

Master Thesis



The impact of CSR performance on Executive Compensation – evidence from U.S. publicly listed firms

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Preface and Acknowledgements

This master thesis marks the final part of my master's programme at Erasmus University Rotterdam. In the last couple of months, a lot of emphasize and effort has been put into this study to examine the effect of CSR performance on Executive compensation – evidence from U.S. publicly listed firms.

I would like to thank my supervisor Prof. Dr. Jihun Bae for guiding me throughout the process with providing insightful and swift feedback that contributed towards writing my master thesis. Furthermore, I would like to thank my coach at my thesis internship for all the support provided. Last but not least, the encouragement given by my family supported me throughout the whole process.

Azita Hassani, July 13, 2022

Abstract

The following research aims to examine the effect of Corporate Social Responsibility Performance on Executive Compensation by drawing upon a sample of approximately 400 firms during the period 2017-2021 of publicly listed firms in the United States registered within the S&P500 index. Since many factors identified in previous literature results in high executive compensation, this thesis investigates whether CSR performance is a determinant of executive compensation by also looking further into its components. Besides, CEO compensation has risen dramatically over the last couple of years and it is necessary to observe what determines the cause of providing compensation packages. Considering ESG metrics are now part of compensation contracts for most firms within the S&P500, a thorough analysis of the performance of CSR activities will be conducted on what the influence is on CEO compensation. The findings are divided and based on three components: total compensation, equity-based compensation, and cash-based compensation. Effectively, the empirical findings of this research paper indicate that there is a positive correlation between CSR performance and its components, however this is not the case for cash-based compensation since no association is found. This shows that the likelihood a CEO is being compensated for its engagement in CSR activities is in the form of equity-based compensation because a firm align their interest to the interest of shareholders, whereby agency costs decrease and firm value increases. Additionally, a CEO's opportunistic behaviour and reputation also play a significant role in determining compensation.

KEY WORDS: corporate social responsibility, executive compensation, CEO power, S&P500

Table of contents

- 1. Introduction**1
- 2. Background and Hypothesis Development**4
 - 2.1. Corporate Social Responsibility4
 - 2.2. Executive Compensation5
 - 2.3. The relationship between CSR performance and total compensation, equity-based compensation, and cash-based compensation6
- 3. Research Methodology**10
 - 3.1. Data Description and Selection10
 - 3.2. Measure of Independent variable11
 - 3.3. Measure of Dependent variable12
 - 3.4. Control variables12
 - 3.5. Lagged association13
 - 3.6. Regression model13
- 4. Empirical Analysis**15
 - 4.1. Descriptive statistics15
 - 4.2. Correlation16
 - 4.3. Multivariate analysis18
 - 4.3.1 Findings18
- 5. Conclusion**24
 - 5.1. Limitations and future research direction24
- References**26
- Appendices**30
 - Appendix 1: Variable Description30

Table of contents for tables and figures

TABLE 1: Year observations 2017-2021.....11
TABLE 2: Descriptive Statistics.....15
TABLE 3: Pearson Correlation.....17
TABLE 4: Collinearity Statistics.....18
TABLE 5: Regression Analysis – Model 1.....19
TABLE 6: Regression Analysis – Model 2a.....21
TABLE 7: Regression Analysis – Model 2b.....22

1. Introduction

In recent years there has been a growing coercion to review sustainability performance as a part of the executive compensation formula. The purpose of this paper is to conduct an analysis on the effect of Corporate Social Responsibility (hereafter referred to as CSR) performance on executive compensation based on publicly listed firms in the United States. Therefore, this research raises the following question:

Does CSR performance influence executive compensation, and which component of executive compensation is driven more by CSR performance: equity-based compensation or cash-based compensation within S&P500 firms?

Executive pay has reached a new high record in the U.S. with protests occurring by investors on high executive pay (The Financial Times, 2021). Excessive CEO compensation can cause implications within society such as pay inequality between workers. Baker, et al. (2019) argue that in recent years, CEO compensation as opposed to a typical worker have reached a scale of 200- or 300-to-1 from 20- 30-to-1 in the 1960s and 1970s, especially within the S&P500. Nevertheless, the real question is; what could be the drive for these high CEO compensation amounts in recent years? It is being questioned by many researchers of what the drive for the risen executive levels has been and whether this is caused by the company's rapid growth and performance (Mahoney & Thorn 2020). Many determinants of CEO compensation have been studied such as firm size, (Deckop, 1998; Blanes et al 2019), firm performance (Rose and Shepard 1997; Core et al 1999; Bouteska & Mefteh-Wali 2021), and CEO ownership (Buigut et al 2015). Hence this study wants to assess whether Corporate Social Responsibility performance is a driver of executive compensation, as it is known that more than 50% of U.S. companies include ESG metrics in their incentive plans (Edmans, 2021). For example, Apple has recently introduced pay incentive plans linked with ESG metrics, but its pay package to the CEO is under attack since it has resulted in enormous amounts with the majority of pay compensated in the form of stock awards over cash bonuses (Vanian, 2022). S&P500 firms have started to disclose more information regarding sustainability, CSR and ESG performance. Evidently, G&A researchers have found that from 2011 onwards, the firms' ESG activities have started to increase with 85% of S&P500 firms now publishing this information (G&A). Effectively, the importance of disclosing such information is attached to the interest of stakeholders since U.S. citizens not only expect firms to generate profits but to also for firms to manage themselves in an ethical as well as socially responsible manner (Forte, 2013).

As mentioned by PwC (2021), even though, it is effective to include ESG metrics in executive pay, a risk consists for hitting the target, but missing the whole point. It is important that if higher CSR performance is positively correlated with higher executive pay, firms should ensure that sustainability is a long-term goal and not just blindly hitting the compensation target, which is a short-term view. Similarly, Hassen & Ghardadou (2020) argue that the intention may be the maximization of company profits or acting in the self-interest of managers instead of being motivated by moral duties for undertaking social activities. Also, when companies engage more in CSR activities to reach for their compensation target sooner, greenwashing could be an implication to consider (Fiechter et al., 2022). It is crucial that the reality of a company is reflected regarding its CSR performance since redundant CSR performance could be questioned by stakeholders (Parcha, 2017), especially when over going CEO compensation is involved. Thus, it is critical to understand where the performance of CSR is currently placed at and how it affects which component of executive compensation.

Currently, there is no mandatory law that requires companies to disclose CSR reports and since there are no common agreed rules, it can cause heterogeneity issues and cause implications for stakeholders for comparing CSR information among firms (Christensen, et al., 2019). Due to the absence of mandatory CSR disclosure, it can be complicated for firms to make CSR performance a priority when there is no pressure. However, with the use of rewards, this could be achieved such as linking executive compensation to CSR performance. Effectively, it is important for policy makers to comprehend this topic from different perspectives as much as possible to help assist them for creating a set of rules more efficiently and update certain regulations. Since CSR disclosure could become mandatory soon, this topic should be of interest for policy makers. If there really exists pay inequality between workers, it could only be prevented or minimized when regulation is into place for CSR performance to be obeyed instead of tying it into compensation.

