance affects firm value. The study compares the value and use of cash holdings in both scenarios of corporate governance. Results show that $1.00 of cash in a firm with bad corporate governance is valued at $0.42 to $0.88, while good corporate governance approximately doubles the

initial amount in valuation. Findings indicate that good corporate governance has a substantial positive impact on U.S. firms' value.

Sami, Wang & Zhou (2011) studied the relationship between corporate governance and firm performance and valuation on Chinese firms. The study uses a composite measure of corporate governance, Governance-Score, as the independent variable. ROA and ROE are used to measure accounting performance, and Tobin's Q is used to measure firm value. Result show a positive and significant relationship with the composite measure, which suggests that better governed firms perform better in China.

Zabri, Ahmad & Wah (2016) examined the corporate governance practices in Malaysia and its effects on firm performance. The data consists of top 100 publicly listed companies in Malaysia from 2008 to 2012. The study used board size and board independence as dependent variables of corporate governance, and ROA and ROE as independent variables of firm performance. Results suggest there is a significant negative relationship with board size and ROA, while the results on ROE were insignificant. The study also finds no significant relationship with board independence and measures of firm performance.

Ararat, Black & Yurtoglu (2017) conducted a study to examine the corporate governance practices of Turkish publicly listed firms from 2006 to 2012. They constructed a broad index (TCGI) on Turkish data to proxy for corporate governance practices. The study uses this index to determine the impact of firm-level governance on firm market value and profitability. Results show that a one-standard-deviation increase in governance predicts an 8-10% increase in firm value, measured by Tobin's Q. This significance increase in firm value is mainly driven by the Disclosure Subindex of TCGI. The study also finds weak positive relationship with governance and profitability.

The overall consensus seems to be that better governed firms yield better operating results as well as increased firm valuation. Corporate governance and firm performance seems to keep its significance across countries and different time periods. However, it can be assumed that the positive effect is stronger in the countries and areas that have a bigger premium for corporate governance, as seen in Figure 3.

3.2. CEO compensation and firm performance

Mehran (1995) conducted an early study on the subject of executive compensation and incentive alignment examining executive compensation structure of 153 randomly selected manufacturing firms in the years 1979-1980. The results, in which Tobin's Q and return on assets are regressed against equity-based CEO compensation, show a highly significant positive relationship. This suggests that the performance-based part of the total compensation is linked to firm value. Similar results are found, when regressing against percentage of shares and stock options held by CEOs.

Findings provide evidence, which supports performance-pay and incentive compensation. However, the study suggests that better structured compensation, rather than the total amount of compensation, motivates the executive to increase firm value. Furthermore, firm performance is positively correlated to the percentage of equity held by executives and to the percentage of their compensation that is equity based. Taking into consideration the relatively old sample, findings do support the modern compensation structure that is increasingly concentrated on equity based compensation and other long-term compensation strategies. (Mehran 1995.)

A study by Tao (2010) researches the effect of incentivizing top executives and the relationship between compensation and performance on machinery and equipment listing enterprise performance in 2006-2008. The results show that effective compensation structure, compensation level and stable and positive changes in compensation of top executives can increase firm performance significantly. However, when stock ownership of top executives is at low level in the firm, stock ownership has a negative impact on firm performance.

From the sample, a low percentage (10.68% respectfully) of companies had top executives shareholding of over 50%. Even though most of the companies have low proportion of total compensation in equity pay, over half of the companies had at least some top

executive shareholdings, which shows that even more companies realize the importance of executive equity incentive. (Tao 2010.)

Yue, Lan and Jiang (2008) conducted a similar study looking into the relationship between firm performance and the structure and levels of executive compensation on Chinese listed companies. The regression results show that there is a significant positive relationship between the annual compensation of executives and performance of the companies, accounting for both returns on equity and earnings per share as performance measures. Furthermore, firm performance is independent of the shares allocated to top executives and there is no so called interval effect.

Similar results are provided by Zhang, Huang and Hu (2010) when conducting an empirical study of the possible correlation between executive compensation and corporate performance based on the Chinese listed companies in 2009. The purpose of their study was to analyze this relationship in hopes to find deficiencies and insufficiencies and help devise and improve managerial incentive compensation strategies. By examining and developing the incentive system, they hope to enhance the effectiveness of senior management incentive while supporting the performance of Chinese companies and overall economic development. The study measures the dependent variable, which is executive compensation, with natural logarithms of total executive compensation and shareholdings by executives. Company performance is measured with net assets income rate and Tobin's Q.

The findings show a significant positive correlation between the total amount of company executive compensation and corporate performance, although compensation is significantly and positively related to the size of the company. In smaller proportion, the proportion of executive shares is positively related to corporate performance. However, the number and proportion of the executive shares was quite small compared to other countries, so it can be argued to have little or no effect on motivating the management to improve firm performance. (Zhang et al. 2010.)

Kuo, Li and Yu (2013) use panel-data threshold models to examine the non-uniform relation between CEO equity-based compensation and earning-based performance. The sample data consists of U.S. S&P 500 companies from 1994 to 2008. Their empirical results show a positive correlation with CEO equity compensation and firm performance. The correlation is significantly noticeable for companies with lower and moderate levels of equity-based managerial compensation, as well as less profitable firms. Findings show that under the critical equity pay ratio of 0.0852, an increase in the level of CEO equity compensation ratio enhances firm performance. As the level of CEO equity pay ratios goes beyond 0.4633, they notice that an increase in CEO equity pay might have a negative effect on firm performance. The results suggest that excessive equity-based compensation no longer compliments firm performance, and that share-based compensation is more effective for smaller scale start-up firms with low profit expectations.

Gigliotti (2013) conducted a study with an objective to find evidence of the correlation between executive remuneration and corporate performance measured by return on equity, return on assets and return on investment. The study consists of a sample of 145 listed Italian companies between the years 2004 and 2009. The study reported an average annual growth of 15% in executives' pay for the first four years, but dropping over 19% in 2008 due to the global financial crisis.

Findings do not show that there is a significant correlation between company performance and executive compensation. Taking into consideration how executive pay in family businesses remains lower than in other companies, results seem to be consistent with earlier studies. Moreover, results showed that there are several situations in which, in the face of reduction in the average profitability of the period, executive pay still shows average growth. However, findings suggest a greater correlation between remuneration and company size, in terms of stock turnover, which demonstrates the likely presence of a dimensional premium that is to the benefit of executives of larger companies. (Gigliotti 2013.)

A study by Ozkan (2011) uses UK panel data of 390 non-financial firms during 1999-2005 to examine the link between CEO pay and performance. It is suggested that previous

results showing a weak link might be missing a critical component that is equity based compensation. In addition to accounting for equity based compensation, the study controls for a comprehensive set of corporate governance variables to determine whether they influence level of CEO compensation and pay-performance sensitivity.

The empirical results indicate that pay-performance elasticity for UK top executives is 0,075 for cash based compensation. This implies that a ten percentage increase in shareholder return is equal to an increase of 0.75% in CEO cash compensation. The pay-performance elasticity for total compensation, including equity-based pay, is 0.095, which is higher when comparing to the elasticity of only cash compensation. This means that a ten percentage increase in shareholder return results in a 0.95% increase in CEO total compensation. In comparison to previous findings for U.S. CEOs, pay-performance elasticity for UK CEOs seems to be lower. (Ozkan 2011.)

