**ERASMUS UNIVERSITY ROTTERDAM**

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**MSc Financial Economics**

# Master Thesis

## Over-investors or pacifists? The role of CEOs in CSR investing

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# Abstract

In this thesis, I examine the rationale behind CEOs investing in Corporate Social Responsibility, using Chief Executive Officer compensation and the Entrenchment Index. Using a panel data sample of 11,204 firm-year observations of S&P 1500 firms from the period 1996-2014. First, I investigated the goal of the thesis, by using two distinct theories. The overinvestment hypothesis based on the agency theory and the conflict-resolution hypothesis based on the stakeholder theory. I find evidence of the conflict-resolution hypothesis, as CSR has significant, negative impact on CEO compensation for the period 1996 to 2010. This is robust for various measures of CSR as well as with an instrumental variable approach. The sign shifts to positive after 2011, however insignificantly, it is interesting for future research. To back up the conflict-resolution hypothesis, the largest group of stakeholders, employees, is also used as distinct CSR category. The separate CSR category, Employee Relations, is also in line with the conflict-resolution hypothesis. CEOs who get paid relatively more in cash, do not invest significantly more or less in CSR, then their colleagues of other firms. Lastly, entrenched CEOs do not have increased the relations between them and the employees to reduce chances of CEO turnover.

**Keywords:** Corporate Social Responsibility, Executive Compensation, Corporate Governance, Corporate Finance, Entrenchment Index, CEO turnover, Stakeholder Theory, Agency Theory

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# I. Introduction

In the past decades, the importance for firms worldwide to integrate corporate social responsibility (CSR) into their businesses has grown significantly. The most common definition of CSR refers to firms which are willing to serve people, communities and environment in ways which are not legally required of a firm (Barnea & Rubin, 2010). However, CSR is still a controversial topic and the debate on the meaning and importance of CSR is still in progress. Jian and Lee (2015) have argued that CSR can be either value-creating or value-destroying. Executives have an essential role in investing in CSR. They are the ones which forge and execute the company's strategy for the upcoming years. Executives are incentivized by shareholders via compensation. When investors want executives to invest in CSR-like activities, they will reward the executives when doing so. Executives, and more specifically CEOs, can have different motives for investing in CSR. They can do it to improve their reputation in the market, and thus increase their bargaining power for the succeeding term. Other motives could be that they like to reduce the conflicts between them and other stakeholders, like shareholders or employees. This could either by increasing CSR, but it could also be that they form an alliance with the employees which reduces their chances of being fired.

In this thesis I will try to investigate what effects past CSR performance has on absolute executive compensation, as well as the composition of the compensation package. This will help in assessing what drives CEOs to invest in CSR. Furthermore, I will look on whether entrenched CEOs are more concerned in investing CSR, or more specifically, in employee relations. So, this results in the following research question:

*RQ: What drives CEOs in investing in Corporate Social Responsibility?*

This thesis uses a dataset of 11,204 firm-year observations, in the period 1996-2014 solely including US Standard's & Poor's 1500 firms. The CSR data was gathered from the MSCI (formerly KLD) database, which give binary scores for more than 120 separate strengths and concerns, subdivided in categories. The executive compensation data was gathered from the Compustat's Execucomp. The Entrenchment data and corporate governance characteristics were gathered from ISS (Riskmetrics) and the firm financials are from the Compustat database.

In this thesis I find that on general, the most support is found in favour of the conflict-resolving CEO. I investigated this by looking at the reaction of lagged CSR on CEO compensation. The measure for CSR used, is a year- and firm-adapting variable which is only composited of the strengths and weaknesses counted that observation. A negative relationship is found between lagged CSR and total CEO compensation for the period 1996-2010. However, for the whole sample period, no significant effects have been found between lagged CSR and executive compensation. Furthermore, employee relations have a significant effect on executive compensation, also in support of the conflict-resolving CEO. These two outcomes are backed using an instrumental variable approach and robust using various measures of CSR. Moreover, no evidence has been found that CEOs who invest more in CSR, get compensated relatively more in cash. Lastly, no evidence has been found that CEOs misconduct their position as CEO to secure their job for the upcoming period by forming an alliance with their employees.

The goal of this thesis is to examine which motives CEOs have to invest in CSR. This thesis contributes to the existing literature in the following ways. First of all, it tests the relationship between managerial entrenchment and CSR category employee relations using the Entrenchment-Index. I tested this particular connection, because it is a possibility that managers might exploit their position as CEO to strengthen their ties with the employees and reduce their chances of turnover. However, this research has found no evidence that managerial entrenchment affects employee relations. Furthermore, CEOs tend to be avoiding conflicts between stakeholders from 1996 to 2010. However, after 2010 a shift becomes visible leaning more towards the fact that CEOs tend to be overinvesting in CSR. The coefficients are not significant, but could possibly occur if this effect persists after the sample period. It could for instance be possible that boards actively start rewarding CEOs when they invest in CSR, as companies become more aware of their image and environmental footprint in the world. In the future, it will probably be interesting to research the development of the data in the years after 2014 and investigate the rationale behind it.

First, I will discuss the literature on CSR, executive compensation and the Entrenchment-index, and I will propose the hypotheses supported with background information from the literature. Then, I will discuss the creation of the dataset and how the variables where created. I will then follow up with presenting the methods and results of the regressions. Lastly, I will discuss and conclude the results.

# II. Literature Review

**CSR**

One of the first to ever mention CSR was Bowen (1953), in his work the 'Social Responsibilities of the businessman'. He describes CSR as: "Obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society." The general tenor of the 50s was that CSR was the obligation of firms to serve the society (Rahman, 2011). The following decades the concept CSR grew into a more concrete shape, both in terms of literature and as part of a business activity. In the 70s the concept was expanded with the inclusion of topics like economic, legal, ethical and discretionary responsibilities (Carrol, 1979). These are the four basic expectations which include the entire range of the obligations. In the 90s the importance of the relationship between the firm and all stakeholders, including customers, employees, communities, owners, government, suppliers and competitors, was enlarged. As well as creation of employment and environmental stewardship was becoming of greater importance (Khoury, Rostami, & Turnbull, 1999). Elkington (1997) introduced the concept Triple Bottom Line, focussed on three issues: People, Planet and Profit, which stand for the social, environmental and economic responsibility which every firm carries, or at least should try to carry.

Carrol's proposition of the definition of corporate social responsibility, which includes the economic, legal, ethical and discretionary (later philanthropic) categories of business performance (Carrol, 1979, 1991), is one of the most used definitions of CSR. Differently put, CSR refers to companies which are willing to serve people, communities and environment in ways which are not legally required of a firm (Barnea & Rubin, 2010). In this thesis I will use this definition of CSR.

In the literature, various studies have tried to investigate the relationship between CSR and firm performance. Brammer and Pavelin (2006) found that a good record of social performance may either enhance or damage reputation depending on what stakeholders may seem fit. Miller, Eden and Li (2020) found that increases in CSR performance have predictable and sizeable positive impacts on firms' return on assets in a sample of over 7000 U.S. banks. Jian and Lee (2015) give various examples why CSR investment could be value-creating or -destroying. It keeps high quality employees better at bay (Greening & Turban, 2000),

increases demands for the firms' products (Navarro, 1988) and creates higher customer loyalty (Maignan, Ferrell, & Hult, 1999). However, it could also be value-destroying via the short-term view of managers investing in CSR (Narayanan, 1985) or the private benefits of an enhanced status of managers which they receive in the community (Barnea & Rubin, 2010), which could be value-destroying for shareholders. Other, country specific, researches found differing results regarding the relation between firm performance and CSR[1]. As can be seen in these examples above, it is hard to show a clear relationship between CSR and firm performance.

An issue with CSR is that it is very firm dependent and subject to a lot of omitted variables. It is for example logical that an investment bank does not suffer from hazardous work environments, but a tire manufacturing company could. These secluded effects are impossible to capture in one model, so we need to take into account that CSR is endogenous and interpret all the results with care. The paper of Cai, Pan and Jo (2011) tries to bypass this problem by using an two-staged least squares model. This thesis will also use this model, which will be highlighted more comprehensive in the methodology section.

When looking at the actual participation of firms, the KPMG Survey of Sustainability Reporting 2020 state that 80% of companies worldwide now report on sustainability and 90% of North American companies report on sustainability[2]. A seven - percentage point growth versus 2017. The US has an even higher reporting rate at 98%. This implies that firms are taking the power of environmental, social and governance issues increasingly serious. Driven by the shareholders' will, the impact on financial performance and firm value.

**Executive Compensation**

Another theme, which has got a lot of attention in the recent decades, is the increase in CEO compensation, especially when compared to the average employee wages. Across the S&P1500, the average CEO pay over average employee pay has grown from 40 times in 1980 to 335 times in 2015 (Edmans, Gabaix, & Jenter, 2017). This growing difference between CEO

1 Saeidi et al. (2015) found a positive effect of CSR on competitive advantage, reputation and customer satisfaction, in Iranian manufacturing and consumer product firms. However, results indicate that CSR is value destroying in Brazil, as there a negative relation was found between firm value and CSR (Crisóstomo, de Souza Freire, & De Vasconsellos, 2011).

2 The report uses a sample of the top 100 companies of 52 countries around the globe.

and employee wages has arguably contributed to the rise of income inequality and is therefore also on a political level relevant (Pikkety & Saez, 2003). According to Edmans, Gabaix and Jenter (2017), there are three broad perspectives. The Shareholder view, which argues that the form and the amount of compensation is to maximize the value for shareholders and thus the firm value. This is done via incentivizing managers to act in the best interest of the company while simultaneously retaining the best possible managers at the firm. The second perspective, the rent extraction view, argue that managers set the contracts themselves to maximize their own compensation and perks. The third and last view is that pay is shaped by institutional factors like regulation, tax and accounting policies (Edmans, Gabaix, & Jenter, 2017).

One specific example in Europe: the CEO of Air France – KLM, Benjamin Smith, will receive a bonus of two million in 2023 if he can reduce e.g., the wage costs in his term as CEO. This caused a lot of fuss under the employees of the airline company and their respective unions, as 5,000 jobs have disappeared in the year 2020. This widening pay disparity is raising ethical concerns and economic questions by commentators, investors, regulators and the public opinion (Cai, Hoje, & Pan, 2011).

**CSR and Executive Compensation**

Some studies tried to link executive compensation to CSR. E. g. Mahoney and Thorn (2005) found evidence in Canada that CEO salary and CSR weaknesses have a positive relationship, as well between CEO bonus and CSR strengths and between CEO stock options and total CSR as well as CSR strengths. Cai, Jo and Pan (2011) found a negative relationship between lagged CSR and CEO compensation. Jian and Lee (2015) also found a negative association between CSR and CEO compensation, especially in well-governed firms.