Prior research shows contradicting theories regarding the effect of CSR performance on executive compensation. On the one hand, researchers argue that a firm fulfils its responsibilities to stakeholders and manages the risks of the firm, whereby it results in resolved conflicts, and less risk of facing labour strikes from stakeholders or activist groups' accusations (Mo et al 2018; Cai et al 2011). This increases legitimacy and a positive reputation, as well as the value and long-term economic growth for the business (Harjoto & Jo, 2011). In socially responsible firms, executives have relatively lower compensation as opposed to socially irresponsible firms, due to the mitigation of possible conflicts between management and stakeholders, the improvement of equity concerns of firms, and settling the implications of the distribution of wealth (Hassen and Ghardadou, 2020). Besides, expecting compensation in return for performing CSR activities is not seen as right from an ethical perspective (Potts, 2006). The purpose to engage in CSR is to consider self-control, modesty, moderation, generosity, and humility, and thus executives try to prevent overriding this purpose (Cai et al 2011). On the other hand, researchers argue that the reputation of CEOs will increase when performing CSR activities, which will enhance the bargaining power of the CEO (Milbourn, 2013) and better external opportunities to be able to negotiate a higher level of pay (Cai et al 2011). Also, resolved conflicts is a reason for executives to be compensated for due to effort and challenging work spent on increasing CSR performance (Al-Shaer and Zaman 2017; Karim et al 2018). And for these contradicting reasons, this thesis hypothesizes no association between CSR performance and total compensation (hypothesis 1). When looking further into its components, this thesis expects a positive relationship between CSR performance and equity-based compensation (hypothesis 2a), and a negative relation between CSR performance and cash-based compensation (hypothesis 2b). Equity compensation is preferred because it will align the manager's interest to the interest of the shareholders which eventually decrease agency conflicts (Benmelech et al, 2010; Mehdi & Imen, 2014; Choi et al 2021; Murphy 1985) and thus the executive will be compensated because of higher firm value, lower agency costs and enhanced confidence of the CEO. Moreover, even though CEOs play a key role in CSR activities, they are not the only people. Employees also play a direct role in CSR activities (Farooq et al 2014) and it would be unequal and unfair towards employees when CEOs receive inappropriately high compensation amounts (Harris 2009; Shin 2014; Orlitzky & Swanson, 2006) and for this reason, equity-based compensation is preferred, because it is less comparable than cash and less visible to employees. On top of that, CEOs are preventing to avoid bad media publicities in regard to their reputation for accepting enormous bonus packages, and consequently avoid losing their board seats (Cai et al 2020).

To test the hypotheses, data from the S&P500 will be extracted for the years 2017-2021. Hand-collected ESG scores will be used to measure CSR performance from the S&P Global

Sustainability1 website and compensation data with control variables will be extracted from Wharton Research Databases (WRDS). The sample to test the hypotheses consists of a total of 2042 firm-year observations. After controlling for numerous factors that could potentially affect the internal validity of the tests, the empirical results convey a positive association between CSR performance and total compensation as well as between CSR performance and its component equity-based compensation. The empirical results also confirm that there is no association between CSR performance and cash-based compensation. These results show CEOs' opportunistic behaviour of engaging in CSR for their own interests and refuse the ethical intention when engaging in CSR. Furthermore, it indicates that CSR activities of a CEO are beneficial to shareholders adjusting their compensation structure in a way to reduce agency problems.

This study contributes to current research, as it is the first study to examine the effect of CSR performance on CEO compensation for adding a recent perspective by analysing the years 2017 to 2021. Secondly, only a few studies examine the direct effect between CSR performance and executive compensation (Cai et al 2011; Karim et al 2018; Hassen & Ghardadou 2020). Most research is conducted in reverse relation, whereby the effect of executive compensation on CSR performance is studied. Therefore, there remains a wide gap of research regarding this this topic. On top of that, this research is based on looking further into the components of CEO compensation, allowing to dive deeper into compensation for a clearer interpretation. Additionally, this research uses overall ESG scores instead of focusing only on the social or environmental aspect. It is crucial to assess all the categories to have a broad view on CSR activities. Overall, this study is an effective contribution to existing literature conducting a detailed analysis which is useful for anyone intending to gain a general, yet precise understanding on this critical issue.

Unfortunately, this study also has its limitations. Empirically, the arguments provided are challenging since CEO's reputation level, increased firm value attributable to CSR performance, or the effort a CEO spends on CSR activities are difficult to clearly observe through financial data. Secondly, conducting research for recent years are tough because of limited data availability. The years 2017-2021 were challenging years in terms of external factors such as the covid19 pandemic, whereby it is hard to evaluate the time and effort spent on CSR activities. Hence the results could be driven by these events.

The structure of the thesis is as follows: The first chapter discusses previous literature on CSR performance as well as executive compensation with various theories involved and CEO compensation structure to derive to a well-constructed hypothesis development for a thorough analysis. Chapter 3 will be followed by the research methodology of this study on how the variables are constructed with the link between the main variables and the control variables. The results will be presented within chapter 4 between CSR performance (ESG scores) and Executive compensation structure in which empirical analysis will be conducted. There will also be descriptive analysis performed to get familiar with the linkage between the variables with the dependent variable where it currently stands at before proceeding to the main regression model.

2. Literature Review and Hypothesis Development

2.1 Corporate Social Responsibility

Even though Corporate Social Responsibility has caught the attention of firms lately, its origins started in the late 1930s in which its concept slowly transformed itself in the 1950s to focus its awareness beyond making profits (Rodriguez-Gomez, et al., 2020). Today's definition of CSR relates to its origins from the 1950s with the involvement of stakeholder theory, whereby stakeholders are taken into consideration for meeting their demands. Meeting stakeholder demands can be reputational, although Dey et al. 2020 argue that this was viewed as a marketing tool in the early days and that CSR now is a fundamental strategic factor to include for organizations, being essential for decision-making. However, according to Astara et al. (2015), it depends on the type of business since from their results, it appears that CSR is used as a marketing tool when firms are already efficient. Due to these contrasting views on the evolvement of CSR, there is lack of a widely accepted definition of it and therefore it remains a big question of what CSR defines as. Wan-Jan (2006)'s research is based on the aim to deliver the correct meaning of CSR and provides two main perspectives of what it could possibly mean. The first perspective is seen as ethically, whereby firms are socially responsible to its stakeholders and expect nothing back in return. The second perspective is implementing CSR as a business strategy, where it is seen as normal to gain certain benefits from acting in a socially responsible manner, relating to the agency theory where managers should act in the best interest of shareholders for them to obtain financial gains. From this it can be concluded that the two contradicting views are the agency theory and stakeholder theory.

The agency theory and stakeholder theory are two contrasting theories that both support CSR. Harjoto & Jo (2011) indicate that the use of CSR activities is implemented by directors to resolve conflicts between the managers and certain stakeholders. Brown et al, 2009 demonstrate that the increase in firm value can be achieved if executive pay is to decrease agency costs, arising due to agency conflicts. These conflicts emerge as a consequence of having different views since a CEO may overinvest for its own benefit, but can negatively impact firm value, leading to dissatisfied investors (Barnea and Ruben, 2010). When a CEO wants to improve his/her image and increase his/her power, he/she tends to invest more in CSR activities to improve the performance of the firm (Walker 2002). This could also lead to overinvestment in CSR activities, which again, conflictingly impacts firm value. On the other hand, the stakeholder theory is about creating firm value for all stakeholders and not just investors. However, this theory also leads to the overinvestment of CEOs in CSR activities since most stakeholders do support CSR performance of a firm, and hence the CEO wants to improve his/her reputation (Deng et al., 2013; Freeman, 1994)

After a thorough research, its results concluded that Hopkins (2003) has the best definition of CSR indicating that CSR is the concept that stakeholders of all organizations are treated with an ethical as well as a responsible manner. More importantly, this definition represents CSR from an ethical and a strategic perspective. However, this means that when it is ethically associated, CSR activities should not be tied to rewards or paybacks since it is not right to expect anything back in return, a form of enlightened egoism. But this definition of CSR seems to be not accepted by many firms, as more than half of the firms listed on S&P500 connect its CSR activities to executive compensation. Here comes the real question, why do firms reward their CSR performance with executive pay? Reflecting to enlightened egoism, a firm's self-interest is superior while also considering the interest of others. Wan-Jan (2006) mentions that firms act in a socially responsible manner to prevent being involved to external political influences, in other words, preventing the creation of legislation regarding CSR

disclosure. However, this could be different for other firms since they really see it as their business strategy with as the means to gain private benefits.

Whatever the reason for CSR, its usage has increased especially in recent years. What remains a question is the enormous amounts of CEO compensation lately which could lead to potential implications within society. With the sudden increase of CSR performance as well as compensation within companies, it is crucial to understand whether one affects the other and to dive deeper into the components of executive compensation to analyse which part is affected the most by CSR performance.