Results show that CEO total compensation is positively correlated with firm size, number of board of directors and the number of non-executive directors on the board. Correlation with firm size implies that there is a dimensional premium that benefits the CEOs of larger companies. Bigger firms want to invest in and incentivize talented CEOs to join and stay with the firm. Bigger board is associated generally with larger firms, which is consistent with the earlier statement. Higher proportion of non-executive directors on board associated with higher compensation level can be explained by non-executive directors not providing monitoring in determining CEO compensation. (Ozkan 2011.)

The results show significant negative relationship with CEO compensation level and non-executive directors' share ownership. Additionally, institutional and blockholder ownership was found to have a significant negative correlation on the level of CEO cash compensation as well as total compensation. Although, this ownership structure seems to have a significant positive impact on CEO pay-performance sensitivity of option grants. The findings also showed that longer CEO tenure is associated with lower pay-performance sensitivity of option grants, which suggests the entrenchment effect of CEO tenure. (Ozkan 2011.)

The overall findings from this subject seem to show a significant relationship with executive pay and firm size. Firm performance seems to be a secondary factor to the level of compensation. Furthermore, cultural differences seem to have an effect on the level and structure of the compensation as well as the significance of the pay-performance relationship.

3.3. CEO compensation and cultural dimensions

Executive incentive strategies seem to vary across countries and cultures. When comparing the results from studies from the U.S. and China, we can see a significant difference. In most cases the correlation between executive compensation and firm performance is negative in the U.S. but positive in China. This association might be explained by the cultural differences in leadership strategies or organizational goals.

Tosi & Greckhamer (2004) conducted a study examining CEO compensation in cultural context. The study related cultural dimensions developed by Hofstede (Hofstede 1980, 2001) to several dimensions of CEO compensation. The dimensions of executive compensation include total CEO compensation, the proportion of variable pay to total compensation (VC/TC), and the ratio of CEO pay to the pay of lowest level employee in the company. The study uses data from 23 different countries from 1997 to 2001.

First, the paper finds that total CEO pay is positively correlated with power distance and individualism. Second, the proportion of variable pay to total compensation is positively associated with individualism and negatively associated with uncertainty avoidance. Additionally, the pay gap between the highest and lowest level employee in the firm is positively associated with power distance and masculinity. (Tosi & Greckhamer 2004.)

Bryan, Nash & Patel (2015) find relatively similar significant dimensions, when examining how differences in national culture might contribute to differences in executive contract design. They use differences in individualism score and uncertainty avoidance index to

study its effect on the proportion of equity-based compensation across countries. The data consist of 39 countries from 1996 until 2009. Findings show that differences in degree of individualism and uncertainty avoidance are significantly associated with variations in the structure of compensation, the proportion of variable pay to total compensation.

A closer look at the cultural dimensions reveals significant differences between the countries. Figure 4 shows the cultural dimensions of China, Finland, the U.K. and the U.S. Tosi and Greckhamer (2004) found significant association with power distance and individualism in relation to the level of CEO compensation. Therefore, those two will be inspected more closely.

Power distance addresses the assumption that all individuals in a society are not equal. It shows how a culture sees inequalities among us. A high level of power distance means that inequalities amongst people are acceptable and there is a conscious social hierarchy determined by authority and position of power. A low level of power distance is characterized by decentralized power, equal rights, and accessible superiors. Hierarchy is established for convenience only. (Hofstede Inshights 2018.)

Individualism represents the degree of interdependence a society maintains among its members. A high level of individualism puts emphasis on individual work, objectives and success. A low level of individualism, collectivism, is characterized by team-effort, loyalty to a group, and societal and organizational success. (Hofstede Inshights 2018.)
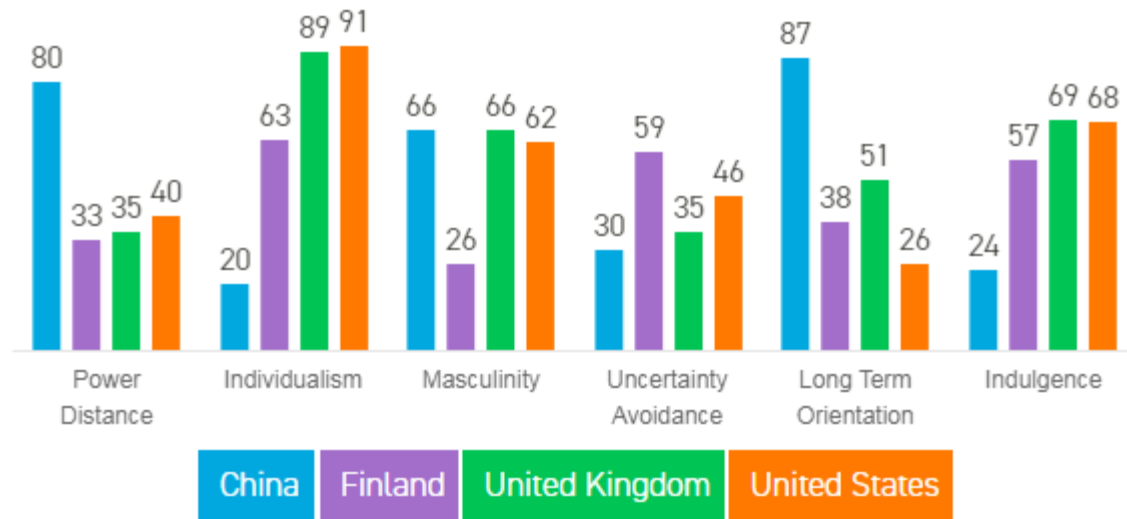
Figure 4. Cultural dimensions country comparison. Hofstede Insights (2018)

As seen in Figure 4, China has a high level of power distance compared to the U.S. and rest of the inspected countries. As for individualism, the U.S. and the U.K. have extremely high values compared to China. Finland seems to place in the middle, slightly leaning to the group of high level of individualism.

Both power distance and individualism have been shown to have a positive association to the level of total CEO compensation. However, those cultural dimensions seem to be of opposing nature. If a society has a high level of power distance, level of individualism seems to be low. This makes it difficult to construct reliable deductions based on the information. However, level of individualism seems more likely to have a significant association with pay-performance sensitivity.

3.4. CPS and firm performance

CEO pay slice is a relatively new measure used in research. It measures the fraction of the aggregate compensation of the top-five executive team captured by the Chief Executive Officer. CPS is used to evaluate the relative appreciation of the CEO to the rest of the executive team, and CEO dominance.

This measure was first introduced by Bebchuk et al. (2011) in the paper The CEO Pay Slice. The study examines the association between CPS and firm value, performance, and behavior. The study uses data from the U.S. publicly listed firms from 1993 to 2004.

Using pooled panel regressions with year dummies, the study finds that higher CPS has a strong association with lower firm value as measured with industry-adjusted Tobin's Q. A one standard deviation increase in CPS results in a 5.5% reduction in the following year's Tobin's Q. Results also indicate that CPS is negatively correlated with accounting profitability (ROA) and stock returns accompanying pre-announced acquisitions. A one standard deviation increase in CPS is associated with a 0.48% decrease in ROA the following year. The findings are consistent with the hypothesis that higher CPS is associated with agency problems, and relatively highly appreciated CEO decreases firm value. (Bebchuk et al. 2011.)