Two theories exist which are both applicable for CSR and Executive Compensation: the agency theory and the stakeholder theory. The agency theory of Jensen and Meckling (1976) is mainly focussed on the conflict of interests between shareholders and managers. Based on this theory, the overinvestment hypothesis is brought to life by Barnea and Rubin (2010). They state that if CSR does not maximize shareholder value, it is value-destroying and is the best interest of the executive, as it improves their reputation and increases his/her bargaining

power. This hypothesis predicts a positive relationship between CSR and executive compensation.

The stakeholder theory states that CSR is used to reduce conflicts between all stakeholders. Based on this, the conflict-resolution hypothesis is introduced by Cai, Jo and Pan (2011). Executives of socially responsible firms should accept lower compensation, to reduce conflicts between stakeholders and management, because they could feel deprived. Also are executives which carry good virtues like modesty, humility and integrity more prone to invest in CSR activities and accept lower wages. Lastly, when all stakeholders are satisfied, the chance of labour strikes, lawsuits and CEO turnover is reduced, which lowers risks and thus compensation. Based on this, the conflict resolution expects a negative relationship between CSR and executive compensation.

One particular measure of CSR, namely *Employee Relations,* is a part of CSR which directly measures one large stakeholder of a firm, the employees. The data which will be used in this thesis, gives the opportunity to take this part of CSR apart. So, to test the power of the conflict-resolution hypothesis, I will also investigate the effect of employee relations on executive compensation.

I will also look at whether the proportion of cash or equity-based compensation is more affected by CSR. Partly based on the agency theory of Jensen and Meckling (1976), managers must be incentivized, to aim for the same goals as the shareholders. One of the main ways of incentivizing is via stock and option rewards in the compensation. I will investigate whether the score of CSR influences cash- or equity compensation positively or negatively.

**Entrenchment Index and employee relation**

In this thesis, I will also shed light on a relation which has not yet been tested a lot before. The effect that managerial entrenchment has on employee relations. Bertrand and Mullainathan (1999), (2003) found that CEOs which are entrenched more into a company through antitakeover laws, paid their employees significantly more in the 1980s. The reason for this that CEOs might “enjoy the quiet life”, without a lot of hassle of wage unions. Similarly, another study found that entrenched CEOs are paying their workers more to enjoy private benefits such as lower effort with wage bargaining and better relations between workers and the CEO (Cronqvist, Heyman, Nilsson, Svaleryd, & Vlachos, 2009). In this thesis I will take it one

step further, by not only looking at the effect of managerial entrenchment has on employee wages, but look to employee relations in a more broad sense. I will test the relation of entrenchment on employee relations variables, like workforce reductions, retirement benefits and cash profit sharing. The results of this link will help answering the question in what kind of CEOs invest in CSR, and more specifically, in employee relations.

The proxy for managerial entrenchment in this thesis will be the Entrenchment Index. The e-index has been introduced by Bebchuk, Cohen and Ferrel in 2009. It is an index based on six provisions, which indicates the entrenchment of the management of a company. The E-Index gives a score between 0 – 6 which gives the extent of how well management is protected, for removal or threat of removal, if they underperform. The e-index is based on the following six antitakeover provisions: staggered boards, limits to shareholder bylaw amendments, poison pills, golden parachutes, and supermajority requirements for mergers and charter amendments. Bebchuk et al. (2009) found that increases in the e-index is accompanied with economically significant reductions in firm valuation and large negative abnormal stock returns.

# III. Hypotheses Development and Background

This section will focus on the development and background of the hypotheses. These are used to help answer the research question: *What drives CEOs in investing in CSR?* I constructed six hypotheses, which all capture a part I think is important for the research question. The first two hypotheses will look upon whether CEOs are over-investors regarding CSR, or reduce conflicts between stakeholders with investing in CSR. For the third hypothesis , I will look specifically to the relation between employee relations and CEO compensation. This because workers are an important group of stakeholders which CEOs have a lot of influence over. H4 and H5 will look upon whether CEOs invest in CSR as part of a business strategy or as over-investment, looking at the structure of executive compensation. The final hypothesis will look upon whether entrenched CEOs invest more in CSR to secure their jobs in the future.

Firstly, the overinvestment hypothesis based on the agency theory of Jensen and Meckling (1976) will be discussed. The agency theory is a widely used theory about the principal-agent relation in various situations. Most commonly, the relation between shareholders, the principal; and executive managers, the agent. Shareholders have the main goal of maximizing shareholder value, whereas executives can have other goals, like sales levels, improving reputation or empire-building. To align the interests of the shareholders with those of the executives, shareholders incentivize executives with bonuses, stock grants and options (Shleifer & Vishny, 1997). This way the goal of maximizing firm value is also in the interest of executives.

Based on the agency theory, Barnea and Rubin (2010) propose the overinvestment theory. The hypothesis states that the CSR engagement is considered as a principal-agent relation between managers and shareholders. Executives tend to overinvest in CSR projects, to come across as good citizens, while simultaneously destroying firm value with investing unnecessary CSR projects. The CEOs reputation will improve which they can use to negotiate for better compensation and/or contract terms in their succeeding period. If CEOs tend to overinvest in CSR for their own reputations, then we would see a positive relation between CSR and CEO compensation (Cai, Hoje, & Pan, 2011). Based on these arguments, I state the first hypothesis:

*H1: When CSR engagement positively affects executive compensation, CEOs are over-investing in CSR for their own gain*

Secondly, the conflict-resolution hypothesis based on the stakeholder theory. Stakeholder theory states that executives not only strive for their own gains, but also consider all the interests of all other stakeholders of the firm (Jensen, 2010). In other words, they not only pursue value maximization to satisfy shareholders, but for instance also employee contentment, customer satisfaction and other stakeholder's interests. Furthermore, Freeman (1994) states that if the satisfaction of a common interest is complied, firm value will be created.

Based on the stakeholder theory, the conflict resolution hypothesis is being proposed by Cai et al. (2011). Because CSR activities cover affairs like employee relations, community and environmental issues, it is seen as an approach to reduce conflicts between the firm and its stakeholders. Executives of socially responsible firms should accept lower compensation to reduce potentials conflicts between the management and the stakeholders, as they fulfil their role as trustee. Taking on high compensations would create doubt in their credibility as executives. Secondly, not every CEO wants to be compensated as high as the other. Some CEOs have virtues such as humility, modesty and integrity, they do not demand high compensation for their role as CEO (Potts, 2006). These traits can also be found back in the level of CSR engagement, as they can use their power as CEO to substantiate their virtues. Another argument in line with the conflict resolution hypothesis is the reduction in business risk when a firm is corporate responsible, as the chance of labour strikes, (environmental) lawsuits and public boycotts is reduced via CSR engagement, firms with higher risk or disutility pay high salaries (Edmand & Gabaix, 2011). Following these arguments, we would see an inverse relation between CSR and CEO compensation. Therefore, the second hypothesis is:

*H2: When CSR engagement negatively affects executive compensation, CEOs invest in CSR to resolve conflicts between stakeholders*

According to the conflict resolution hypothesis, executives seek to reduce potential conflicts with all stakeholders. The largest, and arguably the most essential, group of stakeholders in a firm are likely to be the employees. Average pay of employees has risen much slower than CEO pay, from a multiple of 40 in 1980 to a multiple of 335 times the pay in 2015 (Edmans, Gabaix, & Jenter, 2017). Pikkety and Saez (2003) argue that this has contributed significantly to income inequality. Employees could get the feeling that they are treated unfairly, and this could create discontentment under the workforce (Potts, 2006). Furthermore, Desai, Brief and

George (2010) argue that the rising income inequality between managers and employees creates a perception of power which causes mangers to mistreat employees and view them as easily replaceable objects. High income managers are also more prone to fire employees than lower income managers.

The measure of CSR which is used in this thesis gives the possibility to test the separate effect of employee relations on executive compensation. If employee relations has an inverse relation with CEO compensation, based on the stakeholders theory, we can expect that CEOs invest in CSR to resolve conflict with employees.

*H3: When employee relations negatively affects executive compensation, CEOs invest in CSR to resolve conflicts with employees*

Another way to measure executive compensation is looking at the differences between cash- and stock-based compensation. When following the agency theory of Jensen & Meckling (1976), managers follow their own interest rather than maximizing shareholders value. Usually, short-term goals are chased by managers over long-term goals. Managers tend to overinvest in CSR for their own benefit, as it improves their reputation (Barnea & Rubin, 2010). They also found that ownership of managers is negatively correlated with social score. Thus, managers tend to overinvest in CSR when they bear little cost. When using the proportion cash-based compensation as a proxy for low ownership, we would expect that this increases the investment in CSR. However, when the opposite is true, and CEOs engage in CSR for the gain of the shareholders and as part of their job as CEO. We would expect an opposite effect. Because CEOs choose to invest in CSR, even when they bear a part of the costs themselves. (Karim, Lee, & Suh, 2018).

To answer the research question, I want to look at what effect the CSR score has on the compensation structure of the firm. When CSR has a positive relationship with the proportion of cash compensation, the reason for this is that CEOs are investing in CSR, because they do not bear a large part of the costs themselves. In this case, they are over-investing for their own gain. When CSR has a negative relationship with the proportion of cash compensation, CEOs invest in CSR even though they could be negatively influenced by it, they do it because as a part of a business strategy.

*H4: When CSR has a positive relationship with the proportion of cash - based compensation, CEOs are over-investing in CSR*

*H5: When CSR has a negative relationship with the proportion of cash - based compensation, CEOs are investing in CSR as part of a business activity*

As a last hypothesis, I will shed a light on a relatively underexposed subject. Managerial entrenchment is seen as a way for executives to retain their jobs. They install anti-takeover provisions to make it harder for other parties to lay them off, such as golden parachutes or staggered boards. I am interested in whether entrenched CEOs are also investing in CSR to retain their jobs. More specifically, they invest in the relations between them and employees. As employees are a big stakeholder in a firm, sometimes even also represented in the board of directors. Earlier literature has shown that entrenched managers paid their workers significantly more than peer companies (Bertrand & Mulainathan, 1999), (2003). Furthermore, Cronqvist et al. (2009) argued that entrenched CEOs also enjoyed the private benefits of paying their employees more, such as lower effort in wage bargaining and improved relations with the employees. Therefore, I want to test whether entrenched CEOs have improved employee relations, as this is suggested in the earlier articles. This helps in answering the research question, what kind of CEOs are investing in CSR.

