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Corporate Social Responsibility (CSR) and the Effectiveness of Result Controls

Master Thesis

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MSc Accounting and Control

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Acknowledgments

Behold the output of a process of writing and scaling, supplementing and deleting, discussing and persuading, printing and shredding, enthusiasm and disappointment and hard work. I am proud to present you my master thesis 'Corporate Social Responsibility (CSR) and the Effectiveness of Result Controls'. This master thesis was written in order to fulfill the requirements for the degree of Master of Science (MSc) at Erasmus University Rotterdam (EUR).

The process of writing my thesis started in February 2017. I began, in good spirit, setting up the theoretical framework about Corporate Social Responsibility and Management Control Systems (Result Controls). During my study, I had learned a lot about Management Control Systems and I was also familiar with Corporate Social Responsibility. Therefore I did not expect it was too difficult to set up the theoretical framework. However, after reading many scientific papers and studies, I came to the conclusion that it was more complicated than expected. In general it can be concluded that authors differ from opinion with respect to the definition of Corporate Social Responsibility. In addition, this also applies to Result Controls and its effectiveness. Eventually, I gathered all information with regard to the relation between Corporate Social Responsibility and Result Controls in order to set up the framework of my thesis. It was really interesting to read the results of my predecessors.

Then, the real work started; conducting my research. In my opinion, building the statistical model and performing the statistical tests was the most interesting part of my master thesis. Finally, having all the statistical results with regard to the association between Corporate Social Responsibility and Result Controls, I was able to form the conclusion of my thesis.

It is the end of May when I am writing this acknowledgement and this thesis-process has come to an end. Actually, having learned a lot of this process I have to admit that I really enjoyed it and, secretly I am afraid I will be going to miss the work on my thesis. I am proud of the final result and I hope that the outcomes of my study will contribute to the executive compensation management of companies. Finally, I hope that this thesis motivates my successors to do some follow-up research concerning the association between Corporate Social Responsibility and Result Controls.

I would like to take this opportunity to express my gratitude to some people. First of all, I would like to thank my thesis supervisor drs. T.P.M. Welten, for casting a critical eye over my research. He gave me valuable feedback throughout the entire thesis process. Furthermore I would like to thank (my colleagues of) EY (Ernst & Young) for their time and resources which allowed me to complete this master thesis. Finally, I would like to thank my parents for supporting me.

I hope that you will enjoy reading this master thesis!

Roos de Winter   Warmond, 31th May 2017

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Abstract

This study examines the association between CSR-related result controls (pay-for-CSR-performance) and the CSR-performance of U.S. S&P500 firms. Nowadays, prioritization of CSR is essential for firms, given the increased public awareness of CSR-related issues. Firms with a strong focus on CSR will outperform the firms lacking this valuable CSR-focus (potentially higher financial- and stock market performance and better access to finance). Unfortunately, CSR is still not on the desired level. This study investigates whether result controls, to which executives are (partly) rewarded based on the achievement of CSR-targets, can be used to overcome this issue, having a positive effect on the CSR-performance. In addition, this research focuses on whether a more compatible, measurable and/or controllable CSR-target enhances the effectiveness of the CSR-related result controls.

Using univariate (simple) regression analyses and multivariate (OLS-) regression analyses, the empirical results indicate that CSR-targets in the executive compensation significantly increase the CSR-performance. Thus, pay-for-CSR-performance can be an effective tool to create long-term (CSR) value and promote the interests of stakeholders. In addition, the results indicate that the use of compatible targets will be significantly more effective than non-compatible targets. The use of measurable targets and controllable targets does not have a significant effect on the CSR-performance.

Keywords: Corporate Social Responsibility (CSR), executive compensation, management control systems, result controls, effectiveness, pay-for-CSR-performance, extrinsic and intrinsic motivation.

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List of abbreviations

ADF-test	Augmented Dickey Fuller- test
ADJ	Adjusted
CEO	Chief Executive Officer
CEO DUAL	CEO-duality
COM	Community
CON	Concerns
CSP	Corporate Social Performance
CSR	Corporate Social Responsibility
CSR IND COMPAT	CSR Indicator Compatible
CSR IND QUANT	CSR Indicator Quantitative
CSR PER	CSR Performance
DF	Degrees of Freedom
DIV	Diversity
DJSI	Dow Jones Sustainability Index
EMP	Employee Relations
ENV	Environment
ESG	Environmental, Social and Governance
HUM	Human Rights
IND	Indicator
LEV	Leverage
MAX	Maximum
MCS	Management Control Systems
MIN	Minimum
MSCI	Modern Index Strategy Indexes
OLS	Ordinary Least Squares
PRED. SIGN	Predicted Sign
PRO	Product
R&D	Research & Development
ROE	Return On Equity
SDT	Self-Determination theory
S&P	Standard & Poor's
SIC	Standard Industrial Classification
STD. DEV.	Standard Deviation
STR	Strengths
TA	Total Assets
TOT	Totaal
VIF	Variance Inflation Factor