Tarkovska (2017) finds similar results examining the relationship between CPS and value of the publicly listed firms in the UK from 1997 to 2010. The study uses two different types of calculations for CPS, which include either three or five executives. Additionally, one model uses industry-adjusted CPS as an independent variable. Findings show a significant negative correlation between firm value and CPS on all measures of CPS. Results report that one standard deviation increase in CPS is associated with approximately a 7.84 percent decrease in Tobin's Q.

The paper suggested a hypothesis that a high CPS level distinguishes a company's CEO and helps create a competition spirit, which should result in better corporate performance. However, results support better the agency problem argument and social comparison

argument, which state that higher CPS harms executive board effectiveness by hindering team cohesiveness and motivation. (Tarkovska 2017.)

Al-Najjar, Ding & Hussainey (2016) conduct a study that examines the determinants of CPS and its relationship to measures of firm performance. The study uses similar data than Tarkovska (2017) but a shorter time period. In addition to the conventional CPS, the paper uses ECPS as an explanatory variable in some models in place of CPS. This measures the proportion of equity-based or variable pay captured by the CEO relative to other executives. The main performance measures are Tobin's Q and ROE.

Surprisingly, findings show that CPS is positively correlated with future firm performance measured with Tobin's Q and ROE, as well as higher corporate governance ratings and board independence. The results on equity-based CPS are similar, suggesting a positive association with all tested measures of firm performance. Findings support the managerial talent hypothesis, which states that UK CEOs have outstanding capability and skills that enhance firm performance and therefore are compensated accordingly. (Al-Najjar et al. 2016.)

4. DATA

Data set for this study consists of executive compensation data as well as accounting data and ratios for Finnish publicly traded firms in OMX Helsinki stock exchange, excluding the financial sector, during 2010-2017. In total, the data set consist of 108 companies and eight years of observations. The executive compensation data for Finnish firms is not available in any database at this time. However, due to the recommendations set forth by the Finnish Securities Market Association in 2010, publicly traded firms in Finland have to present the governing principles along with the compensation data in their annual reporting.

This study uses the executive compensation data collected by hand from either annual reports, corporate governance reports, or remuneration reports of each individual firm and year. Executive compensation is measured as the total compensation reported by the firm including salary, bonus, other annual pay, the total value of restricted stock granted that year, long-term incentive payouts, and all other total compensation. If reported, resignation fees and payouts to former executives are excluded from the calculations. Also, the years when the CEO changes, the firm is listed, or the fiscal year is not equal to a calendar year, are excluded from the dataset. Additionally, foreign currency compensation data is converted to euro currency with the year average exchange rate, and each compensation to an executive is collected as accrual basis at the accuracy of 1,000€.

Executive team compensation data is collected with the same principles. However, compensation data for individual executive team members are almost never reported. Annual reports usually specify the remuneration of the CEO and rest of the executive team as a whole. Therefore, in order to calculate CPS in accordance with Bebchuk et al. (2011), total executive team compensation has to be divided by the average number of executive team members during that year, excluding the CEO.

Firm data is collected from Orbis database. Performance measures used in the study are industry-adjusted to account for the industry-specific variations in each industry's acceptable values. Each industry median is calculated from all firms in Orbis database matching the 4-digit SIC code, excluding small firms with less than 50 employees and inactive firms.

Figure 5 presents the yearly average and median total compensation of CEOs and executive team members in the firms studied. During the researched period, there can be seen a slight overall upward trend in CEO total compensation. However, executive team member compensation seems to remain roughly at the same level, or experience a minimal increase.
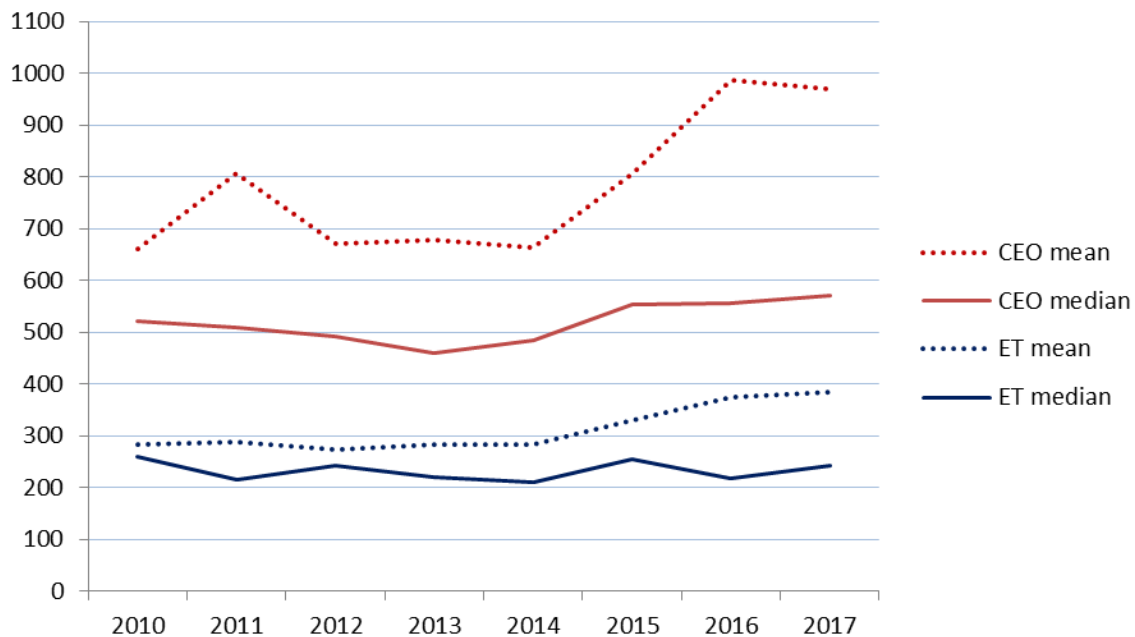
Figure 5. Median and average compensation

Figure 6 shows CEO total compensation and executive team member average total compensation plotted on a graph. The compensation data seems to have a linear nature, which can be seen from the trendlines goodness of fit. The calculated linear equation