2.2 Executive compensation

Before investigating the relation between CSR performance and executive compensation structure, it is important to observe the significance of executive compensation and to dive deeper into its components. In this study, executive compensation refers to CEO compensation since CEOs are the highest-ranking people within a company. This approach is taken from the study of Mahoney and thorn (2006) in which their research also refers to CEO compensation as a replacement for executives as these are the most responsible to the Board of Directors. As mentioned earlier, CEO compensation has increased massively in recent years. Whether this is something surprising or not, it is required to disclose information regarding compensation for executives since the federal securities law has instructed to provide a clear, concise, and understandable disclosure regarding executive pay in the firm's annual report (10-K), annual proxy statement and or other statements filed by the company. (U.S. Securities and Exchange Commission 2007). This has allowed access to the exposure of compensation amounts executives receive and as a result, this could be the reason for recent awareness of such considerable amounts. Additionally, the Sarbanes Oxley act 2002 (SOX) came into force, with not only the purpose to enhance financial statement credibility, but also helped on the excessive CEO compensation amounts because its focus for a firm is to have effective corporate governance. When corporate governance is poorly designed, there are more opportunistic incentives for managers to get involved with (Nourayi, et al., 2012). Fahlenbrach (2008) argues that when corporate governance is weak, it is more likely that the interest of shareholders is being served as well as the CEOs with the replacement of governance mechanisms and mostly higher levels of compensation. This indicates that the introduction of the SOX 2002 helps with the control of executive pay. However, even with the introduction of SOX, CEO compensation has been growing with enormous amounts and the effectiveness of SOX regarding CEO compensation could be questioned. Perhaps there are ways to invest more into one component compared to the other since they may differ in the way companies grant CEO compensation.

Prior studies have examined the drivers of the enormous amounts of executive compensation. Blanes et al., (2019) find that the level of CEO compensation increases with firm size, since this is a preferable determinant for executives, effectively possessing the control to grow the firm through advanced investments and acquisitions. Consequently, being able to manage big firms will result into enhanced power and reputation for executives. Similarly, an old study mentioned that an all-time driver for CEO compensation is firm size, measured by the number of sales and revenue (Deckop, 1998). Moreover, political factors also shape CEO compensation, which mostly restricts the amount of it such as the introduction of SEC 2002 being an example or certain accounting reforms with shareholder pressure. Therefore, political influences are a less preferred determinant by executives since there is no such an alignment with their interests (Farmer 2008; Murphy 2012). Furthermore, previous studies have also shown the effect of firm performance on CEO pay in which there mostly exist a positive correlation especially with past year firm performance as demonstrated by Rose and

Shepard (1997) and Core et al. (1999). Bouteska & Mefteh-Wali (2021) implement the same approach and find that firm performance is positively related to executive compensation. Another determinant of CEO compensation is CEO ownership. Buigut et al (2015) study is based on the determinants of CEO compensation and find that CEO ownership has a positive and significant effect on CEO compensation. There are many determinants of CEO compensation, and this study is motivated by contributing on the role of CSR performance on executive compensation. There are mixed results regarding the effect of CSR with executive compensation. Jian & Lee (2015) find that there is a positive association between normal CSR and executive compensation however, when investing excessively into CSR (above the optimal level), CSR and executive compensation are negatively associated. There are studies who find a negative correlation between CSR and CEO compensation (Coobs ad Gilley, 2005; Russo & Harrison, 2005), but there are also studies that find a positive correlation such as the finding of Berrone and Gomez-Mejia (2009) in which they demonstrate that CSR performance increase CEO compensation in polluting industries. This research paper will focus on the structure of CEO compensation, since Choi, et al (2021) mention that engaging in CSR activities do not always have similar reactions with performance pay. Mahoney & Thorn (2006) divide CEO compensation into components but assess salary and bonuses separately. Constructively, this research will be based on examining salary and bonuses together under cash-based compensation since both belong to short-term payments.

2.3 The relationship between CSR performance and total compensation, equity-based compensation, and cash-based compensation

There are mixed findings between the association of CSR and executive compensation, in which CSR performance could have a negative as well as a positive impact on executive compensation and thus it remains unclear (Mahony and Thorn 2006). Below are the argumentations for the relation between CSR performance and total compensation.

Hassan and Ghardadou (2020) base its argument on the stakeholder theory. It is argued the stakeholders are the centre of a company's social environment and therefore management should consider them as part of its strategy. Through CSR activities, the company will fulfil its responsibilities to stakeholders, whereby it enhances legitimacy, advances a positive reputation, and constructively, manages the risks of the firm. There is less risk of facing labour strikes from stakeholders or activist groups' accusations as they are satisfied with the time spent in CSR activities (Mo et al 2018; Cai et al 2011). This in turn increases the value and long-term economic growth for the business. This perspective implies that agency conflicts can be resolved through the investment in CSR activities (Harjoto & Jo, 2011), which leads to a negative association between CSR performance and CEO compensation. The reason for the negative association can be explained accordingly. Firstly, in socially responsible firms, executives have relatively lower compensation as opposed to socially irresponsible firms, due to the mitigation of possible conflicts between management and stakeholders, the improvement of equity concerns of firms, and settling the implications of the distribution of wealth. Secondly, it is suggested by ethics that executives who engage in CSR activities desire a lower pay (Potts, 2006).

Moreover, in line with the stakeholder theory, Cai et al (2011) also demonstrate a negative association between CSR and CEO compensation. Not every top executive demand high compensation packages, because the purpose of engaging in CSR is not only performing the activities without internal motivation, but taking into consideration self-control, modesty, moderation, generosity, and humility, in which executives could accept but do not, since they will override the purpose of their engagement with CSR activities, and therefore this creates a negative effect of CSR performance on CEO pay. Secondly, a lower level of firm risk is

involved when undertaking CSR activities because of the lower level of conflicts involved between management and stakeholders, leading to lower CEO pay.

In contrast to the reasonings above, there could also be a positive relationship between CSR and CEO pay. For example, Cai et al (2011) argue that if the intention of the executive is to improve reputation by engaging into CSR, then there is a positive relationship between CSR and CEO compensation. The reason behind the favourable association is argued by the researchers that career wise, better external opportunities are provided to the CEO, and it will enhance the bargaining power of the CEO (Milbourn 2003). These are factors that will give the ability to the CEO for the negotiation of a higher level of pay.

In addition, Al-Shaer and Zaman (2017) argue that executives should be compensated for their recognition of being involved with the enhanced risks related to long-term social strategies. In other words, when executives engage in CSR activities, they should be paid for their hard-work and recognition, which creates a positive relation between CSR and CEO compensation. Similarly, Karim et al (2018) also points out that CEOs should be paid for their effort to improve firms' social performance. This contrasts with the definition of CSR by Hopkins (2003) as indicated earlier, whereby it is ethically wrong to expect anything back in return.

The contradicting studies above makes it complicated to confirm whether there is a positive or negative association between CSR performance and CEO compensation. Choi, et al (2021) mentioned that engaging in CSR activities do not always have similar reactions with CEO compensation, because total compensation is divided into long-term and short-term components, and this could create different outcomes when evaluating CSR performance on a CEO's total compensation. Based on the contradicting argumentations above, this study creates the following hypothesis:

Hypothesis 1: There is no association between CSR performance and total compensation

One of the components of CEO compensation is equity-based compensation, consisting of stock awards and restricted stocks (Karim et al, 2018), in which this type of compensation increases shareholder's wealth. Equity-based compensation is considered as long-term compensation, whereby it is not an immediate payment. The relationship between CSR performance and equity-based compensation is examined below:

Cohen et al (2022) find that ESG metrics were frequently used in the executive's compensation contracts, specifically the long-term incentive plans. The environmental and social activities are categories some of the stakeholders genuinely care about, and therefore it is included in an executive's compensation contract to credibly announce to the stakeholders of the firm that the attention of the management will be drawn to these effects. Besides, a firm's dedication to be 'ESG conscious' may corroborate customer loyalty and make the equity shares more captivating for investor groups. For these reasons, CEOs are granted equity-based compensation as argued by Cohen et al (2022).