*H6: Entrenched CEOs have improved relations with employees*

# IV. Data Description

**Data Sources**

To construct the dataset, data from five different databases had to be gathered, please see table 1 for more detailed information about the datasets. All data is gathered from the Wharton Research Data Services database. For the main independent variable, CSR, I used the MSCI database, previously known as the Kinder, Lydenberg and Domini's Stats (KLD) database. This database gives a social rating to companies which were in the S&P500, Russel 2000 and the Domini 400 Social Indexes. The CEO compensation data is retrieved from the Execucomp database. This database captures the annual compensation of the top executives of the S&P 1500. For the Entrenchment Index, I used the data gathered by Bebchuk, Cohen and Ferrell which they used in the paper: What matters in Corporate Governance? (2009). This was available on the Harvard database. Unfortunately, the Bebchuk et al (2009) database only runs till 2006, so I had to extend the database for the years 2007 to 2014. I used the Institutional Shareholder Services (ISS) governance database to obtain the antitakeover provisions and followed the method of Bebchuk et al (2009) to complete the E-index variable over the whole period. The control variables are subdivided in two groups, the firm fundamentals and the director's data. The firm fundamentals variables are Firm Size, Tobin's Q, Return On Assets and Leverage and are retrieved from Compustat. The director's data variables are from CEO Ownership, Board Size and Board Independence and are retrieved from ISS. When merging the CSR data, the executive compensation data and the control variables the dataset ends up with 11,204 firm-year observations with 1,500 unique firms over a timeline of 1996 to 2014. The E-Index is merged separately because it has less observations and is not necessary for the other hypotheses. Consequently, the dataset merged with the E-index ends up with 8,747 firm-year observations.

**CSR Measures**

For all the hypotheses, the CSR must be captured into a variable. The social ratings are binary scores for either strengths or concerns, subdivided in eight categories: Community, Environment, Diversity, Employee Relations, Product, Human Rights, Corporate Governance and the own-named 'Vice Industries' category. Moreover, the Vices category only consists of

Table 1: Variable definition and source

| Variable | Definition | Database |
|---|---|---|
| *Explanatory variables* | | |
| CSR Composite Index | Score between [0-1], captures a yearly changing composition of strengths and concerns, based on Cai et al. (2011). Find the calculation in fomulas 1) and 2) | MSCI database (previously KLD) |
| Net CSR | All strengths items minus all concern items | MSCI database (previously KLD) |
| Indicator CSR | Dummy variable which takes the value=1 when strengths exceed concerns in a certain year | MSCI database (previously KLD) |
| Employee Relations | One of the CSR categories, calculated via formula 1) | MSCI database (previously KLD) |
| Entrenchment Index | An ordinal variable between [0-6], represents the entrenchment of a firm's management. The count of the number of antitakeover provisions is the value | Bebchuk et al. (2009) dataset & ISS (Riskmetrics) |
| *Compensation variables* | | |
| Total compensation | Annual salary, bonus, other annual pay, the total value of restricted stock granted that year, the Black–Scholes value of stock options granted that year, long-term incentive payouts, and all other total compensation of one year (TDC1) | Execucomp |
| Cash compensation | Annual salary plus bonus of one year (TOTAL_CURR) | Execucomp |
| Equity compensation | Total compensation – Cash compensation – All other compensation | Execucomp |
| PCash (or PEquity) | Cash (Equity) compensation / Total compensation | Execucomp |
| *Control Variables* | | |
| Firm size | Measured as Total Assets | Compustat |
| Tobin' s Q | Equity market value over equity book value, its most used as a proxy for over(under)valuation | Compustat |
| Leverage | Book value of debt over book value of equity | Compustat |
| Return on assets | Net income over total assets | Compustat |
| CEO ownership | Percentage of shares held by the CEO that year | ISS (Riskmetrics) |
| Board size | Number of directors in the board that year | ISS (Riskmetrics) |
| Board independence | Percentage of independent directors in the board that year | ISS (Riskmetrics) |

concerns, whenever firms have ties with the so-called vices industries, e.g., tobacco or alcohol. Appendix A will give a detailed description of the categories and their according variables. I follow the paper of Cai et al. (2011) to create the first CSR measure, the *CSR Composite Index.* The main advantage of this variable is that it captures a yearly changing composition of strengths and concerns within the different categories. Some firm-year observations have information on 80 variables where other firm-year observations have information for only 15 variables, which would give uneven weights between the observations. This way of calculating avoids this inconsistency issue.

The paper of Cai et al. (2011) only has five categories where my dataset has eight. I use a similar formula to calculate the *CSR Composite Index* using the first seven categories, the last category, Vice Industries, has only concerns and no strengths. I believe that the power of the variable is impaired when including this variable, so this variable will be secluded from the *CSR Composite Index*. I will use this category for the other two CSR variables. Please see below the calculations used for the *CSR Composite Index* for firm *i* in year *t.*

$$1) \quad Category_{i,t} = \frac{\sum Strengths - \sum Concerns + \sum All\ possible\ concerns}{\sum All\ possible\ strenghts\ and\ concerns}$$

First formula 1), where *Category* is one of the categories excluding the vice industries category, *Strengths* (*Concerns)* is the sum of the of all strengths (concerns) variables within the category which are in place in that year and that firm. *All possible concerns (and strengths)* are for the total potential numbers concerns (and strengths) the firm can have in a certain year; this can differ every year and sometimes per firm as well.

$$2) \quad CSR\ Composite\ Index_{i,t} = \frac{\sum All\ categories}{7}$$

Formula 2) is the sum of all the categories divided the count of the categories, so therefore seven. The *CSR Composite Index* ends up as a number between 0 and 1, which indicates how well a firm performs in terms of CSR. The higher the index, the more socially responsible the firm is. When a firm has nor strengths nor concerns, the Index should be 0.5.

To check for robustness, I also add two additional CSR variables. *Net CSR* is the sum of all the strengths of all categories minus the sum of all the concerns of all categories. *CSR Indicator* is a dummy variable which is equal to one if a firm has more CSR strengths than concerns. For

Hypotheses 3 and 6 also the variable *Employee Relations* is necessary, this variable is obtained through formula 1).

**CEO compensation data**

For the other main variable(s), I use the data of Execucomp. The compensation data has been ordered in the different forms of compensation such as salary, bonuses, stock options and other compensation forms. For this thesis I need total and cash compensation for the first hypotheses and the proportion of cash/equity-based compensation for the last two hypotheses. For *Total compensation* I used 'TDC1', which is sum of salary, bonuses, other annual pay, the total value of restricted stock granted that year, the Black-Scholes value of stock options granted that year, long-term incentive pay-outs and all other compensation. For cash compensation I used the base salary + bonus (TOTAL_CURR). The *Equity compensation* I calculated by subtracting the *Cash compensation* from the *Total compensation*. This way I could calculate *Proportion Cash (Equity) = Cash (Equity) compensation / Total compensation* I dropped observations if they were not flagged as CEO (CEOANN), to make sure I used the compensation data for CEOs only.

**Entrenchment Index**

For hypothesis 6 we need the variable *E-index*, an ordinal variable which ranges between [0 – 6]. It is calculated the following way: the entrenchment index is the sum of six binary variables which takes 1 if a provision is in place in a certain firm of a certain year. The six provisions are: poison pill, golden parachute, classified (staggered) board, supermajority vote required to amend charter, supermajority vote required for mergers and limited ability to amend charter. The data from 1996-2006 was already calculated by Bebchuk et al. (2009), but for this research dataset had to be extended to 2014. So using the data of the ISS governance database I extended the variable for the missing years with the same method used by Bebchuk et al. (2009). For the supermajority vote provisions, I used a minimum of 60% as a benchmark to distinguish between a supermajority vote or a regular majority vote.

**Control variables**

To control for any variables which could influence CEO compensation, several general firm fundamental and director data variables will be used to control for this. The firm characteristics variables are *Size, Tobin's Q, ROA* and *Leverage.* A very clear positive

relationship is being found between firm size and CEO compensation across several studies e.g., (Kostiuk, 1990), (Murphy, 1999), (Conyon, 2000). Bebchuk and Fried (2003) suggest size and executive compensation as an agency problem, that CEOs try to extract rent by 'building' the firm size to justify higher wages. However, it could also be that bigger firms can afford higher wages to get the highest classified CEOs (Dang, Li, & Yang, 2018). I use the total assets as a proxy for firm size. I use *Tobin's Q* and *ROA* as proxies for growth opportunities and past profitability, as more growing and profitable firms have a higher chance of hiring better executives. *Leverage* is used as a proxy to control for the riskiness of the firm, this could have influence on the compensation of the CEO, as the CEO wants to be compensated for this risk (Edmans, Gabaix, & Jenter, 2017).

I also control for director/board characteristics following the paper of Cai, Jo and Pan (2011) using the variables *CEO Ownership, Board Size* and *Board Independence. CEO Ownership* is a percentage of how many shares are in the hands of the CEO. *Board Size* is the number of directors on a board of a firm in that year. Based on the paper of Yermack (1996), smaller boards are better able to monitor managers, which also may have impact on the form and amount compensation. *Board Independence* is the fraction of the directors in the board which are independent, and thus not employee or linked. Weisbach (1988) found that independent boards are better at monitoring CEOs and can easier 'throw' one out of the boat and increase value by removing bad management. Kumar and Sivaramakrishnan (2008) found as well that dependent boards may perform worse and increase equity-based awards to management if they receive higher equity incentives themselves. On the other side, Raheja (2005) found that insider directors are better informed regarding the quality of investment projects, where outsider directors are better in using potential CEO turnover as a motivation for insider directors in sharing superior information which helps in assessing the investment projects. The effects of board size and board composition are mostly dependent on the characteristics of the firm and to reduce endogeneity, these should be included in the regression as control variables.

**Descriptive Statistics**

The sample has 11,204 observations and runs from 1996 – 2014, table 2 shows the summary statistics of all the variables used for this research. All observations which have missing values on any of the variables have been dropped, with exception of the *Entrenchment index*.