shows that CEO total compensation is estimated to be 2.74 times the compensation of an executive team member.
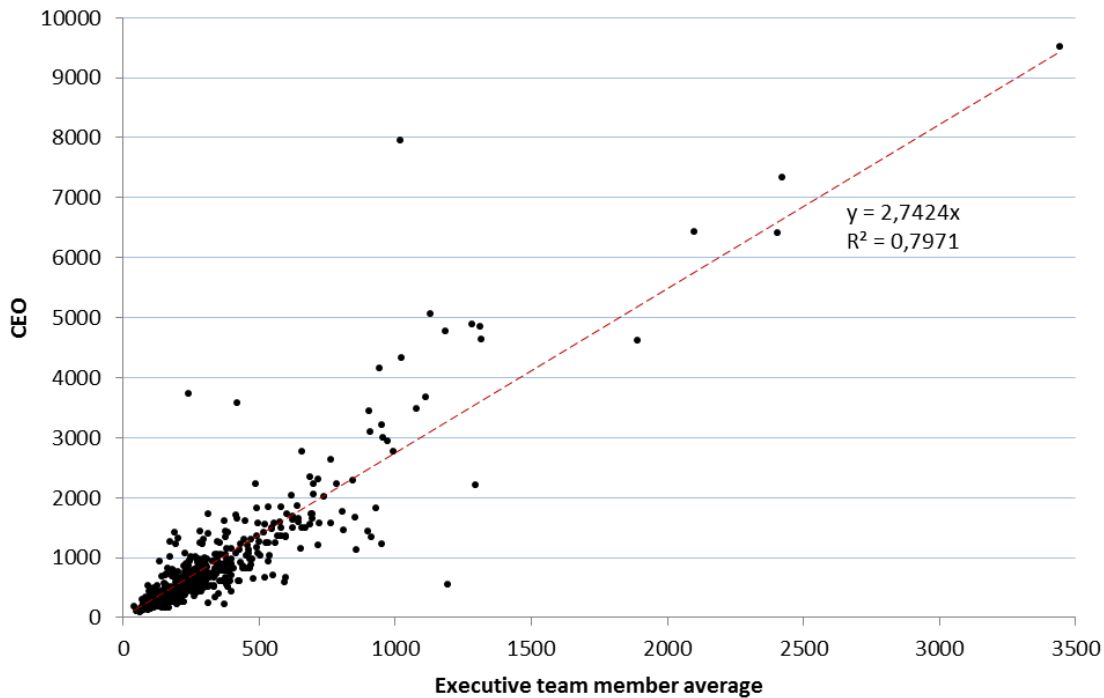
Figure 6. Compensation data scatterplot

Table 1 below presents the summary statistics of the dataset. The table includes ten variables used in the regressions. Natural logarithm of total executive compensation is denoted as LOG(EC). The number of observations for LOG(EC) and CPS are slightly smaller compared to the other variables due to some of the compensation data being unavailable. Industry-adjusted Tobin's Q is denoted as ADJQ and industry-adjusted ROA as ADJROA. Company size variable is measured by natural logarithm of total assets and denoted as LOG(SIZE). The natural logarithm of age of the firm is denoted as LOG(AGE). Research and development intensity is measured by dividing R&D expenses by sales and is denoted as R&D/SALES. Leverage is calculated by dividing total debt by total assets.

Table 1. Descriptive statistics

Variable	Mean	Median	Maximum	Minimum	StDev	Nobs
LOG(EC)	6.288	6.242	9.160	4.174	0.812	618
CPS	0.373	0.368	0.794	0.102	0.083	570
TOBINSQ	1.012	0.734	15.085	0.071	1.143	751
ADJQ	0.298	0.045	13.953	-1.617	1.058	751
ROA	2.389	3.756	52.762	-90.367	11.742	799
ADJROA	-1.153	0.406	51.431	-93.153	11.810	799
LOG(SIZE)	12.488	12.378	17.620	8.226	2.016	804
LOG(AGE)	3.635	3.611	5.908	0.000	0.966	855
R&D/SALES	0.025	0.004	0.511	-0.093	0.056	739
LEVERAGE	0.578	0.569	3.356	0.087	0.242	799

Table 2. Correlation matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) LOG(EC)	1.000									
(2) CPS	**0.518**	1.000								
(3) TOBINSQ	-0.028	-0.021	1.000							
(4) ADJQ	0.003	0.028	**0.959**	1.000						
(5) ROA	**0.214**	**0.218**	**0.356**	**0.355**	1.000					
(6) ADJROA	**0.236**	**0.242**	**0.315**	**0.331**	**0.991**	1.000				
(7) LOG(SIZE)	**0.833**	**0.358**	**-0.178**	**-0.115**	**0.150**	**0.195**	1.000			
(8) LOG(AGE)	**0.146**	0.068	-0.032	-0.043	**0.161**	**0.171**	0.044	1.000		
(9) R&D/SALES	-0.008	-0.109	**0.262**	**0.189**	**-0.133**	**-0.147**	-0.112	-0.016	1.000	
(10) LEVERAGE	0.093	-0.106	**-0.425**	**-0.403**	**-0.396**	**-0.388**	**0.173**	-0.088	**-0.271**	1.000

Table 2 shows the cross-correlations between the variables. The variables are denoted identical to the previous table for easier comparability. The values represent the correlations and the bold formatting indicates cross-correlation statistical significance at 1% level. The dependent variables in the following empirical part of this thesis will be industry-adjusted Tobin's Q (ADJQ) and industry-adjusted ROA (ADJROA). The main independent variables are natural logarithm of total CEO compensation (EC) and CEO pay slice (CPS).

Total executive compensation has a positive statistically significant correlation with ROA and industry-adjusted ROA, as well as firm size measured by total assets and the age of the firm. CPS has significant positive correlation with identical variables, except firm age. It can be assumed that total CEO compensation and the proportion of executive compensation issued to the CEO, is significantly dependent on firms operating performance and size.

5. METHODOLOGY

In the first part of the study, performance measures are regressed to total CEO compensation. In the second part of the study, the independent variable is CPS, which is the ratio of CEO total compensation to the sum of top five executives' total compensation. The following equation expresses the calculation formula for CPS by Bebchuk et al. (2011), where P_1 is the total compensation of the CEO and P_2 to P_5 are the total compensations of the four most highly compensated executive team members following the CEO.

$$(1) \qquad CPS = \frac{P_1}{P_1 + P_2 + P_3 + P_4 + P_5}$$

Due to limitations in data for the Finnish firms, CPS in this study is calculated by the following formula. In this formula, the average total compensation for an executive team member, excluding the CEO, is denoted by $P_{ExecuTeam}$.

$$(2) \qquad CPS = \frac{P_1}{P_1 + 4 \times P_{ExecuTeam}}$$

This study uses two measures of performance as dependent variables: industry-adjusted Tobin's q and industry-adjusted return on assets (ROA). Return on assets is calculated by dividing operating income by book value of asset. It indicates the profitability of a firm relative to its assets.

Tobin's Q ratio is a performance measure and a tool to determine the value of a firms stock. Tobin's Q is calculated as the market value of a company divided by the replacement value of the firm's assets. Although Tobin's Q doesn't take into account the other factors determining a firm's market value, it is a valid measure in comparing the performance of companies in the same industry. The initial assumption is that a firm should only be worth what their assets are worth, implying a Q value equal to one. A

company with a low Q ratio, between 0 and 1, the cost to replace a firm's assets is greater than the value of its stock. This suggests that the firm and its stock is undervalued. On the other hand, high Q ratio of over 1 implies that the firm's stock is more expensive than the replacement cost of its assets, which suggests that the firms stock is overvalued. (Tobin 1969.)

The first part of the empirical section examines the relationship between total CEO compensation and firm performance measures. Using pooled OLS regression, the dependent variables are Tobin's Q and ROA, both industry-adjusted to standardize the possible variations across industries. The main independent variable is lagged natural logarithm of total CEO compensation. In Equation 3, ROA is used as a control variable. However, Equation 4 uses lagged industry-adjusted Tobin's Q as a control variable in place of ROA. This is made, to account for the high correlation between adjusted ROA and ROA.

(3) $\quad AdjQ_{it} = \beta_0 + \beta_1 \, Ln(CEO_{it-1}) + \beta_2 \, ROA_{it} + \lambda \, Controls_{it} + \varepsilon_{it}$

(4) $\quad AdjROA_{it} = \beta_0 + \beta_1 \, Ln(CEO_{it-1}) + \beta_2 \, AdjQ_{it-1} + \lambda \, Controls_{it} + \varepsilon_{it}$

The second part examines the performance measures relationship with CPS. The following models were formulated mainly in accordance with the regression formulas used in the paper by Bebchuk et al. (2011). Slight derivations from the original models were inevitable due to data availability for Finnish firms. The main independent variable in Equations 5 and 6 is lagged CPS.