On top of that, consistent with the agency theory, equity-based compensation will align the manager's objective with that of the shareholders for the mitigation of agency costs. (Benmelech et al, 2010; Mehdi & Imen, 2014). The CEO will be compensated for his/her attempt in increasing the company's social performance if the CEO invests in CSR as a business activity for his/her improvement of shareholder's value (Karim et al 2018). Pott

(2006) and Rekker et al (2014) provide an alternative reasoning regarding this and demonstrate that CEOs will become more confident when CSR performance is high since they are performing the right task.

Additionally, Murphy (1985) adds a similar reason on why equity-compensation is a preferred method to compensate executives with when engaging in CSR. When executives are paid with equity-based pay, firm value will increase, thus increasing the satisfaction of investors, which will eventually mitigate agency problems. Similarly, Choi et al (2021) also argue that if the purpose of engaging in CSR is to improve firm value aligning with the interest of shareholders and enhancing the relationships with other stakeholders, then the share-based reward proportion rises in relation to social performance.

Lastly, CEOs are not the only people within the firm for performing CSR activities. Farooq et al (2014) mention that employees also play a direct role in achieving CSR results. Then this would not make it fair towards them to only grant CEOs with huge compensation packages. However, Kato & Kubo (2006) state that the likelihood of a CEO being granted in the form of stocks than cash is greater, because 1) this is less comparable, and 2) it will not be too visible for employees. For this reason, it is likely that CEOs will be granted with equity-based compensation.

Based on the above explanations, this study formulates the following hypothesis:

Hypothesis 2a: CSR performance will have a positive association with Equity-based Compensation.

The other component of CEO compensation is cash-based compensation, consisting of a base salary and bonuses. Salaries and bonuses are expected to be paid out in cash and are considered as short-term compensation. Below is the association between CSR performance and cash-based compensation described:

Salary is a relatively fixed payment method, which is contractually agreed and mostly has no incentive of being driven by future performances and is to an exceedingly small extent based on past performances (Karim et al 2018). Gerhart and Milkovich (1990) state that targets are likely to be achieved when CEOs are expected to be granted with variable payments rather than basing it on fixed quantities. In some circumstances, it may increase the fixed salary payment when the salary is dependent on performance and change from year to year (Jensen & Murphy, 1990; Al-Shaer and Zaman 2019). However, Jensen and Murphy (1990) argue that this possibility is rather low and rare. Major determinants of salary could be economic factors such as inflation and labour market but also firm size, human capital, board diversity and firm diversification (Jha & Maheshwari, 2015).

As indicated earlier, employees play a major role in CSR activities and the results that are achieved are also because of their effort and engagement (Farooq et al). Granting only CEOs with bonuses is not seen as fair and equal for the same effort spent on CSR activities. This will affect the cash-based compensation package of the CEO by not granting them much cash-based compensation and decrease the pay gap between CEOs and non-CEOs (Shin 2014)

Another reason for not accepting cash-based compensation packages is because executives have been criticized for accepting such enormous and inappropriate compensation amounts (Harris 2009) and some critics criticize the widen gap between the 'average' employee and

executives. (Shin 2014; Orlitzky & Swanson, 2006). Since reputation increases when engaging in CSR, CEOs of sustainable companies do not want to have these bad publicities and prevent ruining its reputation. Cai et al (2020) indicate that when a firm's environmental and social actions are negatively exposed in the media, CEOs will lose board seats. Therefore, the reason for disapproval of such cash compensation packages is to maintain the CEO's reputation.

Based on the above reasonings, the following hypothesis is created:

Hypothesis 2b: CSR performance will have a negative association with Cash-based Compensation.

3. Research Methodology

3.1 Data Description and Sample Selection

The sample in this study is drawn from the S&P500, which are publicly listed firms in the United States, containing different industries for the period 2017-2021, adding a recent perspective to this research. Mahoney and Thorn (2006) have used one year of data. This study extends this by using a panel data of five years to see the effect over time. Effectively, since executive compensation has been growing rapidly within recent years as well as CSR performance, it is an effective way to analyse this trend for recent periods, thus the choice of these specific years. The panel data is recognized as unbalanced since there is an unequal balance between the variables due to missing values which limits the dataset.

Moreover, this research will be conducted in its quantitative form. The dataset will mainly be collected from Wharton Research Databases Services (WRDS), in which executive compensation will be retrieved from Execucomp. CSR performance will be measured by hand-collecting ESG scores from the S&P Global Sustainability1 website (<https://www.spglobal.com/esg/solutions/data-intelligence-esg-scores>) based on the Corporate Sustainability Assessment (CSA) Survey and information accessible through publicly available data covering all S&P500 companies. The S&P Global ESG Scores provide company ESG scores that are remarkably informed by a variety of verified company disclosures, stakeholder analysis as well as media coverage, and an in-depth company engagement through the CSA, which is not only relied on publicly available information. The ESG scores are based on an annual evaluation of environmental, social, and governmental for up to 30 focus areas. Therefore, it can be said this website is a reliable source for collecting ESG scores. Evidently, they have won a few titles as the overall best data provider in 2019 and best research provider 2020 and 2021, and more importantly, best ESG Ratings and Index Provider in 2020. The control variables are retrieved from Compustat (North America), BoardEx and ISS (formerly RiskMetrics). This means that five different datasets will be merged for the analysis of this study. The datasets are combined by ticker symbol and year with the use of the programming language RStudio and SPSS to also run further regressions subsequently. (For a specific list of the databases for all the variables, please refer to appendix A).

After the merge of the datasets, the initial sample consists of 2525 observations with a total of 18 variables for 500 firms listed within the S&P500 for a period of 5 year ranging from 2017 to 2021, respectively. Table 1 represents the 5-year period with the number of firms per year. Moreover, the dataset contained errors such as missing values for the components of cash-based compensation as well as for equity-based compensation. When hand-collecting the ESG scores, there were also a few missing values available, in which information on ESG scores could not be found. The missing variables within the dataset were all removed, leaving the dataset with a final and total of number of 2042 observations consisting of approximately 400 companies ranging from 2017 to 2021. However, the number of firms per year may differ as shown in table 1.

TABLE 1: Year observations 2017 - 2021

Year	Number of firms	Percentage (%)
2017	409	20
2018	413	20.2
2019	414	20.3
2020	413	20.2
2021	393	19.2
<i>Total</i>	<i>2042</i>	<i>100</i>

Notes: summary of number of firms present per year for five consecutive years.

3.2 Measure of Independent variable

The independent variable, CSR performance will be measured by using the ESG scores of publicly listed firms in the U.S. ESG scores consist of non-financial attributes and therefore insufficiency of inconsistency as well as criteria exists, which could lead to measurement biases (Yoon, et al 2018). That is the reason why prior research has mostly used KLD or MSCI social index (Karim et al 2018; Jian & Lee 2015) as a proxy for measuring CSR performance. On the other hand, Derchi et al (2020) argues that ESG ratings from MSCI do not represent the CSR performance of a firm entirely due to not covering every aspect of CSR performance of a firm. Even ESG information on Bloomberg or Eikon have shown its limitations, such as the absence of overall ESG scores for all firms in the S&P500, especially for recent years. For these reasons, I have hand collected recent ESG scores based on CSA and publicly available information from the S&P Global Sustainability 1 website with the availability of recent years to overcome this problem. The ESG scores used for this research are a sum of activities such as Climate Strategy, Customer Relationship Management, Environmental Policy and Management Systems, Human Capital Development, Innovation Management, Operational Eco-Efficiency, Cybersecurity and System Availability, Privacy Protection, and Talent Attraction and Retention (S&P Global Sustainability 1), which covers quite a range of CSR activities.

Effectively, this study sees the importance of using the overall performance of ESG scores instead of focusing on one part such as environmental, what most studies examine. Shaer and Zaman (2019) also mention that prior research particularly uses one measure of ESG scores, basing it on the environmental aspect only. More importantly, overall ESG scores represent CSR performance because of its nature on the evaluation of a firm's environmental, social, and governmental practices combined with its performance. From an investor perspective, ESG scores are majorly used for the representation of the performance of CSR (Yoon, et al. 2018). This study assumes that the higher the ESG score for a firm, the more time and effort a company spends on its CSR performance, thus a higher investment on its CSR activities.