Table 2: Summary Statistics

| Variables | *N* | mean | median | SD | 25th percentile | 75th percentile |
|---|---|---|---|---|---|---|
| *Explanatory Variables* | | | | | | |
| CSR Composite Index | 11,204 | 0.536 | 0.501 | 0.102 | 0.477 | 0.545 |
| Net CSR | 11,204 | 0.005 | 0 | 3.008 | -2 | 1 |
| Indicator CSR | 11,204 | 0.344 | 1 | 0.475 | 0 | 1 |
| Employee relations | 11,204 | 0.481 | 0.455 | 0.106 | 0.455 | 0.500 |
| Entrenchment index | 8,747 | 2.989 | 3 | 1.350 | 2 | 4 |
| *Compensation Variables* | | | | | | |
| Total compensation | 11,204 | 6,643 | 4,416 | 11,790 | 2,283 | 7,995 |
| Cash compensation | 11,204 | 1,390 | 1,000 | 1,595 | 729.6 | 1,493 |
| Equity compensation | 11,204 | 4,954 | 2,958 | 11,196 | 1,120 | 6,119 |
| Proportion cash | 11,204 | 0.332 | 0.250 | 0.245 | 0.149 | 0.453 |
| Proportion equity | 11,204 | 0.620 | 0.704 | 0.264 | 0.483 | 0.820 |
| *Control variables* | | | | | | |
| Firm size | 11,204 | 17,488 | 3,280 | 84,310 | 1,180 | 10,000 |
| Tobin's Q | 11,204 | 1.883 | 1.533 | 1.160 | 1.192 | 2.145 |
| Leverage | 11,204 | 0.245 | 0.234 | 0.163 | 0.126 | 0.342 |
| Return on Assets | 11,204 | 0.051 | 0.051 | 0.084 | 0.022 | 0.087 |
| CEO ownership | 11,204 | 2.942 | 0 | 9.269 | 0 | 2 |
| Board size | 11,204 | 9.879 | 10 | 2.448 | 8 | 11 |
| Board independence | 11,204 | 75.34 | 77.78 | 13.98 | 66.67 | 87.50 |

The *CSR Composite Index* and *Net CSR* means tell that on average, all firms conjointly have more strengths than concerns, as their means are above 0.5 and 0 respectively. But the average firm has more concerns than strengths, based on the CSR Indicator (0.344 < 0.5) and the average firm has with an *Employee relations* score of 0.481 more employee relation concerns than strengths. The average CEO earns a *Total compensation of* $6.6 million of which $1.4 million is *Cash compensation*. The fact that the average is more than 2 million higher than the median and the standard deviation is $11.8 million, suggests that the *Total compensation* variables suffer from right skewness. Looking at the cash and equity compensation numbers,

one can conclude the same thing. In other words, some CEOs get paid substantially more than others in the sample. To control for this uneven distribution in the regressions, I will use the natural logarithm of the compensation variables. When looking at *Firm size*, we also see a very large difference between mean ($17,488 million) and median ($3,280 million), and on top of that a very high standard deviation ($84,310 million), which also implies a right skewness in the distribution, so I will also use the natural logarithm for size in the analysis. The paper by Cai, Jo and Pan (2011) also uses the natural logarithm of *Board size,* when looking at the summary statistics, there is no clear reason in following their manner. However, when testing the variable with the Shapiro-Wilk test, we see that the null hypothesis that the variable has a normal distribution gets rejected (z-value=13.35). So, we will also use the natural logarithm of *Board size* in the regression. See Appendix B for the other SW-tests and the Quantile-Normality tests.

Table 3: Difference test

| Variables | Mean Below CSR-Median | Mean above CSR-median | t-stat |
|---|---|---|---|
| *Explanatory Variables* | | | |
| CSR Composite Index | 0.471 | 0.602 | -88.81*** |
| Net CSR | -1.659 | 1.723 | -71.92*** |
| Indicator CSR | 0.073 | 0.625 | -75.60*** |
| Employee Relations | 0.443 | 0.520 | -41.06*** |
| Entrenchment index | 3.048 | 2.933 | 3.98*** |
| | | | |
| *Compensation Variables* | | | |
| Total compensation | 6,249 | 7,050 | -3.60*** |
| Cash compensation | 1,418 | 1,295 | 6.17*** |
| Equity compensation | 4,449 | 5,475 | -4.85*** |
| | | | |
| *Control variables* | | | |
| Firm size | 15,604 | 19,435 | -2.41** |
| Tobin's Q | 1.762 | 2.008 | -11.32*** |
| Leverage | 0.250 | 0.240 | 2.99*** |
| Return on Assets | 0.044 | 0.058 | -8.95*** |
| CEO ownership | 2.992 | 2.889 | 0.59 |
| Board size | 9.738 | 10.025 | -6.22*** |
| Board independence | 74.813 | 75.879 | -4.03*** |

The CSR-median is taken from the CSR Composite Index, currently at 0.501. ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively

Now, to get a first impression of CSR and its relation to the different variables, I separated the below- and above-median CSR score of firms. These two groups are now compared if their means differ significantly from each other with a simple two sample t-test. The results are in table 3. The table shows the potential impact of CSR on the variables. The table shows mostly expected results, *Cash compensation* is higher for firms with a below-median CSR score and *Equity compensation* is higher for above-median CSR firms. Surprisingly, *Total compensation* is lower for below-median CSR firms. This needs to be interpreted with caution because the control variables have not yet been accounted for. Another interesting observation is the *Entrenchment index* being larger for below-median CSR firms, which could imply that low levels of CSR have an inverse relationship with the entrenchment of CEOs. Furthermore, a CSR seems to have a positive relationship between *Firm size, Tobin's Q* and *ROA,* and a negative relationship with *Leverage. Board size* and *Board independence* also seem to have a positive relationship with CSR. Nonetheless, we need to interpret these variables with care.

**Table 4**: Spearman Correlation Matrix

| No. | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CSR Composite Index | 1.000 | | | | | | | | | | | | | | |
| 2 | Net CSR | 0.694* | 1.000 | | | | | | | | | | | | | |
| 3 | CSR Indicator | 0.174* | 0.494* | 1.000 | | | | | | | | | | | | |
| 4 | Employee Relations | 0.511* | 0.433* | 0.112* | 1.000 | | | | | | | | | | | |
| 5 | E-Index | -0.030* | -0.038* | -0.026* | -0.021 | 1.000 | | | | | | | | | | |
| 6 | Log(Total compensation) | 0.061* | 0.139* | 0.296* | -0.026* | -0.085* | 1.000 | | | | | | | | | |
| 7 | Log(Cash compensation) | -0.027* | 0.098* | 0.243* | -0.040* | -0.112* | 0.606* | 1.000 | | | | | | | | |
| 8 | Log(Size) | 0.021 | 0.175* | 0.404* | -0.027* | -0.134* | 0.610* | 0.551* | 1.000 | | | | | | | |
| 9 | Tobin's Q | 0.094* | 0.115* | 0.036* | -0.078* | -0.078* | 0.148* | 0.033* | -0.192* | 1.000 | | | | | | |
| 10 | Leverage | -0.050* | -0.047* | 0.030* | -0.044* | 0.001 | 0.087* | 0.123* | 0.211* | -0.177* | 1.000 | | | | | |
| 11 | Return on Assets | 0.059* | 0.083* | 0.048* | -0.035* | -0.048* | 0.141* | 0.070* | -0.094* | 0.659* | -0.233* | 1.000 | | | | |
| 12 | CEO Ownership | -0.037* | -0.128* | -0.226* | -0.041* | -0.013 | -0.231* | -0.156* | -0.410* | 0.035* | -0.069* | -0.004 | 1.000 | | | |
| 13 | Log(Board size) | 0.023* | 0.195* | 0.292* | -0.016 | 0.021* | 0.338* | 0.371* | 0.598* | -0.113* | 0.119* | -0.033* | -0.313* | 1.000 | | |
| 14 | Board independence | 0.071* | 0.098* | 0.166* | -0.010 | -0.120* | 0.237* | 0.069* | 0.223* | -0.040* | 0.003 | 0.003 | -0.224* | 0.161* | 1.000 | |
| 15 | CEO chairman | -0.099* | 0.014 | 0.083* | -0.051* | -0.004 | 0.131* | 0.254* | 0.144* | 0.016 | 0.021 | 0.021 | -0.150* | 0.114* | 0.101* | 1.000 |

*Spearman correlation matrix: N=11,204; * denote statistical significance at the 5% level*

To see the interdependent relationship between most of the variables, I created a Spearman Correlation Matrix. Please see table 4, for the results. As the literature predicted, *Firm size* is strongly correlated with compensation, it is however not correlated with the *CSR Composite Index*. *Leverage is* also positively correlated with

compensation, which could imply the CEOs get compensated for the riskiness in highly levered firms. *Board size* and *Board independence* are positively related with the CSR and compensation variables. Furthermore, the other correlations are not as surprising. Again, please note that these correlations are univariate, so interpret these results with caution.

Lastly, I want to test the main regressions for multicollinearity. I use a lot of control variables for my regressions, and it is important to check whether the variables are correlated as this could cause unstable coefficients and inflated standard errors. The Spearman Correlation Matrix already shows low correlation between most of the variables, except *Firm Size,* which is correlated with a lot of variables. I will investigate this using VIF, which stands for Variance Inflation Factor. See Appendix C for the results of the multicollinearity test for the first regression of this thesis, the VIF's are low with 1.23 for Tobin's Q as the highest. The general rule of thumb is that a VIF of above 10 calls for further investigation (O'Brien, 2007). Only the first model is tabulated, but the other multicollinearity tests deliver similar results. There is no evidence that the variables in the regressions are suffering from multicollinearity.

# V. Empirical results

**CSR and Executive Compensation**

For the first two hypotheses, I want to know the reason why CEOs are investing in CSR. Therefore, the relationship between lagged CSR and CEO compensation is being investigated. The use of lagged variables are important because we want to investigate the consequence of a CSR score on the CEO compensation. Furthermore, lagged CSR variables mitigates issues regarding reverse causility. Following the research paper of Cai et al. (2011), the financial characteristics variables will also be lagged to control for reverse causality. Also we want to control for their past performance in terms of financials, and this makes sure that the performance is matched with the appropriate CEO (Hwang & Seoyoung, 2009). The director data variables will not be lagged as board-compositions can change mid-year and CEOs are being chosen based on the current governance structure. Furthermore, they do not change as much per year and Cait et al. (2011) obtained similar results with lagged variables. The following formula (3) is being used for the first two hypotheses:

*3)* $$\log(Compensation)_{i,t} = \alpha_0 + \beta_1 CSR\ measure_{i,t-1} + \beta_2 \log(Firm\ size)_{i,t-1} + \beta_3 Tobin's\ Q_{i,t-1} + \beta_4 ROA_{i,t-1} + \beta_5 Leverage_{i,t-1} + \beta_6 CEO\ Ownership_{i,t} + \beta_7 \log(Board\ size)_{i,t} + \beta_8 Board\ independence_{i,t} + YearFixedEffects + IndustryFixedEffects + \epsilon_{i,t}$$

Compensation is either *Total compensation* or *Cash compensation*, CSR Measure is either *CSR Composite Index, Net CSR* or *CSR Indicator.* We also add fixed year and industry effects for all the regressions, to control for differences between different periods and industries. So, for the first two hypotheses there will be a total of six models.

The results of the regression running from 1996 to 2014 can be found at table 5. As expected, firm size has a significant effect on total and cash compensation. Growing opportunities have a significant positive effect on total compensation, which is not very implausible. CEOs get incentivized in equity compensation to utilize the growth opportunities. Profitability has only a positive effect on cash compensation, which implies that CEOs get rewarded for achieving profitability goals in bonuses. Board independence seems to have a significant effect on total compensation, which suggests that firms with better corporate governance, pay their CEOs better.