(5) $\quad AdjQ_{it} = \beta_0 + \beta_1 \, CPS_{it-1} + \beta_2 \, ROA_{it} + \lambda \, Controls_{it} + \varepsilon_{it}$

(6) $\quad AdjROA_{it} = \beta_0 + \beta_1 \, CPS_{it-1} + \beta_2 \, AdjQ_{it-1} + \lambda \, Controls_{it} + \varepsilon_{it}$

The regressions will include the standard controls used in the literature. In particular, the study controls for firm size (logs of book value of assets), profitability (ROA), R&D intensity (R&D expenses to sales), leverage (total debt to total assets), and log of the age of the firm (Shin and Stulz 2000). Bebchuk et al. (2001) used a dummy variable in their study

to indicate missing data for R&D. However, this method is not used in the regressions to minimize the bias in results.

Table 3 shows the results of the Hausman test. Models 1-4 are specified in Equations 3-6. Hausman test is executed to determine, which model is more appropriate to use, fixed or random effects model. The null hypothesis in this test implies that random effect model is preferred. The alternative hypothesis recommends the fixed effect model.

Table 3. Hausman test results

Hausman Test			
Test cross-section random effects			
Model	Chi-Sq.	d.f.	Prob.
1	22.413	6	0.001
2	9.055	6	0.171
3	22.380	6	0.001
4	14.868	6	0.021

Interpreting the results, it can be seen that fixed effect model is preferred in models 1, 3 and 4 as the p-value is under 5%. The null hypothesis with Model 2 cannot be rejected at 5% significance level and therefore random effect model is the preferred method.

All regressions use White error correction method. Standard errors based on this procedure are called robust standard errors. Although the structure of heteroskedasticity is not known, it is preferred to use robust standard errors.

6. RESULTS

This chapter presents the empirical results from the regressions determining the effect of executive compensation on firm performance. This study testes both total CEO compensation and the ratio of compensation between executives against the most commonly used measures in research to evaluate firm value and accounting profitability. Both Tobin's Q and ROA are industry-adjusted to account for industry-specific variations in the values.

Table 4 below reports the determinants of CEO compensation and CPS. These models show the association between the measures of executive compensation and firm characteristics. Examined independent variables are industry-adjusted firm value, accounting profitability, size, leverage, R&D intensity, and company age.

The first model uses natural logarithm of total CEO compensation as a dependent variable. Results show that all independent variables, except leverage, are positive and statistically significant at 1% level. This suggests that an increase in these factors results in a higher total compensation to the CEO. Company size seems to be the most significant factor in determining CEO compensation, which is indicated by the relatively high error corrected t-statistic. This is also recognized by previous research on executive compensation (e.g. Zhang et al. 2010; Ozkan 2011; Gigliotti 2013). The adjusted R-squared for this model is relatively high (71.8% respectively), which implies that these factors explain the variations in total CEO compensation relatively accurately.

Table 4. Determinants of executive compensation and CPS

Variables		
	Log Executive compensation	CPS
Constant	1.537***	0.229***
	(8.418)	(7.533)
Industry-adjusted Q	0.049***	-0.0005
	(2.758)	(-0.177)
ROA	0.006***	0.0007**
	(2.714)	(2.047)
Log Book Value	0.337***	0.015***
	(33.399)	(8.796)
Leverage	0.195	-0.091***
	(1.401)	(-3.116)
R&D to Sales	1.304***	-0.152***
	(2.939)	(-2.780)
Log Company Age	0.084***	0.002
	(4.203)	(0.586)
NObs	562	517
R-squared	0.718	0.167

The second model uses CPS as the dependent variable. ROA and size seem to have a positive correlation to CPS. As CPS measures the compensation ratio between executives, this means that an increase in those variables will result in a larger compensation to the CEO relative to the other members of the executive team. Additionally, leverage and R&D intensity have a negative association with CPS. However, the explanation power of this model is relatively low. These factors explain only 16.7% of the variations in CPS.

6.1. CEO compensation

This chapter presents the empirical results regressions for CEO compensation and firm performance. Compensation is measured as the total annual compensation for the CEO. This includes salary, equity compensation, and other variable compensation and perquisites granted that year.

In the first chapter of the thesis, the following hypotheses were constructed. These hypotheses will be used in discussing the results of the relationship between total CEO compensation and firm operating performance and valuation.

H_0: CEO compensation does not affect firm performance

H_1: CEO compensation is positively correlated with firm performance

H_2: CEO compensation is negatively correlated with firm performance

Previous research on executive compensation and firm performance has yielded mixed results. The correlation seems to vary depending on the data used. There is little research on executive compensation in the Nordic countries, which makes it difficult to derive assumptions on the possible findings of this study.

Table 5 presents the results from the OLS regressions from total CEO compensation and firm valuation, measured by industry-adjusted Tobin's Q. Regression model used in this table is specified in Equation 3. In models 1 and 3, ROA is omitted as a control variable. Models 3 and 4 use fixed effect model effect specification, as tested and presented in Table 3.

Error corrected t-statistic for the specific variable coefficient is reported below in parentheses. Statistical significance is denoted by asterisk following the coefficient, * for 10%, ** for 5% and *** for 1% significance.

Table 5. Total CEO compensation and Tobin's Q

Variables	Industry-adjusted Q			
	(1)	(2)	(3)	(4)
Constant	1.943**	1.888**	1.478	1.210
	(2.449)	(2.522)	(0.606)	(0.486)
Log CEO compensation(-1)	0.453***	0.386***	0.274**	0.270**
	2.756	(2.778)	(-2.048)	(2.104)
ROA		0.034***		0.016
		(2.995)		(1.582)
Log Book Value	-0.184**	-0.197***	-0.449**	-0.448*
	-2.410	(-2.614)	(-2.325)	(-2.226)
Leverage	-2.808***	-1.749***	-2.138***	-1.601***
	-4.008	(-3.619)	(-3.264)	(-2.864)
R&D to Sales	2.474**	4.337***	-3.163	-1.719
	2.085	(4.235)	(-1.327)	(-0.649)
Log Company Age	-0.163**	-0.189***	1.101*	1.071*
	-2.103	(-2.372)	(1.823)	(1.820)
NObs	489	487	489	487
R-squared	0.198	0.259	0.646	0.654
Effect specification	None	None	Fixed	Fixed

t-statistic below the cofficient in parentheses.

Statistical significance shown by asterisk following the coefficient

The main model to study is Model 2. It can be seen that all independent variables show statistical significance, and the explanation power of the model is more than sufficient comparing to previous studies. Executive compensation has a high and significant positive association with firm valuation. This implies that a higher compensation to a Finnish CEO of a listed company will result in higher firm valuation. Interpreting the coefficient, a 1% increase in total CEO compensation will result approximately in a 0.004 increase in Tobin's Q the following year.

Similarly, ROA and R&D intensity seem to have a positive correlation to firm valuation. This is logical due to ROA showing accounting profitability of the firm, which is linked to

firm valuation. Company size, leverage, and company age seem to affect firm value in a negative way.