3.3 Measure of Dependent Variable

To measure CEO compensation, a CEO's total compensation package is used which is retrieved from Execucomp. This total compensation package represents the total direct compensation (TCD1) paid annually to a CEO. This package includes 1) sum of salaries, 2) total bonuses, 3) other annual, 4) total value of restricted stocks granted, 5) LTIP Payouts, 6) total value of option grants, and 7) all other (Karim et al 2018; Benson & Davidson 2010). To test equity-based compensation, the sum of restricted stock holdings and stock options will be added for the analysis. The total sum of salaries and bonuses are calculated as part of cash-based compensation. Information for both cash-based and equity-based compensation is also retrieved from Execucomp, Annual Compensation. For all the compensation measures, the natural logarithm is used to prevent skewness within the sample.

3.4 Control variables

CSR performance is not the only determinant of CEO compensation. There are more variables that are determinants of CEO compensation as also indicated earlier. The following control variables are important determinants of CEO compensation but are not of direct interest for the effect between CSR performance and CEO compensation. Therefore, they are crucial to implement as part of the control variables. The control variables that will be added are all based on prior research.

The first control variable used is *firm size*, which is measured by using the logarithm of total assets of a firm (Hassan and Ghardadou, 2020), and the higher the total assets of a firm, the bigger the firm size. When a firm is big in size, it mostly has the capability to hire a powerful CEO. And when the CEO is powerful, he/she is competent to inquire for huge compensation amounts. For this reason, this research assumes that the association between firm size and CEO compensation is positive (Mehran, 1995). Consistent with Karim et al (2018) and Core et al (1999), their study also shows that the larger the firm and its investment opportunities, the larger the compensation amount tend to be.

Another firm specific control variable used in this study is *Return on Assets (ROA)* which is a proxy used for firm profitability. ROA is calculated by using net income (LOSS) (NI) divided by total assets (Karim et al 2018). ROA is associated with executive compensation since firm profitability is positively correlated with CEO compensation and therefore, it is expected that ROA is a determinant of CEO compensation which should be controlled for (Mehran, 1995).

The next control variable, *leverage*, is a firm-specific variable, which is calculated as the total debt divided by total assets (Karim, et al 2018). When a firm has low leverage, there are less obligations to fulfill which will also lead to facing less risk. This gives a firm the capability to invest more into CSR activities for the improvement of his/her image or reputation with the hope to gain more compensation (Barnea & Ruben 2010). Hence, it is assumed that leverage is expected to have a negative impact on CEO compensation.

Moreover, the fourth control variable used in this study is *Board Size*. Board Size is expected to have a positive relation with CEO compensation since when the size of the board increases, the organization of the board becomes complicated and thus it is anticipated that that when monitoring decreases, CEOs have more potential for enlarging the compensation package. In other words, when board size enhances, it is most likely that the board will have less productivity with monitoring and consequently leading to CEO pay being less sensitive to performance (Core et al, 1999). Board size is measured by taking the total number of directors on board.

The third control variable is *board independence*. This is determined by the variable board affiliation, named as 'CLASSIFICATION' within the dataset. When the independence of the board is present for a company, it will be indicated with the letter 'I' or 'I-NED'. This means that the proportion of independent directors outweigh the proportion of dependent directors when the independence is available. All other are classified as insider with the letter 'E' including Exec and 'L' for linked. Other studies have used a different approach in which the proportion between independent and dependent directors from the total number of directors sitting on board (Hassen & Ghardadou, 2020; Core et al 1999) or using the ratio of independent directors on board (Karim et al, 2018). This study will use board independence as a dummy variable (INDEPENDENCE = 1, INSIDER = 0). The reason for why this variable should be controlled for is because it is found that board independence has a positive correlation with executive compensation (Andrés, 2017). Karim, et al. (2018)'s results also indicate that a higher level of equity-based compensation is paid when board independence is higher. This study assumes that when board independence is present, it will result in higher compensation.

The fifth control variable is *CEO age*, whereby it is known as the higher the age of the CEO, the higher the compensation amount since experience increases with age, and therefore managerial talent also enhances (Finkelstein et al, 2000). This is consistent with a few other studies that there exists a positive relation between the age of the CEO and its compensation amount (Alves et al 2016; Ryan et al 2001).

The final variable that will be controlled for is *CEO ownership*, which is measured by the natural logarithm of the total number of shares a CEO of a company owns in total. This control variable is expected to have a positive relationship with CEO compensation, because more shares give the CEO the power to vote and make its decisions, eventually leading to creating its own compensation by increasing its amount (Fernandes et al. 2012). Similarly, Buigut (2015) found a positive significant relation between CEO ownership and CEO compensation because the higher the ownership of the CEO, the higher the level of compensation.

3.5 Lagged association

A 1 year-lag exists between CSR and compensation to capture the impact of CSR on executive compensation to prevent simultaneity issues (Mahoney & Thorn, 2006; Karim et al 2018). This will be indicated as t-1 for CSR performance, which means that before the CSR performance data, the CEO compensation is measured at date t.

3.6 Regression Model

The association between CSR performance on executive compensation will be analyzed by using the following three regression models for each CEO compensation structure:

Model 1:

$$\text{LOGTotalCompensation} = \beta_0 + \beta_1 \times \text{ESG scores}_{-1} + \beta_2 \times \text{FIRM SIZE} + \beta_3 \times \text{ROA} + \beta_4 \times \text{LEVERAGE} + \beta_5 \times \text{CEO own} + \beta_6 \times \text{CEO AGE} + \beta_7 \times \text{BOARD SIZE} + \beta_8 \times \text{BOARD INDEPENDENCE} + \text{INDUSTRY_FE} + \text{YEAR_FE} + \varepsilon$$

Model 2a:

$$\text{LOGEquityCompensation} = \beta_0 + \beta_1 \times \text{ESG scores}_{-1} + \beta_2 \times \text{FIRM SIZE} + \beta_3 \times \text{ROA} + \beta_4 \times \text{LEVERAGE} + \beta_5 \times \text{CEO own} + \beta_6 \times \text{CEO AGE} + \beta_7 \times \text{BOARD SIZE} + \beta_8 \times \text{BOARD INDEPENDENCE} + \text{INDUSTRY_FE} + \text{YEAR_FE} + \varepsilon$$

Model 2b:

$$\text{LOGCashCompensation} = \beta_0 + \beta_1 \times \text{ESG scores}_{-1} + \beta_2 \times \text{FIRM SIZE} + \beta_3 \times \text{ROA} + \beta_4 \times \text{LEVERAGE} + \beta_5 \times \text{CEO own} + \beta_6 \times \text{CEO AGE} + \beta_7 \times \text{BOARD SIZE} + \beta_8 \times \text{BOARD INDEPENDENCE} + \text{INDUSTRY_FE} + \text{YEAR_FE} + \varepsilon$$

Some notes to consider for the models represented above:

- * All the dependent variables are expressed as natural logarithms to reduce and prevent skewed results.
- * The first model, LOGTotalCompensation, is the total sum of salary, total amount of bonuses received and other annual; restricted stock grants, LTIP Payouts, value of option grants; and all other belonging to total compensation. The natural logarithm of total compensation is used for this analysis.
- * The second model (2a), LOGEquityCompensation, is the total sum of restricted stock holdings and option awards. The natural logarithm of equity-based compensation is used for this analysis.
- * Model 2b, LOGCashCompensation, is the sum of salaries and bonuses. The natural logarithm of cash-based compensation is also used for this analysis.
- * ESG scores are a representation of the overall score regarding a company's CSR activities, which is lagged for one year.
- * For the control variables, the natural logarithm is used of total assets, which is used to measure firm size, as well as the natural logarithm for total number of shares for CEO ownership (CEO own). ROA and leverage are firm specific variables, in which ROA is calculated by using net income divided by total assets and leverage is calculated by using the total debts divided by the total assets of a firm. Board size is the total number of directors sitting on board. Board independence is a dummy variable, whereby 1 represents independence, and 0 otherwise.
- * INDUSTRY_FE and YEAR_FE represent industry- and year- fixed effects, respectively.