**Table 5**: Impact of CSR on Total and Cash compensation, period 1996 - 2014

| | Log (Total compensation) | | | Log (Cash compensation) | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| CSR Composite Index | -0.316 | | | -0.259 | | |
| | (0.270) | | | (0.253) | | |
| Net CSR | | -0.010** | | | -0.008 | |
| | | (0.005) | | | (0.005) | |
| Indicator CSR | | | -0.043 | | | -0.048 |
| | | | (0.027) | | | (0.042) |
| Log (Firm size) | 0.392*** | 0.396*** | 0.395*** | 0.171*** | 0.175*** | 0.177*** |
| | (0.024) | (0.024) | (0.024) | (0.029) | (0.029) | (0.029) |
| Tobin' s Q | 0.103*** | 0.104*** | 0.104*** | -0.034 | -0.033 | -0.033 |
| | (0.021) | (0.0215) | (0.0213) | (0.028) | (0.029) | (0.028) |
| Leverage | 0.0188 | 0.0117 | 0.0199 | -0.179** | -0.186** | -0.182** |
| | (0.101) | (0.101) | (0.101) | (0.086) | (0.086) | (0.087) |
| Return on assets | 0.183 | 0.194 | 0.176 | 0.633*** | 0.643*** | 0.627*** |
| | (0.159) | (0.158) | (0.161) | (0.210) | (0.206) | (0.211) |
| CEO ownership | -0.005 | -0.005 | -0.005 | -0.005 | -0.005 | -0.004 |
| | (0.004) | (0.004) | (0.004) | (0.005) | (0.005) | (0.005) |
| Log (Board size) | 0.061 | 0.066 | 0.0602 | 0.119 | 0.124 | 0.121 |
| | (0.072) | (0.072) | (0.072) | (0.095) | (0.095) | (0.095) |
| Board independence | 0.006*** | 0.006*** | 0.006*** | 0.002 | 0.002 | 0.002 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.002) | (0.001) |
| Constant | 4.091*** | 3.877*** | 3.921*** | 5.435*** | 5.257*** | 5.281*** |
| | (0.234) | (0.189) | (0.188) | (0.259) | (0.265) | (0.257) |
| Observations | 11,197 | 11,197 | 11,197 | 11,153 | 11,153 | 11,153 |
| R-squared | 0.263 | 0.263 | 0.263 | 0.095 | 0.095 | 0.095 |
| Number of SIC | 320 | 320 | 320 | 320 | 320 | 320 |
| Industry FE | YES | YES | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES | YES | YES |

This table consists of six separate OLS regressions with the natural logarithm of either Total compensation or Cash compensation as dependent variables. The regressions have 11,197 and 11,153 firm-year observations respectively and runs from 1996 – 2014. CSR and the firm characteristics are the lagged value of the variable (1-t). The models are controlled for heteroscedasticity with firm- and year-fixed effects. Robust standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively.

To test the first two hypotheses, I investigate the effect lagged CSR has on CEO compensation. However, the CSR variables are not significant in our sample. Only the robustness variable *Net CSR* has a minor negative effect on total compensation. When we adjust the time period to 1996 – 2010, which is uniform to the sample of Cai et al (2011), I do find significant effects of the CSR variables on total compensation. Look at table 6 for these regressions. One percentage increase in the *CSR Composite Index* coincides with a 1.7% decrease in total compensation. I. e., an interquartile increase in the *CSR Composite Index* (0.058) is accompanied with a 9.7% decrease in total compensation. The sign of the variable is also being supported by the two other CSR variables. An interquartile increase in *Net CSR* (3) is followed by an 6.9% decrease in total compensation and at a firm which has more strengths than concerns a CEO 10.8% less

total compensation. No robust, significant effect has been found between all the CSR variables and cash compensation for this different time period. Based on the sample of 1996 to 2014, neither of the hypotheses are accepted, but based on the 1996 to 2010 sample, hypothesis 2 is accepted, CEOs invest in CSR to resolve conflicts between stakeholders. CSR engagement influences executive total compensation negatively, after controlling for confounding factors.

In Appendix D, I also investigated the time period from 2011 to 2014. What is interesting, is that all the signs for the CSR variables are positive, this could mean a shift of CEOs investing in CSR to get personal benefits. However, the power of the regressions is not statically

**Table 6**: Impact of CSR on Total and Cash compensation, period 1996 - 2010

| | Log (Total compensation) | | | Log (Cash compensation) | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| CSR Composite Index | -1.674** | | | -0.832 | | |
| | (0.667) | | | (0.659) | | |
| Net CSR | | -0.023** | | | -0.011 | |
| | | (0.009) | | | (0.008) | |
| Indicator CSR | | | -0.108** | | | -0.069 |
| | | | (0.049) | | | (0.055) |
| Log (Firm size) | 0.400*** | 0.405*** | 0.413*** | 0.215*** | 0.218*** | 0.226*** |
| | (0.023) | (0.022) | (0.021) | (0.027) | (0.026) | (0.024) |
| Tobin' s Q | 0.095*** | 0.096*** | 0.095*** | -0.024 | -0.023 | -0.023 |
| | (0.021) | (0.021) | (0.021) | (0.028) | (0.028) | (0.027) |
| Leverage | 0.036 | 0.026 | 0.038 | -0.142 | -0.146 | -0.151 |
| | (0.118) | (0.119) | (0.116) | (0.110) | (0.111) | (0.107) |
| Return on assets | 0.241 | 0.244 | 0.212 | 0.528*** | 0.529*** | 0.514*** |
| | (0.166) | (0.165) | (0.164) | (0.192) | (0.192) | (0.193) |
| CEO ownership | -0.003 | -0.003 | -0.003 | -0.001 | -0.001 | -0.001 |
| | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| Log (Board size) | 0.091 | 0.094 | 0.084 | 0.095 | 0.096 | 0.095 |
| | (0.086) | (0.087) | (0.084) | (0.108) | (0.108) | (0.106) |
| Board independence | 0.006*** | 0.006*** | 0.006*** | 0.002 | 0.002 | 0.002 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Constant | 4.659*** | 3.770*** | 3.789*** | 5.423*** | 4.982*** | 4.973*** |
| | (0.433) | (0.199) | (0.199) | (0.352) | (0.198) | (0.191) |
| Observations | 7,789 | 7,789 | 7,789 | 7,753 | 7,753 | 7,753 |
| R-squared | 0.244 | 0.245 | 0.243 | 0.127 | 0.127 | 0.128 |
| Number of SIC | 308 | 308 | 308 | 308 | 308 | 308 |
| Industry FE | YES | YES | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES | YES | YES |

This table consists of six separate OLS regressions with the natural logarithm of either Total compensation or Cash compensation as dependent variables. The regressions have 7,789 and 7,753 firm-year observations respectively and runs from 1996 – 2010. CSR and the firm characteristics are the lagged value of the variable (1-t). The models are controlled for heteroscedasticity with firm- and year-fixed effects. Robust standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively

significant, possibly because the sample sizes are too small. Thus, nothing can be concluded based on these regressions.

**Employee Relations and Executive Compensation**

For the third hypothesis, I will conduct a similar regression as that for the first two hypotheses, only now with the variable *Employee Relations* as the explanatory variable. According to the hypothesis that CEOs try to mitigate possible conflicts between stakeholders, we expect that strong employee relations have a negative effect on CEO compensation. The results are reported in table 7. For both the period 1996 to 2014 and 1996 to 2010, we can see that *Employee Relations* has a negative effect on total compensation on a 5% significance level. An interquartile increase in *Employee relations* (0.045) decreases the total compensation with 1 percent, over the whole sample period. No relationship has been found between *Employee*

**Table 7:** Impact of Employee Relations on total and cash compensation

| | Period 1996 - 2014 | | Period 1996 - 2010 | |
|---|---|---|---|---|
| | Total comp. | Cash comp. | Total comp. | Cash comp. |
| Employee Relations | -0.224** | -0.148 | -0.323** | -0.197 |
| | (0.125) | (0.150) | (0.299) | (0.281) |
| Log (Firm size) | 0.392*** | 0.171*** | 0.404*** | 0.217*** |
| | (0.024) | (0.029) | (0.022) | (0.026) |
| Tobin' s Q | 0.103*** | -0.033 | 0.094*** | -0.024 |
| | (0.021) | (0.028) | (0.021) | (0.028) |
| Leverage | 0.0192 | -0.178** | 0.047 | -0.137 |
| | (0.101) | (0.088) | (0.117) | (0.111) |
| Return on assets | 0.189 | 0.635*** | 0.230 | 0.524*** |
| | (0.161) | (0.210) | (0.167) | (0.194) |
| CEO ownership | -0.005 | -0.005 | -0.003 | -0.001 |
| | (0.004) | (0.005) | (0.003) | (0.003) |
| Log (Board size) | 0.060 | 0.118 | 0.080 | 0.090 |
| | (0.072) | (0.095) | (0.084) | (0.106) |
| Board independence | 0.006*** | 0.00205 | 0.005*** | 0.002 |
| | (0.001) | (0.001) | (0.001) | (0.001) |
| Constant | 4.054*** | 5.386*** | 3.987*** | 5.108*** |
| | (0.220) | (0.287) | (0.287) | (0.257) |
| Observations | 11,197 | 11,153 | 7,789 | 7,753 |
| R-squared | 0.263 | 0.095 | 0.243 | 0.127 |
| Number of SIC | 320 | 320 | 308 | 308 |
| Industry FE | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES |

This table consists of four separate OLS regressions with the natural logarithm of either Total compensation or Cash compensation as dependent variables. The regressions have different firm-year observations and runs over either the whole sample period or 1996 – 2010. Employee relations and the firm characteristics are the lagged value of the variable (1-t). The models are controlled for heteroscedasticity with firm- and year-fixed effects. Standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively.

*relations* and cash compensation. The findings are consistent with the hypothesis that CEOs invest in the CSR category *employee relations* to resolve conflicts between them and employees

**Proportion of cash- or equity-based compensation**

For the hypotheses 4 and 5, I test whether high cash- or high equity-compensated CEOs tend to invest more in CSR. If CEOs tend to spend more on CSR for their own gain, it is more likely they get compensated in cash as they do not have (substantial) exposure to the costs of the investment (hypothesis 4). Where hypothesis 5 predicts that if CEOs spend more on CSR as a part of a business activity, even if they bear a part of the costs. This is the formula of the two hypotheses:

$$PCASH_{i,t}(or\ PEQUITY_{i,t}) = \alpha_0 + \beta_1 CSR\ measure_{i,t-1} + \beta_2 \log(Firm\ size)_{i,t-1} + \beta_3 Tobin's\ Q_{i,t-1} + \beta_4 ROA_{i,t-1} + \beta_5 Leverage_{i,t-1} + \beta_6 CEO\ Ownership_{i,t} + \beta_7 \log(Board\ size)_{i,t} + \beta_8 Board\ independence_{i,t} + YearFixedEffects + IndustryFixedEffects + \epsilon_{i,t}$$

In the regression I will again calculate with the three different measures for CSR: *CSR Composite Index, Net CSR* and *CSR Indicator.* The control variables and fixed effects will be the same as the previous regressions. See table 8 for the results.