Model 1 yields similar results. Eliminating ROA from controls only slightly decreases the statistical significance of R&D intensity, firm size and age in the regression. However, all the factors are still significant at 5% significance level.

Applying the fixed effect model specification yields relatively similar regression results. Total CEO compensation is positive and statistically significant at 5% level in both models. From the control variables, ROA and R&D intensity are no longer significant, and surprisingly the age of the firm seems to have a slight significant positive association with firm value.

Table 6 presents the results from the OLS regressions from total CEO compensation and firm accounting profitability, measured by industry-adjusted return on assets. Regression model used in this table is specified in Equation 4. In models 1 and 3, lagged industry-adjusted Tobin's Q is omitted as a control variable. T-statistic for the specific coefficient is reported below in parentheses. Statistical significance is denoted by asterisk following the coefficient, * for 10%, ** for 5% and *** for 1% significance.

Models 1 and 2 show relatively similar results, although adjusted Q was omitted in the first model. CEO compensation seems to have a slight positive correlation with ROA, but lacks statistical significance. In Model 2, adjusted Q, firm size, and company age have a significant positive relationship with firm operational performance. However, the driving forces in this regression are leverage and R&D intensity, which both show strong negative correlation with industry-adjusted ROA.

Table 6. Total CEO compensation and ROA

Variables	Industry-adjusted ROA			
	(1)	(2)	(3)	(4)
Constant	-3.334	-6.521	0.371	-3.603
	(-0.722)	(-1.419)	(0.048)	(-0.494)
Log CEO compensation(-1)	1.223	0.686	0.892	0.376
	(1.404)	(0.829)	(1.005)	(0.427)
Industry-adjusted Q(-1)		2.313***		2.072***
		(5.195)		(4.103)
Log Book Value	0.922**	1.095***	1.009*	1.243**
	(2.110)	(2.713)	(1.759)	(2.320)
Leverage	-33.696***	-27.607***	-36.645***	-31.061***
	(-7.922)	(-7.089)	(-6.693)	(-6.254)
R&D to Sales	-58.553***	-66.377***	-75.675***	-77.941***
	(-4.612)	(-5.127)	(-4.782)	(-4.894)
Log Company Age	0.986**	1.137**	0.760	0.920
	(2.002)	(2.372)	(0.901)	(1.178)
NObs	495	483	495	483
R-squared	0.321	0.372	0.264	0.306
Effect specification	None	None	Random	Random

t-statistic below the cofficient in parentheses.

Statistical significance shown by asterisk following the coefficient

Models 3 and 4 show the random effect model results. The results are similar to those of models 1 and 2. CEO compensation has a positive coefficient but is not statistically significant. Industry-adjusted Q and firm size show a positive and significant correlation to firm operational performance. Leverage and R&D intensity have a negative and significant relationship with adjusted ROA.

6.2. CEO pay slice

The second part of the results presents the regression results from studying CPS and firm performance. The following hypotheses were earlier constructed to research the possible relationship between CPS and firm performance.

H_0: CPS does not affect firm performance

H_1: CEO compensation is positively correlated with firm performance

H_2: CEO compensation is negatively correlated with firm performance

There is little research conducted on CPS and there is no consensus on the effect of CPS on firm performance. Thus, the results from the regressions can clarify the significance of CPS as a measure of executive compensation. Additionally, it can act as a reference for further research on executive compensation on studies in the Nordic countries.

Table 7 below shows the regression results with industry-adjusted Tobin's Q as the dependent variable. The main model used in these regressions is specified in Equation 5, in the previous chapter. T-statistic is reported below in parentheses. Statistical significance is denoted by asterisk following the coefficient, * for 10%, ** for 5% and *** for 1% respectively.

The first model shows no significant relationship between lagged CPS and industry-adjusted Tobin's Q, although there is a positive coefficient. Leverage has a highly significant negative correlation with firm value. Therefore, excessive debt in relation to assets will result in lower firm value. Company age seems to have a negative relationship to firm value as well.

Table 7. CPS and Tobin's Q

Variables	Industry-adjusted Q			
	(1)	(2)	(3)	(4)
Constant	2.728	2.705**	2.005	2.099
	(2.342)	(2.502)	(0.919)	(0.951)
CPS(-1)	0.628	0.320	0.050	-0.067
	(1.153)	(0.550)	(0.107)	(-0.139)
ROA		0.037***		0.013
		(2.701)		(1.193)
Log Book Value	-0.029	-0.0673**	-0.401***	-0.417***
	(-1.167)	(-2.056)	(-2.991)	(-2.612)
Leverage	-3.374***	-2.248***	-2.499***	-1.968***
	(-3.817)	(-3.945)	(-3.068)	(-3.113)
R&D to Sales	1.775	3.181***	0.384	1.193
	(1.358)	(2.843)	(0.120)	(0.327)
Log Company Age	-0.116*	-0.156**	1.294*	1.239*
	-1.718	(-2.124)	(1.929)	(1.919)
NObs	445	443	445	443
R-squared	0.187	0.258	0.637	0.642
Effect specification	None	None	Fixed	Fixed

t-statistic below the cofficient in parentheses.

Statistical significance shown by asterisk following the coefficient

Model 2 includes ROA as an independent variable. The results are relatively similar to Model 1. Leverage has a highly significant negative relation to firm value. Firm size and age seem to have a negative correlation with Q. The more a company has assets or the older a company, the less it is valued measured by industry-adjusted Q. ROA and R&D intensity seem to have a significant positive relationship with firm value. However, CPS remains statistically insignificant in this model.

Models 3 and 4 show the regressions with fixed effect model specification. CPS has no statistically significant coefficient in these models. Size and leverage show high and significant correlation with firm value. However, company age has a small positive correlation to firm value in these models. ROA as a control variable has no significance in Model 4.

Table 8 shows the regression results from CPS and industry-adjusted ROA. The reference model used in these regressions is specified in Equation 6. T-statistic is reported below in parentheses. Statistical significance is denoted by asterisk following the coefficient, * for 10%, ** for 5% and *** for 1% respectively. Models 3 and 4 use fixed effect model specification as a regression method.

Table 8. CPS and ROA

Variables	Industry-adjusted ROA			
	(1)	(2)	(3)	(4)
Constant	-4.803	-10.098**	-4.540	-3.407
	(-0.901)	(-2.023)	(-0.145)	(-0.103)
CPS(-1)	5.344	5.737	3.502	5.709
	(1.101)	(1.285)	(0.606)	(0.843)
Industry-adjusted Q(-1)		2.645***		1.573***
		(5.373)		(2.623)
Log Book Value	1.379***	1.313***	1.274	1.276
	(5.039)	(5.258)	(0.389)	(0.350)
Leverage	-33.946***	-24.824***	-51.523***	-44.893***
	(-6.345)	(-5.019)	(-5.200)	(-4.459)
R&D to Sales	-42.667***	-46.339***	-97.862*	-92.711*
	(-2.995)	(-3.449)	(-1.900)	(-1.875)
Log Company Age	1.248***	1.345***	4.676	(3.044)
	(2.688)	(3.054)	(0.922)	(0.561)
NObs	451	440	451	440
R-squared	0.276	0.340	0.556	0.551
Effect specification	None	None	Fixed	Fixed

t-statistic below the cofficient in parentheses.