4. Empirical Analysis

4.1. Descriptive statistics

The final data comprises 2042 observations for approximately 400 companies within the S&P500 between 2017 and 2021. Table 2 shows the descriptive statistics of all the variables and the new variables created (equity + cash-based compensation), including the mean as well as standard deviation. The panel data is classified as unbalanced since the proportion is not equal between the variables due to the absence of missing values.

When analysing the ESG scores of the S&P500 data, it is visible that the scores range from a minimum of 2 to a maximum of 91%. The mean has a value of 34.9%, which indicates that the average S&P500 firm scores on average almost 35% for their environmental, social, and governmental activities. This average is quite far from the maximum ESG score of 91%, indicating that on average, S&P500 firms receive lower ESG scores, thus lower investment in their CSR activities. Furthermore, a CEO from the S&P500 typically receives on average a higher amount of equity-based compensation with a mean of 8.613 as opposed to cash-based compensation with a mean of 6.757, respectfully. Consequently, this shows that higher amounts are received for long-term pay than short-term pay for the average CEO within the S&P500. The average amount of total compensation a typical CEO receives is 8.801. Karim et al. (2018) also implied that the amount of equity-compensation is on average higher than that for cash-based compensation to total compensation. The dummy variable Board Independence where 1 represents board independence and 0 otherwise, is also included in the table. Board independence has been changed from string to numeric for ensuring to be able to run regressions later.

TABLE 2: Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
<i>CSR measures:</i>					
ESGScore (%)	2042	2	91	34.9	20.297
<i>CEO compensation measures:</i>					
TotalCompensation (x1000)	2042	-6.908	11.816	8.801	1.066
EquityCompensation (x1000)	2042	3.091	12.995	8.613	1.230
CashCompensation (x1000)	2042	-6.908	10.065	6.757	1.301
<i>Control Variables:</i>					
Firm Size	2042	0.613	16.175	10.072	1.485
ROA (%)	2042	-0.270	1000.000	2.834	49.459
Leverage (%)	2042	0.000	769.412	2.126	26.053
CEO own	2042	-3.219	14.434	5.974	1.781
CEO Age	2042	38	92	59.27	7.417
Board Size	2042	5	20	10.83	2.164
Board Independence	2042	0	1	0.89	0.311

Notes: Summary Statistics: Independent + dependent + control variables for the number of observations, minimum, maximum, mean and standard deviation of the variables.

4.2 Correlation

Table 3 displays the results from the correlation matrix. The focus is emphasized more between the linear relationship of the dependent variables and the independent variable. However, it also ensures an indication between the control variables and the CEO compensation measures. The first hypothesis of this study indicates that there is no association between CSR performance and total compensation due to contrasting views. Remarkably, table 3 shows a positive association between ESG scores and total compensation with a value of 0.181. Its p-value is less than the significance level of 0.01 indicating that there is enough evidence to confirm this significance within this sample chosen for this research. Therefore, the chance is high that the null hypothesis will be rejected regarding the association between CSR performance and total compensation. When looking for evidence concerning the second hypothesis between the association of CSR performance and equity-based compensation, a positive association exists between the variables with an amount of 0.77, also meeting the significance level under 1%, in which this supports the second hypothesis of this study. Surprisingly, when making an indication on the third hypothesis regarding the relation between CSR performance and cash-based compensation, there appears a positive correlation, which is higher than that for equity-based compensation. Its p-value is under significance level, showing a statistically significant result. Consequently, this result provides an interpretation that investing more in CSR performance will increase the compensation level of CEOs in the form of bonuses and salaries rather than option awards and restricted stocks. Nevertheless, these results still do not give us a full interpretation since control variables should be controlled for which will occur in the next stage when performing the regression analysis.

Overall, there seems to be no sign of multicollinearity since none of them are highly significant (***). However, to be sure about it and to avoid this problem entirely from the regression model run later in the study, a further collinearity statistics table is created which is displayed in table 4. This table shows the variation inflation factor (VIF) for all explanatory variables. All variables are within the 1 to 10 range indicating that there is no need for concern since there exists a moderate level of correlation. It is mostly a concern when the VIF value is above 10, in which alternative actions should be taken for the prevention of multicollinearity (Hassen & Ghardadou 2020). This is not the case for this research study.

TABLE 3: Pearson Correlation

		<i>Total Comp.</i>	<i>Equity-based</i>	<i>Cash-based</i>	<i>ESGScore</i>	<i>Firm Size</i>	<i>CEOAge</i>	<i>Boardsize</i>	<i>BoardINDEP</i>	<i>ROA</i>	<i>CEOown</i>	<i>Leverage</i>
<i>Total Comp.</i>	Pearson Correlation	1										
	Sig.											
<i>Equity-based</i>	Pearson Correlation	.556**	1									
	Sig.	<.001										
<i>Cash-based</i>	Pearson Correlation	.505**	.278**	1								
	Sig.	<.001	<.001									
<i>ESGScore</i>	Pearson Correlation	.181**	.077**	.135**	1							
	Sig.	<.001	<.001	<.001								
<i>Firm Size</i>	Pearson Correlation	.253**	.150**	.207**	.319**	1						
	Sig.	<.001	<.001	<.001	<.001							
<i>CEOAge</i>	Pearson Correlation	0.026	-0.005	.126**	-0.029	.088**	1					
	Sig.	0.121	0.421	<.001	0.096	<.001						
<i>Boardsize</i>	Pearson Correlation	.153**	-0.011	.162**	.198**	.419**	.048*	1				
	Sig.	<.001	0.329	<.001	<.001	<.001	0.014					
<i>BoardINDEP</i>	Pearson Correlation	.049*	.042*	.120**	.043*	-0.005	-0.034	0.001	1			
	Sig.	0.014	0.043	<.001	0.027	0.411	0.061	0.478				
<i>ROA</i>	Pearson Correlation	0.007	0.019	0.005	-.043*	-.265**	.061**	-0.013	-0.015	1		
	Sig.	0.384	0.216	0.41	0.026	<.001	0.003	0.272	0.253			
<i>CEOown</i>	Pearson Correlation	.229**	.350**	0.033	0.036	.221**	.299**	.065**	-0.02	.043*	1	
	Sig.	<.001	<.001	0.071	0.055	<.001	<.001	0.002	0.184	0.027		
<i>Leverage</i>	Pearson Correlation	0.006	0.028	0.004	-0.034	-.252**	.051*	-0.003	-0.011	.962**	0.031	1
	Sig.	0.389	0.127	0.421	0.061	<.001	0.01	0.449	0.316	0	0.085	

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

TABLE 4: Collinearity Statistics

<i>Variables</i>	<i>VIF</i>
<i>ESG Score</i>	1.128
<i>Firm Size</i>	1.518
<i>ROA</i>	8.593
<i>Leverage</i>	8.454
<i>CEO own</i>	1.167
<i>CEOAge</i>	1.115
<i>Board Size</i>	1.234
<i>BoardINDEP</i>	1.003

Notes: Table 4 represents the collinearity statistics table for each of the dependent variables for the analysis of multicollinearity. TDC1 is used as dep. variable for this collinearity test. It shows the VIF for each explanatory variable. A rule of thumb is $VIF < 10$ to have no multicollinearity present. Firm Size is the natural logarithm of total assets. CEOown is the natural logarithm of CEO Ownership. BoardINDEP is a dummy variable where 1 is independent and 0 otherwise.