The table shows some interesting results, as we see a positive relationship between the proportion of cash compensation and the lagged CSR measures. An interquartile increase in the *CSR Composite Index* (0.068) would mean a 0.98% increase in the proportion of cash compensation, and thus a 0.98% decrease in the proportion of equity compensation. The signs of the *Net CSR* and *Indicator CSR* are also positive for PCash, meaning that the earlier regression is also robust for different measures of CSR. Looking at this results, this is in line with hypothesis 4 and not in line with 5, CEOs invest in CSR for their own gain while simultaneously bearing little costs of doing so.

Table 8: Impact of CSR on the proportion of cash or equity compensation

| | PCash | | | PEquity | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| CSR Composite Index | 0.144*** | | | -0.076 | | |
| | (0.047) | | | (0.051) | | |
| Net CSR | | 0.004*** | | | -0.003*** | |
| | | (0.001) | | | (0.001) | |
| Indicator CSR | | | 0.013*** | | | -0.005 |
| | | | (0.005) | | | (0.005) |
| Log (Firm size) | -0.050*** | -0.052*** | -0.051*** | 0.0478*** | 0.049*** | 0.048*** |
| | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| Tobin' s Q | -0.024*** | -0.025*** | -0.024*** | 0.023*** | 0.023*** | 0.023*** |
| | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| Leverage | -0.032** | -0.029* | -0.033** | 0.025 | 0.023 | 0.025 |
| | (0.015) | (0.015) | (0.015) | (0.017) | (0.017) | (0.017) |
| Return on assets | 0.048* | 0.043* | 0.051* | -0.069** | -0.066** | -0.070** |
| | (0.026) | (0.026) | (0.026) | (0.029) | (0.029) | (0.029) |
| CEO ownership | 0.002*** | 0.002*** | 0.002*** | -0.003*** | -0.003*** | -0.003*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Log (Board size) | 0.001 | -0.001 | 0.002 | 0.007 | 0.008 | 0.008 |
| | (0.011) | (0.011) | (0.011) | (0.012) | (0.012) | (0.012) |
| Board independence | -0.002*** | -0.002*** | -0.002*** | 0.002*** | 0.002*** | 0.002*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | 1.068*** | 1.162*** | 1.140*** | -0.146*** | -0.198*** | -0.187*** |
| | (0.036) | (0.028) | (0.028) | (0.040) | (0.031) | (0.031) |
| Observations | 11,204 | 11,204 | 11,204 | 11,186 | 11,186 | 11,186 |
| R-squared | 0.277 | 0.278 | 0.277 | 0.251 | 0.251 | 0.251 |
| Number of SIC | 320 | 320 | 320 | 320 | 320 | 320 |
| Industry FE | YES | YES | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES | YES | YES |

This table consists of six separate OLS regressions with the proportion of either cash compensation or equity compensation as dependent variables. The regressions have 11,204 and 11,186 firm-year observations respectively and runs from 1996 – 2014. CSR and the firm characteristics are the lagged value of the variable (1-t). The models are controlled for heteroscedasticity and with firm- and year-fixed effects. Standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively

**Entrenchment Index and Employee Relations**

For hypothesis 6 I want to test whether entrenched CEOs pay their employees better. This is because this reduces their chances of being laid off when the relations with employees are favorable. I will test via an Ordinary Least Squares regression, of which the formula (4) is given below.

4) $$Employee\ Relations_{i,t} = \alpha_0 + \beta_1 Entrenchment\ Index_{i,t} + \beta_2 \log(Firm\ size)_{i,t-1} + \beta_3 Tobin's\ Q_{i,t-1} + \beta_4 ROA_{i,t-1} + \beta_5 Leverage_{i,t-1} + \beta_6 CEO\ Ownership_{i,t} + \beta_7 \log(Board\ size)_{i,t} + \beta_8 Board\ independence_{i,t} + YearFixedEffects + IndustryFixedEffects + \epsilon_{i,t}$$

Like the other corporate governance variables, I will not make use of lagged variables for the Entrenchment index, as CEOs are chosen based on the governance structure of that year. The control variables are the same as used in the previous regressions. See table 9 for the results.

The Entrenchment Index has a positive sign towards employee relations; however, the variable is not significant and thus there is no proven relationship between the two variables. Hypothesis 6 can thus be rejected; no evidence is shown that entrenched CEOs have improved employee relations.

**Table 9:** Effect of managerial entrenchment on employee relations

| | Employee Relations |
|---|---|
| Entrenchment Index | 0.002 |
| | (0.001) |
| Log (Firm size) | -0.005*** |
| | (0.001) |
| Tobin' s Q | 0.003** |
| | (0.001) |
| Leverage | -0.019* |
| | (0.010) |
| Return on assets | 0.059*** |
| | (0.014) |
| CEO ownership | -0.0004** |
| | (0.000) |
| Log (Board size) | 0.007 |
| | (0.007) |
| Board independence | -0.0004*** |
| | (0.000) |
| Constant | 0.573*** |
| | (0.017) |
| Observations | 5,337 |
| R-squared | 301 |
| Number of SIC | 0.126 |
| Industry FE | YES |
| Year FE | YES |

This table consists of an OLS regression with the employee relations as dependent variable. The regression has 5337 firm-year observations and runs over 1996 – 2014. The firm characteristics are the lagged value of the variable (1-t). The models are controlled for heteroscedasticity with firm- and year-fixed effects. Standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively

**Robustness checks**

In the previous regressions I controlled for many factors like firm and year-fixed effects and made use of several control variables. Also, I made use of lagged CSR measures to account for reverse causality and simultaneity. However, there is a large chance that a lot of unobservable firm characteristics are influencing the relation between CSR and CEO compensation. To account for this problem, I will conduct a regression with the instrumental variable approach.

Following the study of Cai et al. (2011), I will use the industry-median CSR as the instrument. The industry-median CSR meets with the two main requirements of an IV. The industry-median CSR is correlated with the CSR Index, as the industries have the same market environment, regulatory hiccups, nature of the product and market maturity, which satisfies the relevance restriction. Also, there is no reason to believe that industry median CSR has any effect on CEO compensation, which satisfies the exclusion restriction. I will make use of a two-staged least squares (2SLS) regression to test for the first three hypotheses, the relation between CEO compensation and lagged CSR, and as a deep dive also with lagged *Employee Relations*. See the formulas below:

5) $$CSR\ Composite\ Index_{i,t} = \gamma_0 + \delta_1 IndustryMedianCSR_{i,t-1} + \delta_2 \log(Firm\ size)_{i,t-1} + \delta_3 Tobin's\ Q_{i,t-1} + \delta_4 ROA_{i,t-1} + \delta_5 Leverage_{i,t-1} + \delta_6 CEO\ Ownership_{i,t} + \delta_7 \log(Board\ size)_{i,t} + \delta_8 Board\ independence_{i,t} + YearFixedEffects + \epsilon_{i,t}$$

6) $$\log(Total\ compensation_{i,t}) = \alpha_0 + \beta_1 CSR\ Composite\ index_{i,t-1} + \beta_2 \log(Firm\ size)_{i,t-1} + \beta_3 Tobin's\ Q_{i,t-1} + \beta_4 ROA_{i,t-1} + \beta_5 Leverage_{i,t-1} + \beta_6 CEO\ Ownership_{i,t} + \beta_7 \log(Board\ size)_{i,t} + \beta_8 Board\ independence_{i,t} + YearFixedEffects + \epsilon_{i,t}$$

Where *Industry Median CSR* is the lagged CSR Composite Index median per industry SIC and functions as the instrument, the *CSR Composite Index* is the instrumented variable to see what the effect is on the natural logarithm of total compensation. The control variables are the same as the other regressions and the regression is controlled for yearly differences with year-fixed effects. See table 10 for the results of the 2SLS regression.

Using the industry-medians of CSR and ER as instruments, show that the lagged CSR Composite Index and lagged Employee Relations still have a highly significant negative relationship with

total compensation, conceding with hypotheses 2 and 3. Even when controlling for endogeneity with instrument variables, there is a negative relationship between Corporate Social Responsibility and CEO compensation, supporting the hypothesis 2 and 3, that CEOs invest in CSR to resolve conflicts between stakeholders.

**Table 10:** Two-Stage Least Squares regression; Impact of CSR/ER on total compensation

| | Log (Total compensation) | |
|---|---|---|
| | Instrumented with Industry-median CSR | Instrumented with Industry-median ER |
| Instrumented CSR Composite Index | -2.884*** | |
| | (0.642) | |
| Instrumented Employee Relations | | -1.131*** |
| | | (0.310) |
| Log (Firm size) | 0.345*** | 0.352*** |
| | (0.007) | (0.007) |
| Tobin' s Q | 0.172*** | 0.171*** |
| | (0.009) | (0.009) |
| Leverage | -0.039 | -0.027 |
| | (0.058) | (0.057) |
| Return on assets | 0.459*** | 0.459*** |
| | (0.118) | (0.117) |
| CEO ownership | -0.003*** | -0.003*** |
| | (0.001) | (0.001) |
| Log (Board size) | -0.049 | -0.089** |
| | (0.045) | (0.044) |
| Board independence | 0.006*** | 0.006*** |
| | (0.001) | (0.001) |
| Observations | 11,197 | 11,197 |
| R-squared | 0.258 | 0.264 |
| Number of Years | 19 | 19 |
| Year FE | YES | YES |

This table consists of two 2SLS regressions over a sample of 11,197 firm-year observations in the period 1996-2014. The first model is the second stage of the relation between the lagged CSR composite index and total compensation, where the CSR composite index is instrumented with the instrument variable industry-median CSR. The second model is the second stage of the relation between the lagged Employee relations and total compensation, where Employee relations is instrumented with the instrument variable industry-median ER. All the financial variables are lagged with one year. The models are controlled for heteroscedasticity and with year-fixed effects. Standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively.

To test hypothesis 4 for endogeneity, I will use the same IV as formula 5) and 6). But now with proportion of cash as dependent variable in the second formula. The control variables are the same as the other regressions and the regression is controlled for yearly differences with year-fixed effects. See table 11 for the results of the 2SLS regression.

Table 11: Two-Stage Least Squares regression; Impact of CSR on proportion of cash

| | PCash |
|---|---|
| | Instrumented with Industry-median CSR |
| Instrumented CSR Composite Index | 0.030 |
| | (0.143) |
| Log (Firm size) | -0.040*** |
| | (0.002) |
| Tobin' s Q | -0.035*** |
| | (0.002) |
| Leverage | -0.016 |
| | (0.013) |
| Return on assets | 0.038 |
| | (0.026) |
| CEO ownership | 0.002*** |
| | (0.000) |
| Log (Board size) | 0.027*** |
| | (0.010) |
| Board independence | -0.003*** |
| | (0.000) |
| Observations | 11,204 |
| R-squared | 19 |
| Number of Years | 0.135 |
| Year FE | YES |

This table consists of one 2SLS regression over a sample of 11,204 firm-year observations in the period 1996-2014. The model is the second stage of the relation between the lagged CSR composite index and proportion of cash compensation, where the CSR composite index is instrumented with the instrument variable industry-median CSR. All the financial variables are lagged with one year. To control for heteroskedasticity, firm-fixed effects are included. Standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively.