Statistical significance shown by asterisk following the coefficient

Model 2 shows the main results from these regressions. As can be seen, lagged CPS has a positive but not statistically significant coefficient. This implies that having a CEO with relatively high appreciation has no significant effect on company operational performance in the future. Changes in firm value seem to have a positive and significant association with operational performance, as well as size and age of a company. Leverage and R&D intensity have a highly significant negative relationship with firm operational performance.

Omitting changes in firm value as a control variable in Model 1 has no effect on the results. Lagged CPS remains insignificant in the regression results.

With fixed effect model specification in Models 3 and 4, the significance of CPS remains the same. However, company size and age seem to lose their significance. Leverage remains highly significant and negative to industry-adjusted ROA. R&D intensity has a slightly significant and negative association with operational performance.

6.3. Hypothesis testing

The positive correlation between CEO compensation and industry-adjusted Tobin's Q identified in Table 5, is consistent with the alternative hypothesis. This hypothesis states that CEO compensation is positively correlated with firm performance. However, regressions with industry-adjusted ROA as a dependent variable results in total CEO being an insignificant factor, as shown in Table 6. This is consistent with the null hypothesis. From these findings, we can only reject the assumption that the amount of CEO compensation has a negative association with firm performance.

Although the regression results are not consistent with a single hypothesis, it is evident that CEO compensation is significantly positively associated with firm value. This implies that CEOs of Finnish publicly listed companies are able to add value to the firm in regards to the level of compensation received.

As seen in the previous section, CPS has no statistically significant correlation with either industry-adjusted Tobin's Q or ROA. This is inconsistent with the previously constructed alternative hypotheses on CPS, which states that relatively higher remuneration of the CEO to the rest of the executive team has a significant effect on firm performance. Therefore, the null hypothesis should be accepted, which states that there is no significant association with CPS and firm performance.

The proportion of executive compensation captured by the CEO has no significant association with either firm value or accounting profitability in Finnish firms. As seen previously in Figure 4, there is not a significant amount of variation between the compensation to CEO and other top executives. This can be seen by the linear relationship of the two and the relatively high explanative power of the linear model. Firms that pay higher compensation to the CEO, generally pay higher compensation to the executive team members as well.

7. CONCLUSIONS

The purpose of the study was to examine the association between executive compensation and firm performance, as well as the significance of equal pay between executives measured by CPS. This study uses data from Finnish publicly listed companies from 2010 to 2017. Main performance measures used in this study are industry-adjusted Tobin's Q and ROA.

Previous studies have yielded mixed results on both the effect of executive compensation and CPS on firm performance. Among other variations in methodologies, the mixed results of the studies might be explained by differences in compensation and leadership culture. From the cultural dimensions by Hofstede, particularly power distance and individualism is proved to have a positive correlation with CEO compensation. Executive compensation seems to have a negative association to firm performance in studies conducted on U.S. data. Asian countries, China in particular, seem to have a positive correlation with CEO compensation and firm performance. Research on European countries fall in the middle, for they tend to have either positive or negative results. The cultural dimensions might be used to interpret the differing results from previous research.

The results from this study show a significant positive association with total CEO compensation and firm value, as measured with Tobin's Q. A 1% increase in total CEO compensation will result approximately in a 0.004 increase in Tobin's Q the following year. The result on CEO compensation and accounting performance show a positive correlation, although statistically insignificant. In regressions using CPS, the results show no statistically significant association with either of the firm performance measures.

Findings imply that Finnish CEOs enjoy a moderate and balanced compensation, and CEOs with relatively high compensation are able to increase firm performance, in respect to value. The findings on CPS are statistically insignificant, which suggests that the pay gap between executives has no association with firm performance. The ratio of CEO to

executive team member average compensation seems to have a linear relationship, with the CEO averaging 2.74 times the compensation of an executive. As the compensation variations for a company's CEO and executive seem to increase and decrease at a similar rate, CPS values experience little variation across the studied firms. This might be one of the reasons for the insignificant results on CPS and firm performance.

The main limitations to this study are the possible human error in the collection of compensation data and the possible bias caused by the calculations for CPS. Due to some companies' executive teams employing less than five members or executive team compensation reported as a total, some adjustments were inevitable in order to calculate a CPS value relatively comparable with previous studies.

These findings provide useful reference for future research on executive compensation. Although, executive compensation and firm performance is a widely studied area, the Nordic countries are not in the center of the research. CEO Pay Slice is a relatively new measure of executive compensation and CEO appreciation. For determining the importance and value of the measure, further research is recommended with variations in data and methodology. Including the cultural dimensions to assess the cross-country variations could prove valuable.

REFERENCES

Al-Najjar B., R. Ding & K. Hussainey (2016). Determinants and value relevance of UK CEO pay slice. *International Review of Applied Economics* 30 (3), 403-421.

Amihud, Y. & B. Lev (1981). Risk reduction as a managerial motive for conglomerate mergers. *Bell Journal of Economics* 12, 605-617.

Ararat M., B.S. Black & B.B. Yurtoglu (2017). The effect of corporate governance on firm value and profitability: Time-series evidence from Turkey. *Emerging Markets Review* 30. 113-132.

Barkema, H.G. & L.R. Gomez-Mejia (1998). Managerial Compensation and Firm Performance: A General Research Framework. *The Academy of Management Journal* 41 (2), 135-145.

Bebchuk, L.A., A. Cohen & A. Ferrell (2009). What Matters in Corporate Governance?. *The Review of Financial Studies* 22 (2), 783-827.

Bebchuk, L.A., M.K.J. Cremers & U.C. Peyer (2011). The CEO pay slice. *Journal of Financial Economics* 102, 199-221.

Bebchuck, L.A. & Y. Grinstein (2005). The growth of executive pay. *Oxford Review Of Economic Policy* 21 (2), 283-303.

Bettis, C., J. Bizjak, J. Coles & Swaminathan Kalpathy (2010). Stock and Option Grants with Performance-based Vesting Provisions. *The Review of Financial Studies* 23 (10), 3849-3888.

Bevan, R. (2001). Designing Executive Compensation Programs. *Community Banker* 10 (6), 56-57.

Bolton, P., H. Mehran & J. Shapiro (2015). Executive Compensation and Risk Taking. *Review of Finance* 19 (6), 2139–2181.

Brealey, R.A. & S.C. Myers & F. Allen (2011). Principles Of Corporate Finance. Tenth Edition. McGraw-Hill/Irwin New York. ISBN 978-0-07-353073-4

Brown, L.D. & M.L. Caylor (2006). Corporate governance and firm valuation. *Journal of Accounting and Public Policy* 25 (4), 409-434.

Brown, L.D. & M.L. Caylor (2009). Corporate governance and firm operating performance. *Review of Quantitative Finance and Accounting* 32 (2), 129-144.

Bryan, S. (2015). The effect of cultural distance on contracting decisions: The case of executive compensation. *Journal of Corporate Finance* 33. 180-195.

Cadsby, C.B., F. Song & F. Tapon (2007). Sorting and Incentive Effects of Pay for Performance: An Experimental Investigation. *The Academy of Management Journal* 50 (2), 387-405.

Cao, M. & R. Wang (2013). Optimal CEO Compensation with Search: Theory and Empirical Evidence. *The Journal of Finance* 68 (5), 2001-2058.

Conyon, M.J. (2014). Executive Compensation and Board Governance in US Firms. *The Economic Journal* 124 (574), F60-F89.