4.3 Multivariate analysis

4.3.1 Findings:

The findings of the OLS regression model are outlined in table 5 and table 6 respectfully, in which it summarizes the effect of CSR performance on Executive compensation structure within the S&P500 firms. Three models are included in which each represent a component of executive compensation. The first model is based on the dependent variable: total compensation. Table 6 is based on the dependent variable: equity-based compensation, and the last regression model for table 7 shows the cash-based compensation results. The findings of the model are based on the independent variable ESG scores, representing CSR performance for the S&P500 firms. The control variables included are a mix of firm-specific – and CEO-specific controls. In addition, the fixed effects are year and industry. The findings of each model will be presented and explained below:

TABLE 5: Regression results – MODEL 1

<i>TOTAL COMPENSATION (TCD1)</i>				
	<i>Coef.</i>	<i>Std. Error</i>	<i>t-stat</i>	<i>p-value</i>
<i>Intercept</i>	5.348	0.877	6.097	<.001
<i>Independent Variable:</i>				
<i>ESGScore</i>	0.006	0.002	3.75	<.001
<i>Control variables:</i>				
<i>Firm Size</i>	0.105	0.03	3.547	<.001
<i>ROA</i>	-0.009	0.004	(-1.98)	0.048
<i>Leverage</i>	0.023	0.01	2.274	0.023
<i>CEO own</i>	0.105	0.019	5.429	<.001
<i>CEOAge</i>	-0.003	0.004	(-0.58)	0.562
<i>Boardsize</i>	0.037	0.016	2.327	0.02
<i>BoardINDEP</i>	0.096	0.1	0.952	0.341
Year-fixed effects	Yes			
Industry-fixed effects	Yes			
N	2042			
R ²	0.431			
Adjusted R-squared	0.05			

Notes: This table shows the effect of CSR performance on total compensation. The dependent variable is the natural logarithm of total compensation, existing of total salaries, the total amount of bonuses received and other annual; restricted stock grants, LTIP Payouts, value of option grants; and all other. The fixed effects for industry and year are also included. The control variables correlated with the dependent variable are also displayed in the table. Significance level is 5%. Results are also significant when t-stat > 1.96.

Findings for Total compensation

Model 1, as presented in Table 5, shows the evidence to the first hypothesis formulated for this study, in which it was assumed that CSR performance has no association with total compensation. Evidently, from the regression results in table 5, it appears that there is an association between CSR performance and total compensation by looking at the ESG scores, consisting of a positive coefficient of 0.006. The p-value is under the significance level (under 5%) in which it can be said that the relationship is also statistically significant. In addition, this could also be derived from the t-stat of 3.75, which is higher than than the 1.96 benchmark level. This can be interpreted as when a company within the S&P500 increases the time spent on its CSR activities and performance whereby its ESG score improves, then the amount of total compensation increases as well. Thus, when CSR performance grows by one-unit, total compensation will rise by 0.6%. Nevertheless, these results do not support the first hypothesis formulated since it appears that there is a positive association between CSR performance and total compensation. Therefore, the first hypothesis of this study is rejected. The results of model 1 do support the argumentation of Cai et al (2011), that investing in CSR increases reputation depending on its intention of investing in CSR. The CEO will gain the ability of for the negotiation of higher level of pay since reputation increases the CEO's career which he/she will be provided with better opportunities and enhanced bargaining power

(Milbourn 2003). The results can also confirm the reasonings of Al-Shaer and Zaman (2017) and Karim et al (2018) that executives will be compensated for their hard work and recognition of engaging in CSR. The results reject the stakeholder theory argued by Hassen and Ghardadou (2020) and the ethical theory by Pott (2006). Based on the results of this model, resolved conflicts between management and stakeholders does lead to being rewarded in compensation.

Moving on to the control variables, total assets (Firm Size) show a statistically significant effect on total compensation, indicating that firm size and CEO compensation have a positive relationship, which is consistent with Mehran 1995; Karim et al 2018; Core et al 1999; and Hassan & Ghardadou 2020. What is very surprising is the negative correlation between ROA and total compensation of -0.009, which is not consistent with prior studies whereby firm profitability is strongly and positively correlated with CEO compensation (Mehran, 1995). Additionally, leverage also has surprising results whereby it shows a positive correlation with total compensation. Again, this was not expected since prior research found a negative correlation between leverage and CEO compensation. Moreover, CEO ownership (CEO own) and Board size are both positively associated with total compensation and are statistically significant since their results are under the significance level of 5% (Fernandes et al. 2012; Buigut 2015; Core et al, 1999). The negative coefficient for CEO age does not show a statistically significant outcome between the age of the CEO and total compensation. It was expected that when the CEO gets older, he/she receives more power due to his/her experiences built throughout the years. Contrastingly, the results imply that age does not decide the compensation amount and that it is possible for younger CEOs to receive a higher compensation package than older CEOs. In other words, from the results it appears that age is not a determinant of CEO compensation for the S&P500 for the years 2017-2021. This contradicts the view of Alves et al (2016) and Ryan et al (2001).

Findings for Equity-based Compensation

Model 2 in table 6 represents the regression results for the association between CSR performance and equity-based compensation. The previous results above from model 1 did suggest that there is an association between CSR performance and total compensation, hence it is expected that there could be a positive result in its component as well. When the hypothesis for model 2 was formulated, it was based on reasonings from prior research that CSR performance has a positive effect on equity-based compensation. Effectively, the results of table 6 show a positive correlation between ESG scores and equity-based compensation with the same amount as model 1 of 0.006. Additionally, it shows a significance level of 0.002 which is considered as statistically significant as its p-value is under the 5% benchmark and with a t-stat of 3.033. This result can be interpreted as the more effort a firm within the S&P500 puts into its CSR activities (one unit increase), the more the CEO will be granted with equity-based compensation with an increase of 0.06%. This result is compatible with the second hypothesis which was formulated based on the arguments of prior research. When a firm is performing well with its CSR activities, equity-based compensation is a popular method to be compensated with because it will align the manager's objectives with that of the shareholders for the mitigation of agency costs argued by Cohen et al (2022); Benmelech et al, 2010; Mehdi & Imen, (2014); Murphy (1985), Choi et al (2021). The results of this model could confirm that firms use CSR activities as part of its business strategy (Karim et al 2018). I can confirm, based on the results, with Kato and Kubo (2006) that the likelihood of a CEO being granted in the form of stocks than cash is greater.

As indicated before for the results in model 1, ROA has a negative relation and this could be seen in this model as well, whereby it has returned the same results. Moreover, a higher level of equity-based compensation is reached when board independence is high (Karim et al 2018) but the results of model 2a shows contradicting views, since there is no statistical significance between board independence and equity-based compensation. CEO ownership and Board size again have a positive significant outcome consistent with the model 1 results for the impact on total compensation. CEO age returns a negative coefficient of -0.023 and this time it is statistically significant, implying that when age increases, the level of equity-based compensation decreases by 0.023. Firm size shows a positive and statistically significant result with a coefficient of 0.025 and a p-value under significance level, which relates to the reasonings of model 1 indicated above. Leverage again returned a negative significance as the results for model 1, which is not consistent with prior research.

TABLE 6: Regression results - MODEL 2a

<i>Equity-Based Compensation</i>	<i>Coef.</i>	<i>Std. Error</i>	<i>t-stat</i>	<i>p-value</i>
<i>Intercept</i>	11.168	1.175	9.504	<.001
<i>Independent variable:</i>				
<i>ESGScore</i>	0.006	0.002	3.033	0.002
<i>Control variables:</i>				
<i>Firm Size</i>	0.025	0.034	0.721	0.471
<i>ROA</i>	-0.009	0.005	(-1.891)	0.059
<i>Leverage</i>	0.023	0.012	1.967	0.049
<i>CEO own</i>	0.264	0.024	11.203	<.001
<i>CEOAge</i>	-0.023	0.005	(-4.368)	<.001
<i>Boardsize</i>	-0.01	0.019	(-0.55)	0.582
<i>BoardINDEP</i>	0.052	0.113	0.457	0.648
<i>Year-fixed effects</i>	<i>Yes</i>			
<i>Industry-fixed effects</i>	<i>Yes</i>			
<i>N</i>	2042			
<i>R2</i>	0.588			
<i>Adjusted R2</i>	0.275			

Notes: Table 6 presents the results for the second hypothesis for the relation between CSR performance and Equity-based compensation. The beta coefficient is present + the standard error + t-statistics and the p-value of the model. The dependent variable is the natural logarithm of equity-based compensation, consisting of the sum of restricted stocks + option awards. Industry fixed effects and year fixed effects are also included in the regression model. The significance level is 5% based on a 95% confidence interval. Results are also significant when t-stat > 1.96.