It can be seen that the instrumented CSR Composite Index is not significant in the second stage of the 2SLS regression. Hypothesis 4 is not robust for endogeneity. Therefore, hypothesis 4 is rejected. There is no evidence that CEOs invest in CSR for their own gain while simultaneously bearing little costs of doing so.

# VI. Conclusion & Discussion

**Discussion**

In this thesis, I tried to investigate what drives CEOs in investing in CSR. I used four distinct ways to research this. First, I looked upon the relation between CSR and executive compensation, then employee relations and executive compensation. Thereafter, I looked upon the effect of CSR on the proportion of executive compensation and at last I examined the effect of managerial entrenchment on employee relations. The main variables of this research were the CSR measures, which were gathered from the MSCI ESG database. This particular data suffers from several shortcoming. Firstly, it has inconsequent use of the separate strength or concern variables, as some were only measured a few years where other variables over the whole sample period. Therefore, the use of CSR Composite Index variable bypassed this problem by only including the variables which were measured for that year and firm. Secondly, the dataset became so limited after 2014 that I decided to not include it in my sample as it would seriously interfere with the reliability of the data. With limited I mean that every firm got a separate treatment with which variables were counted and which were not, I believe this would cause serious selection bias and therefore I did not include it. Thirdly, the data is hand-collected and is therefore susceptible to be biased. It was collected by MSCI (and formerly KLD) based on surveys and in-house analysis and possibly did not consider the various stakeholders in the process (Cai, Hoje, & Pan, 2011). Although, in terms of CSR, this could be a serious issue. For example, various diversity campaigns could be launched as a marketing strategy, when in the working place still a lot of sexism or racism exists. It could look a lot brighter from the outside than it is. For future research, it would possibly be better to look upon alternate data sources or measures to counter this data reliability issue.

Another major concern for this research is the effect of powerful CEOs. Possibly they could set their own compensation as well as the CSR goals. This could be harmful for the power of the research. I have gone at this problem in three ways. Firstly, by including various corporate governance variables to control for differences in governance mechanisms in the various firms. Secondly, I conducted a Two-Stage Least Squares regression with Industry-Median CSR as instrument variable to control for omitted variable bias in the CSR measures. The results are like those of the Ordinary Least Squares regressions. Thirdly, in Appendix E, I also added

the variable *CEO Duality* to the main regression, this is a dummy which is true when the CEO also fulfils the role as chairman in the board. The significance and coefficient value were like the original regression.

I would also like to acknowledge that the quality data on the Entrenchment Index could be limited. The entrenchment index before 2007 is missing for several years, for example 1996, 1997 and 1999. This is due the availability of corporate governance characteristics in ISS, which for the earlier years sometimes skipped a year. This has no consequences for the conclusion whatsoever, because the results were inconclusive, but it is still something to keep in mind.

Lastly, all the results were applicable for S&P 1500 firms, which are the 1500 biggest US firms. These firms are transparent, publicly traded and relatively closely monitored firms. So, the results of this thesis may not be applicable for European markets, privately owned firms or firms in emerging markets.

Concludingly, I would like to do some recommendations for future research. In this research I focussed mainly on two variables, overall CSR and Employee Relations. For further research I recommend to also look at the other CSR variables separately. For example, Diversity and Environment are two very actual topics, which can be examined more thoroughly in the future. Furthermore, the data sample of this thesis is quite homogeneous in terms of size and origin of the firms, consisting of large US companies only. It could be interesting to look at firms in different countries with differing legislation, as well as firm size could play a role.

I also tried to gain access to the dataset of the paper of Ikram, Li, and Minor (2019), who investigated the executive compensation which was directly tied to CSR-goals. However, this data was hand-collected and beyond the scope of my research, but it would be interesting in the future to use this data to look for direct relations between CSR and pay-for-performance executive compensation.

**Conclusion**

In this thesis, I researched what kind of CEOs invest in CSR for S&P1500 firms for the time period 1996-2014. I controlled for various firm characteristics, governance structures and industry and year fixed effects in my regressions. I find that for the whole sample period there is not significant relationship between CSR and executive compensation. When testing for the period 1996-2010, I do find a significant negative relationship between lagged CSR and total

executive compensation, CEOs are investing in CSR to mitigate possible conflicts between CEOs. Moreover, the signs for the period 2011-2014 are opposing to the results for the other time periods, which might imply a shift in the relation between CSR and CEO compensation, which is interesting for future research. The reasons for the effects to be significant for this particular time period are ambiguous. It could be that, as the world becomes more 'woke', CEO compensation committee's become it too. They possibly start to incentivizing CEOs to take a more world-friendly approach with doing business. CEOs get rewards for investing in CSR, instead of doing it just for their own good. This was also found by Ikram, Li and Minor (2019), for the years 2009 to 2013. So it is possible there is a change coming up around the decade change. Firms have increasingly started tying CSR-related objectives to executive compensation.

But when looking at the 1996-2010 period. The results are robust as well when using other CSR measures or when controlled for endogeneity with the instrumental variable approach. This result coincides with hypothesis 2. Furthermore, I also tested the separate category *Employee Relations* to strengthen the power of the hypothesis. I also found a negative relation between lagged employee relations and total compensation for both the time periods. Based on this, my results support that CEOs are investing CSR to avoid possible conflicts between them and various stakeholders.

I also tested whether CSR had influence on the compensation structure of CEOs. I did find that CEOs which invested more in CSR, got compensated relatively more in cash. Which would mean that CEOs invest more in CSR without having to bear a (large) part of the costs themselves. However, due the endogenous nature of CSR, I conducted a 2SLS regression for robustness. I found that the regression was not significant when controlled for endogeneity and thus the hypothesis could not be accepted.

Lastly, I tested whether entrenched CEOs had relatively better relations with employees. Using the Entrenchment Index as a proxy for managerial entrenchment I tested this effect. However, no proof has been found that CEOs misconduct their position as CEO to secure their job by forming an alliance with employees.

Finally, the results of this thesis do say something. The most prominent result why CEOs invest in CSR, is that they like to reduce conflict between stakeholders by enhancing the CSR score

of their firm. They do this whilst accepting a lower total compensation on average. The reasons for this are ambiguous, it could be that CEOs are indeed carry virtues like humility and modesty and use CSR to substantiate their traits in their way of investing. Or they want to reduce the chances of labour strikes or lawsuits. However, it could also be that CEOs did not get compensated for CSR just yet. Nevertheless, when the question is asked, whether are CEOs over-investors or pacifists, the latter has the most support in this thesis. Now we see a switch coming up from around 2010, as more CEO compensation contracts are tied to CSR goals. This is interesting to investigate in the future.

# Appendices

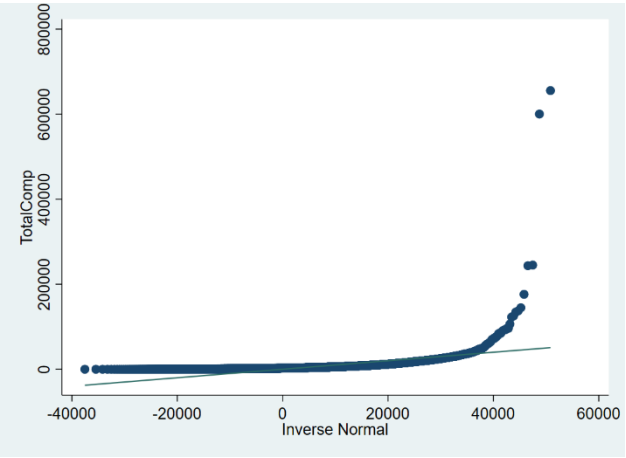
**Appendix A:** CSR categories with corresponding strength and concern variables

| Category | Strengths | Concerns |
|---|---|---|
| *Community* | Innovative giving | Tax Disputes |
| | Support for education | Investment controversies |
| | Support for housing | Negative economic impact |
| | Charitable giving | Other concerns |
| | Non-US charitable giving | |
| | Volunteer programs | |
| | Other strengths | |
| *Environment* | Environmental opportunities | Regulatory problems |
| | Waste management | Ozone depleting chemicals |
| | Packaging materials and waste | Substantial emission |
| | Climate change | Agriculture chemicals |
| | Environmental management systems | Climate change |
| | Water stress | Land use and biodiversity |
| | Pollution prevention | Supply chain management |
| | Recycling | Water management |
| | Property, plant and equipment | Other concerns |
| | Non-carbon releases | |
| | Biodiversity and land use | |
| | Raw material sourcing | |
| | Other strengths | |
| *Diversity* | CEO | Controversies |
| | Promotion | Non-representation |
| | Board of Directors | Board of Directors - Minorities |
| | Work-life benefits | Other concerns |
| | Women and minority contracting | |
| | Employment of the disabled | |
| | Gay and lesbian policies | |
| | Board diversity | |
| | Other strengths | |
| *Employee relations* | Union relations | Union relations |
| | No-layoff policy | Health and safety |
| | Cash profit sharing | Workforce reductions |
| | Employee involvement | Child Labor |
| | Retirement benefits | Supply chain |
| | Health and safety | Other concerns |
| | Supply chain policies | |
| | Human capital development | |
| | Labor management | |
| | Other strengths | |

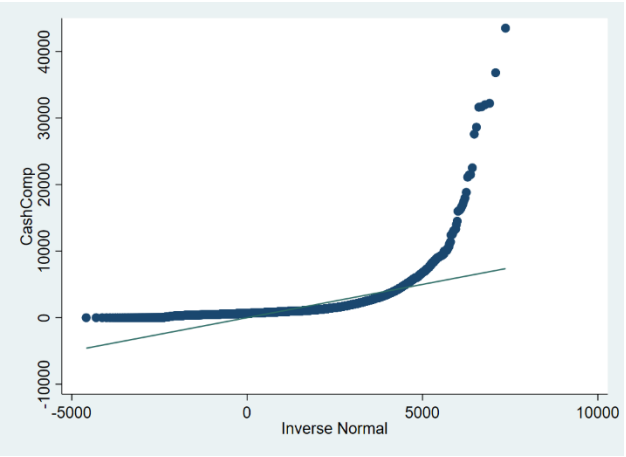
| Category | Strengths | Concerns |
|---|---|---|
| *Product* | Quality<br>R&D Innovation<br>Benefits to economically disadvantaged<br>Social opportunities – Nutrition and health<br>Social opportunities – access to communication<br>Social opportunities – access to finance<br>Product safety – Chemical safety<br>Product safety – Financial product safety<br>Product safety – Privacy & data security<br>Product safety – Responsible investment<br>Product safety - Insuring health and demographic risk<br>Other strengths | Product safety<br>Marketing-contracting<br>Antitrust<br>Negative impact of products and services<br>Customer Relations<br>Other concerns |
| *Human Rights* | Indigenous people relations<br>Positive record in South Africa<br>Labor rights<br>Other strengths | Indigenous people relations<br>South Africa concerns<br>Northern Ireland concerns<br>Burma concerns<br>Mexico concerns<br>Freedom of expression & censorship<br>Human rights violations |
| *Corporate Governance* | Limited compensation<br>Ownership strength<br>Transparency strength<br>Political accountability<br>Management systems strengths<br>Public policy<br>Other strengths | High compensation<br>Ownership concern<br>Retirement benefits<br>Accounting concern<br>Transparency concern<br>Political accountability<br>Public policy<br>Governance structure controversies<br>Controversial investments<br>Business ethics<br>Other concerns |
| *Vice Industries* | - | Alcohol<br>Gambling<br>Firearms<br>Military<br>Nuclear power<br>Tobacco |