Coombs, J.E. & M.K. Gilley (2005). Stakeholder management as a predictor of CEO compensation: Main effects and interactions with financial performance. *Strategic Management Journal* 26 (9), 827-840.

Coombes, P. & M. Watson (2002). Global Investor Opinion Survey 2002: Key Findings. McKinsey & Company.

Cuevas-Rodríguez, G., L. R. Gomez-Mejia & R. M. Wiseman (2012). Has Agency Theory Run its Course?: Making the Theory more Flexible to Inform the Management of Reward Systems. *Corporate Governance: An International Review* 20 (6), 526–546.

Dittmar, A. & J. Mahrt-Smith (2007). Corporate governance and the value of cash holdings. *Journal of Financial Economics* 83 (3), 599-634.

Donoher, W.J., R. Reed & S.F. Storrud-Barnes (2007). Incentive Alignment, Control, and the Issue of Misleading Financial Disclosures. *Journal of Management* 33 (4), 547-569.

Eisenhardt, K.M. (1989). "Building Theories from Case Study Research." *The Academy of Management Review* 14 (4), 532–550

Finnair (2017). Finnair Corporate Governance Statement 2017. [cited January 8, 2019] Available from internet: <URL:https://investors.finnair.com/~/media/Files/F/Finnair-IR/documents/en/governance/finnair-cg-2017.pdf>.

Forbes, W., M. Pogue & L. Hodgkinson (2016). CEO pay in UK FTSE 100: pay inequality, board size and performance. *The European Journal of Finance* 22 (8). 712-731.

Friedman M. (2007) The Social Responsibility of Business Is to Increase Its Profits. In: Zimmerli W.C., Holzinger M., Richter K. (eds) Corporate Ethics and Corporate Governance. Springer, Berlin, Heidelberg

Gigliotti M. (2013). The compensation of top managers and the performance of Italian firms. *The International Journal of Human Resource Management* 24 (4). 889-903.

Gomez-Mejia, L. & R.M. Wiseman (1997). Reframing Executive Compensation: An Assessment and Outlook. *Journal of Management* 23 (3), 291-374.

Gomez-Mejia, L., R.M. Wiseman, B.J. Dykes (2005). Agency problems in diverse contexts: A global perspective. *Journal of Management Studies* 42 (7), 1507-1517.

Gompers, P.A., J.L. Ishii & A. Metrick. Corporate Governance and Equity Prices. *Quarterly Journal of Economics* 118 (1), 107-155.

Harris, M. & A. Raviv (1979). Optimal incentive contracts with imperfect information. *Journal of Economic Theory* 20, 231-259.

Hofstede, G. (1980). Culture's Consequences: International Differences in Work-Related Values. Sage Publications, Newbury Park, CA.

Hofstede, G. (2001). Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations, 2nd ed. Sage Publications, Thousand Oaks, CA.

Hofstede Insights (2018). Country Comparison. [cited December 26, 2018] Available from internet: <URL: https://www.hofstede-insights.com/country-comparison/china,finland,the-uk,the-usa/>.

Jensen, M.C. & W.H. Meckling (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3 (4), 305-360.

Jensen, M.C. & K.J. Murphy (1990). Performance Pay And Top-Management Incentives. *The Journal Of Political Economy* 98 (2), 225-264.

Kuo, C., M.L. Li & S. Yu (2013). Non-uniform effects of CEO equity-based compensation on firm performance – An application of a panel threshold regression model. *The British Accounting Review* 45, 203-214

Larcker, D. & B. Tayan (2016). Corporate Governance Matters: A Closer Look at Organizational Choices and Their Consequences (Second edition). Pearson Education, Inc. Old Tappan, New Jersey. ISBN 978-0-13-403156-9

Makri, M., P.J. Lane & L.R. Gomez-Mejia (2006). CEO Incentives, Innovation, and Performance in Technology-Intensive Firms: A Reconciliation of Outcome and Behavior-Based Incentive Schemes. *Strategic Management Journal* 27, 1057-1080.

Mehran, H. (1995). Executive compensation structure, ownership, and firm performance. *Journal of Financial Economics* 38, 163-184.

Miller, D. & C. Sardais (2011). Angel Agents: Agency Theory Reconsidered. *Academy of Management Perspectives* 25 (2), 6-13.

Monks, R.A.G. & N. Minow (2011). Corporate governance (5th ed.). Hoboken, NJ: John Wiley & Sons.

Ozkan, N. (2011). CEO Compensation and Firm Performance: an Empirical Investigation of UK Panel Data. *European Financial Management* 17 (2), 260–285.

Perkins, S.J. (2008). Executive Reward. In G. White and J. Drucker eds. Rewards Management: A Critical Text, London: Routledge, 1-26.

Prendergast, C. (1999). The Provision of Incentives in Firms. *Journal of Economic Literature* 37 (1), 7-63.

Sami H., J. Wang & H. Zhou (2011). Corporate governance and operating performance of Chinese listed firms. *Journal of International Accounting, Auditing and Taxation* 20. 106–114.

Schneider, P. (2011). Dodd-Frank Financial Reform Legislation Addresses Executive Compensation. *Journal of Financial Service Professionals* 65 (1), 27.

Securities Market Association (2015). Finnish Corporate Governance Code. [cited September 20, 2018] Available from internet: <URL:https://cgfinland.fi/en/corporate-governance-code/>.

Shin H. & R.M. Stulz (2000). Firm Value, Risk, and Growth Opportunities. *NBER Working Papers* 7808. National Bureau of Economic Research, Inc.

Sparrow, P.R. (2008). International Reward Management. In G. White and J. Drucker eds. Reward Management: A Critical Text, London: Pitman, 1-41.

Tao, S. (2010). Research on the effect of top management compensation encouragement on machinery and equipment enterprises performance. *2010 International Conference on Future Information Technology and Management Engineering*, Changzhou, 129-132.

Tarkovska V.V. (2017). CEO pay slice and firm value: evidence from UK panel data. *Review of Behavioral Finance* 9 (1), 43-62

Tobin, J. (1969). A General Equilibrium Approach To Monetary Theory. *Journal of Money, Credit and Banking* 1 (1), 15–29.

Tosi, H.L. & L.R. Gomez-Mejia (1989). The Decoupling of CEO Pay and Performance: An Agency Theory Perspective. *Administrative Science Quarterly* 34, 169-189.

Tosi, H.L. & L.R. Gomez-Mejia (1994). CEO Compensation Monitoring and Firm Performance. *Academy of Management Journal* 37 (4), 1002-1016.

Tosi, H.L. & T. Greckhamer (2004). Culture and CEO Compensation. *Organization Science* 15 (6). 657-670.

Yue, Q., H. Lan & L. Jiang (2008). Firm Performance and Executive Payment: An Empirical Research Based on Chinese Public Companies. *2008 4th International Conference on Wireless Communications, Networking and Mobile Computing*, 1-4.

Zabri S.M., K. Ahmad & K.K. Wah (2016). Corporate Governance Practices and Firm Performance: Evidence from Top 100 Public Listed Companies in Malaysia. *Procedia Economics and Finance* 35 . 287 – 296.

Zhang S., Y. Huang & W. Hu (2010). Empirical Analysis of Listed Company Executive Compensation and Corporate Performance. *2010 3rd International Conference on Information Management, Innovation Management and Industrial Engineering* 1, 516-518.