TABLE 7: Regression results – MODEL 2b

<i>Cash-based compensation</i>	<i>Coef.</i>	<i>Std. Error</i>	<i>t-stat</i>	<i>p-value</i>
<i>Intercept</i>	3.924	0.951	4.125	<.001
<i>Independent variable:</i>				
<i>ESGScore</i>	0.002	0.002	1.132	0.258
<i>Control variables:</i>				
<i>Firm Size</i>	0.04	0.032	1.262	0.207
<i>ROA</i>	-0.005	0.005	-1.011	0.312
<i>Leverage</i>	0.013	0.011	1.182	0.237
<i>CEO own</i>	-0.042	0.021	-2.009	0.045
<i>CEOAge</i>	0.017	0.005	3.683	<.001
<i>Boardsize</i>	0.063	0.017	3.702	<.001
<i>BoardINDEP</i>	0.461	0.107	4.294	<.001
<i>Year-fixed effects</i>	Yes			
<i>Industry-fixed effects</i>	Yes			
<i>N</i>	2042			
<i>R2</i>	0.567			
<i>Adjusted R2</i>	0.282			

Notes: This table presents the results between the relation of CSR performance and Cash-based compensation. The dependent variable is the natural logarithm of cash-based compensation, consisting of salaries and bonuses a CEO receives. The beta coefficient is present + the standard error + t-statistics and the p-value of the model. The significance level is 5% based on a 95% confidence interval. Results are also significant when t-stat > 1.96.

Findings for Cash-based Compensation.

Model 2b, as represented in table 7, shows the findings for the relation between CSR performance and cash-based compensation. The formulated hypothesis for this model assumed that there is a negative association between CSR performance and cash-based compensation. Surprisingly, the results in table 7 shows a contradictory view, representing no correlation between ESG scores and cash-based compensation since the results show that the variables are not statistically significant as the p-value is higher than the 5% benchmark and also indicated with the t-stat of 1.132, which is lower than its benchmark. Therefore, this does not support the evidence against the third hypothesis. The reason could be because of the amount of salary included since salary is a fixed compensation method and is not driven by CSR performance. However, Hassen & Ghardadou (2020)' regression results present a negative relationship between CSR and salary and perhaps there is a difference between the proxies used for CSR performance since this study focuses on the overall ESG scores of firms within the S&P500 and Hassen & Ghardadou (2020)'s research focuses on firms within the SBF index for a different period.

Firm size is for this model not statistically significant, showing no effect on cash-based compensation, whereas for total compensation and equity-based compensation, it did return a positive correlation. ROA and leverage are also not statistically significant since the p-value is

under significance level and the t-value is not higher than the benchmark. CEO ownership is negatively related to cash-based compensation with an amount of -0.042, which is again the opposite of model 1 and model 2a. Board size and Board independence are positively correlated with cash-based compensation with a statistically significant result. When Andrés (2017) stated that board independence leads to higher CEO compensation, it is compatible if it is related to cash-based compensation within this context. Karim et al (2018) only mentioned that board independence leads to higher equity-based compensation, and it did not mention anything about cash-based compensation to confirm the results of table 7. Remarkably, CEO age has shown a positive significance for table 7 with a coefficient of 0.017 and with a p-value under significance level, presenting a statistically significant result. This means that when it was mentioned by prior research that the older the CEO is, the higher the compensation of the CEO due to experiences gained over the years, that it could be confirmed for cash-based compensation. Thus, the older a CEO gets, he/she will get compensated with cash-based compensation, specifically in the form of salary and bonuses.

Overall, when comparing the results from the models, it could be derived that model 1 and model 2a have returned quite equivalent results in terms of correlations of the independent variable and the dependent variable, but also between the explanatory variables and dependent variable. For model 2 table 7, an opposing model is shown in comparison with the first two results.

5. Conclusion

An investigation between the effect of CSR performance on Executive Compensation has been conducted for firms within the S&P500 index for 5 consecutive years starting from 2017 until 2021 for 2042 observations. With hand collected ESG scores as a measure of CSR performance and data retrieved from WRDS for the dependent variables and explanatory variables, an analysis was performed to understand this relationship. After controlling for specific control variables and using fixed effects, this study finds that the higher the ESG score of a firm, the higher the executive compensation will be, therefore indicating that CSR performance has a positive association with executive compensation by analysing the total compensation a typical CEO within the S&P500 receives. This answers the first part to the research question on whether there is a correlation between CSR performance and executive compensation. To answer the second part of the research question, this study divided executive compensation into further components: equity-based compensation and cash-based compensation. Effectively, the results show that the higher the ESG score of a firm, the higher the equity-based compensation, thus indicating that CSR performance has a positive association with equity-based compensation. On the contrary, it was expected that the results between the relation of ESG scores and cash-based compensation would return a negative outcome, however, there was no association at all as the result was not statistically significant. Therefore, equity-based compensation is driven more by CSR performance, which answers the second part of the research question. This study could confirm that CSR performance is a determinant of CEO compensation, and that CSR performance also affects equity-based compensation for the years 2017-2021 within firms listed in the S&P500. Successfully, this is consistent with a few studies that predicted that CSR performance has a positive relationship with CEO compensation, and it also affects equity-based compensation (Karim et al, 2018; Berrone & Gomez-Mejia 2009; Benmelech et al 2010; Mehran, 1995; Murphy 1985; Mo et al 2018; Milbourn 2013). Moreover, the results also confirm the concern regarding the excessive compensation amounts in recent years, which is driven by CSR activities.

5.1 Limitations and future research direction

Even though the years have added a recent perspective to this study, the years chosen are influenced by restrictions due to covid19 pandemic. For example, there was a period where employees could not work from office and therefore limited sources were available. This may influence the results in terms of time spent on CSR performance while businesses were busy creating different strategies, especially with the use of advanced technology. Therefore, the results may be affected by these restrictions for these years. Another limitation of this study is that although it is interesting to get recent data, there is not always information available that is needed for this analysis and therefore most data should be hand-collected which could be difficult and time-consuming. But it will be interesting for future studies to focus on whether the association between CSR performance have strengthened or weakened over time. It is also interesting to perform qualitative analysis in terms of questioning companies regarding their CSR activities and the time and effort spent on it to be able to assess it yourself. Additionally, since CSR performance drives the excessive CEO compensation amounts, it is interesting for future studies to see the effect of CSR performance on pay inequality between employees and executives for recent years. Besides, it could dive deeper into equity-based compensation and

research whether it really is a method to grant executives with and in regard to minimize the effect of pay inequality confirming the argument of Kato & Kubo, (2006).

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Appendices

Appendix A: Variable definitions

Variables	Source + definition
<i>Total Compensation</i>	(TCD1) Natural Logarithm of total compensation. The sum of total salaries, the total amount of bonuses received and other annual; restricted stock grants, LTIP Payouts, value of option grants; and all other. - Execucomp
<i>Equity-based compensation</i>	Natural Logarithm of equity-based compensation. The sum of option awards + restricted stock holdings - Execucomp
<i>Cash-based compensation</i>	Natural logarithm of cash-based compensation. The sum of salaries + bonuses - Execucomp
<i>ESG Score</i>	Hand-collected from S&P Global Sustainability ¹ website based on the Corporate Sustainability Assessment (CSA) Survey and publicly available information.
<i>Firm Size</i>	Compustat North America – Natural Logarithm of Total assets of firm – Total (AT)
<i>ROA</i>	Return on Assets - proxy used for firm profitability Net income/Total assets – Compustat Execucomp
<i>Leverage</i>	Total debt/total assets – Compustat Execucomp
<i>Board Size</i>	Boardex (na_wrds_org_summary) - number of directors on board (numberdirectors)
<i>CEO Ownership</i>	Natural Logarithm of total shares - Compustat Executive Compensation - Annual Compensation
<i>CEO age</i>	Compustat Execucomp – Annual Compensation - (AGE)
<i>Board Independence</i>	ISS (formerly RiskMetrics) - Board affiliation (E-employee/insider; I-Independent; L-linked; NA-not ascertainable) (CLASSIFICATION)