**Appendix B:** Shapiro-Wilk test for normality

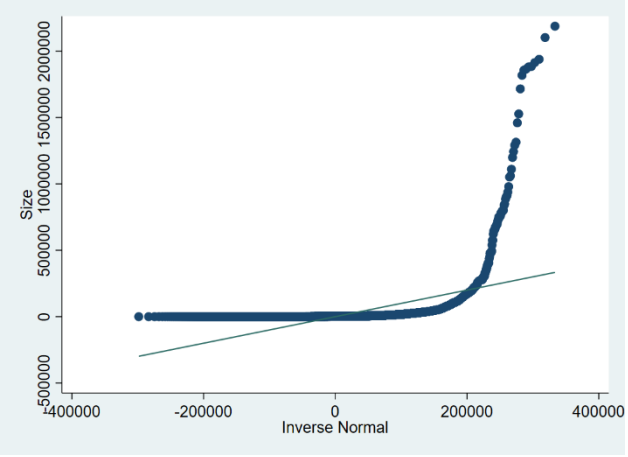
| | N | W | V | Z | Prob > Z | Graph |
|---|---|---|---|---|---|---|
| Total Compensation | 11,204 | 0.305 | 3818.3 | 22.146 | 0.000 | B1 |
| Cash Compensation | 11,204 | 0.469 | 2917.5 | 21.423 | 0.000 | B2 |
| Firm Size | 11,204 | 0.155 | 4640.5 | 22.670 | 0.000 | B3 |
| Board Size | 11,204 | 0.974 | 144.2 | 13.349 | 0.000 | B4 |



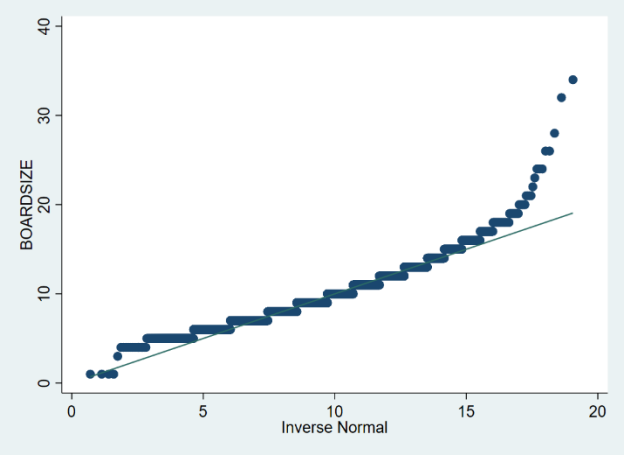

Graph B1: Quartile-Normal distribution – Total Comp




Graph B2: Quartile-Normal distribution – Cash Comp




Graph B3: Quartile-Normal distribution – Firm Size




Graph B4: Quartile-Normal distribution – Board Size

**Appendix C:** Variance Inflation Factor: Test for multicollinearity

| | VIF | SQRT VIF | Tolerance | R-Squared |
|---|---|---|---|---|
| CSR Composite Index | 1.02 | 1.01 | 0.978 | 0.022 |
| Log (Firm Size) | 1.07 | 1.03 | 0.936 | 0.064 |
| Tobin' s Q | 1.23 | 1.11 | 0.815 | 0.186 |
| Leverage | 1.04 | 1.02 | 0.962 | 0.038 |
| Return on assets | 1.22 | 1.10 | 0.823 | 0.177 |
| CEO ownership | 1.08 | 1.04 | 0.928 | 0.072 |
| Log (Board size) | 1.10 | 1.05 | 0.910 | 0.090 |
| Board independence | 1.09 | 1.04 | 0.921 | 0.079 |
| Mean: | 1.10 | | | |

**Appendix D**: Impact of CSR on Total and Cash compensation, period 2011 - 2014

| | Log (Total compensation) | | | Log (Cash compensation) | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| CSR Composite Index | 0.436 | | | 0.057 | | |
| | (0.375) | | | (0.364) | | |
| Net CSR | | 0.014 | | | 0.011 | |
| | | (0.013) | | | (0.013) | |
| Indicator CSR | | | 0.124* | | | 0.093 |
| | | | (0.068) | | | (0.077) |
| Log (Firm size) | 0.360*** | 0.343*** | 0.339*** | 0.054 | 0.040 | 0.040 |
| | (0.035) | (0.047) | (0.040) | (0.069) | (0.074) | (0.073) |
| Tobin' s Q | 0.147*** | 0.144*** | 0.138*** | -0.084 | -0.086 | -0.088 |
| | (0.036) | (0.036) | (0.036) | (0.064) | (0.064) | (0.065) |
| Leverage | -0.075 | -0.067 | -0.068 | -0.195 | -0.184 | -0.184 |
| | (0.151) | (0.145) | (0.151) | (0.195) | (0.190) | (0.195) |
| Return on assets | -0.179 | -0.216 | -0.179 | 1.112 | 1.066 | 1.094 |
| | (0.318) | (0.311) | (0.325) | (0.852) | (0.839) | (0.850) |
| CEO ownership | -0.009 | -0.008 | -0.008 | -0.015 | -0.014 | -0.014 |
| | (0.006) | (0.006) | (0.006) | (0.014) | (0.014) | (0.014) |
| Log (Board size) | 0.035 | 0.021 | 0.025 | 0.214 | 0.200 | 0.203 |
| | (0.091) | (0.092) | (0.092) | (0.168) | (0.171) | (0.166) |
| Board independence | 0.007** | 0.006** | 0.006** | 0.003 | 0.003 | 0.002 |
| | (0.003) | (0.003) | (0.003) | (0.004) | (0.003) | (0.004) |
| Constant | 4.438*** | 4.869*** | 4.832*** | 5.792*** | 5.996*** | 5.979*** |
| | (0.257) | (0.380) | (0.284) | (0.600) | (0.616) | (0.557) |
| Observations | 3,408 | 3,408 | 3,408 | 3,400 | 3,400 | 3,400 |
| R-squared | 0.290 | 0.291 | 0.293 | 0.034 | 0.034 | 0.036 |
| Number of SIC | 289 | 289 | 289 | 289 | 289 | 289 |
| Industry FE | YES | YES | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES | YES | YES |

This table consists of six separate OLS regressions with the logarithm of either Total compensation or Cash compensation as dependent variables. The regressions have 3,408 and 3,400 firm-year observations respectively and runs from 2011 – 2014. CSR and the firm characteristics are the lagged value of the variable (1-t). The models are controlled for heteroscedasticity and with firm- and year-fixed effects. Robust standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively

**Appendix E**: Impact of CSR on Total and Cash compensation including CEO Duality, period 1996 - 2014

| | Log (Total compensation) | | | Log (Cash compensation) | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| CSR Composite Index | -0.337 | | | -0.282 | | |
| | (0.269) | | | (0.252) | | |
| Net CSR | | -0.010** | | | -0.009 | |
| | | (0.005) | | | (0.005) | |
| Indicator CSR | | | -0.042 | | | -0.046 |
| | | | (0.027) | | | (0.042) |
| Log (Firm size) | 0.387*** | 0.391*** | 0.390*** | 0.165*** | 0.170*** | 0.169*** |
| | (0.024) | (0.024) | (0.024) | (0.030) | (0.030) | (0.029) |
| Tobin' s Q | 0.102*** | 0.104*** | 0.104*** | -0.034 | -0.033 | -0.033 |
| | (0.021) | (0.021) | (0.021) | (0.028) | (0.029) | (0.029) |
| Leverage | 0.024 | 0.017 | 0.022 | -0.173** | -0.179** | -0.177** |
| | (0.10) | (0.101) | (0.102) | (0.086) | (0.085) | (0.087) |
| Return on assets | 0.179 | 0.190 | 0.179 | 0.628*** | 0.638*** | 0.631*** |
| | (0.161) | (0.160) | (0.161) | (0.211) | (0.208) | (0.208) |
| CEO ownership | -0.005 | -0.005 | -0.005 | -0.006 | -0.006 | -0.006 |
| | (0.004) | (0.004) | (0.004) | (0.005) | (0.005) | (0.005) |
| Log (Board size) | 0.067 | 0.072 | 0.071 | 0.126 | 0.131 | 0.132 |
| | (0.072) | (0.073) | (0.073) | (0.095) | (0.096) | (0.097) |
| Board independence | 0.006*** | 0.006*** | 0.006*** | 0.002 | 0.003 | 0.002 |
| | (0.001) | (0.001) | (0.001 | (0.001) | (0.001) | (0.001) |
| CEO Duality | 0.091*** | 0.090*** | 0.090*** | 0.106*** | 0.105*** | 0.105*** |
| | (0.025) | (0.025) | (0.025) | (0.035) | (0.035) | (0.034) |
| Constant | 4.088*** | 3.864*** | 3.894*** | 5.431*** | 5.241*** | 5.261*** |
| | (0.233) | (0.189) | (0.189) | (0.255) | (0.262) | (0.256) |
| Observations | 11,197 | 11,197 | 11,197 | 11,153 | 11,153 | 11,153 |
| R-squared | 0.264 | 0.265 | 0.264 | 0.097 | 0.097 | 0.097 |
| Number of SIC | 320 | 320 | 320 | 320 | 320 | 320 |
| Industry FE | YES | YES | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES | YES | YES |

This table consists of six separate OLS regressions with the natural logarithm of either Total compensation or Cash compensation as dependent variables. The regressions have 11,197 and 11,153 firm-year observations respectively and runs from 1996 – 2014. CSR and the firm characteristics are the lagged value of the variable (1-t). The models are controlled for heteroscedasticity with firm- and year-fixed effects. Robust standard errors are in parentheses, ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively.

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