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1. Introduction

1.1 Problem statement

CSR, related to the social and environmental activities undertaken by organizations, is a 'hot' topic. For a long time, CSR was considered as a framework to get an understanding of the firm-society relation, in which CSR focused on protecting (avoid negative impacts on society) and improving (generate more benefits for society). Nowadays, stakeholders perceive CSR as a concept to adopt all activities which are not required by law (Carroll, 2015). It refers to the firms' responsibility for actions that affect people and their environment. CSR-activities are centered around the well-known triple bottom line: People, Planet and Profit (Henriques & Richardson, 2013).

Investors and other stakeholders increasingly push companies to improve their CSR-management and -performance (Arjaliès & Mundy, 2013). Firms operate in an environment facing many environmental and social changes, like extreme weather changes, and the increasing demand for limited resources. In line with these changes, prioritization of CSR is crucial for firms (Porter & Kramer, 2006). A majority of CEO's state that CSR-performance is important for financial performance (Carroll & Shabana, 2010; Flammer, 2013) , stock market performance (Eccles, Ioannou & Serafeim, 2014) and access to finance (Cheng, Ioannou & Serafeim, 2014). There is an increasing emphasis on CSR within firms as a result of the growing belief that CSR-oriented strategies are an important source of competitive advantage (Berrone & Gomez-Mejia, 2009). Firms that have a strong focus on sustainability outperform the firms lacking this valuable CSR-focus (Eccles et al., 2014).

Unfortunately, CSR is still not on the desired level, demonstrated by a large amount of recent, well-publicized scandals and problems (e.g. Volkswagen emission scandal in 2015) (Looser & Wehrmeyer, 2016). According to a report released by Ceres and Sustainalytics (2014), U.S. firms move too slow given the importance of current CSR-challenges. This begs the question how firms can optimize their (inadequate) CSR-performance, and thereby their competitive advantage.

1.2 Research question and -objective

Research has been done on a wide range of determinants of CSR-performance, like leverage, size, profitability and CEO's characteristics (Deckop, Merriman & Gupta, 2006; Chin, Hambrick & Treviño, 2013). However limited research focuses on result controls as possible determinant.

Result controls relate to pay-for-performance, in which employees are rewarded based on providing results (Merchant & Van der Stede, 2017). The implementation of a pay-for-performance reward system is a powerful way to influence behavior in organizations (Maon, Lindgreen & Swaen, 2008).

Prior literature states that employees will supply more output and will provide a higher performance when they are paid based on their output and performance (Lazear, 2000). These result controls align the interests of managers and stakeholders (Deckop, Mangel & Cirka, 1999). Based on the motivational characteristics of pay-for-performance, you can suggest that implementing CSR- criteria in the reward system will motivate managers to increase CSR-performance.

However, according to a study of Ceres and Sustainalytics (2014), only 24.0% of the largest, publicly traded U.S. companies had included CSR-criteria in their compensation programs in 2014. A potential explanation for this surprising low number of firms linking CSR to executive pay is the weak link between CSR-based pay and the actual CSR-performance. Therefore, it is relevant to investigate whether or not more firms should use these result controls in order to increase their (inadequate) CSR-performance. The purpose of this study is to examine the impact of result controls on the Corporate Social Responsibility (CSR-) performance. More specifically, this study investigates in what extent pay-for-CSR-performance affects the actual CSR-performance and which factors (compatibility, measurability and controllability of the target) enhance the effectiveness of pay-for-CSR-performance.

This study provides an answer to the following research question:

Do result controls improve CSR-performance?

In order to give an answer to this central research question, the following sub-questions are formulated:

1. What are the main theoretical constructs underlying the result controls-CSR performance relation?

2. What have been found in prior literature with regard to the result controls-CSR performance relation?

3. Which hypotheses can be formulated with regard to the result controls-CSR performance relation?

4. Which research methodology should be used to analyze the result controls-CSR performance relation?

5. What are the empirical findings with regard to the result controls-CSR performance relation?

1.3 Relevance

1.3.1 Practical relevance

The outcomes of this study are relevant, because of the recent developments in the world with regard to CSR. Optimization of CSR is crucial given the increased public awareness of sustainability issues

(Berrone & Gomez-Mejia, 2009) and the current, inadequate CSR-performance. A high CSR-performance will prevent scandals with adverse, financial consequences and reputation damage, will improve financial - and stock market performance, will make the access to finance easier and will contribute to sustainability as a source of competitive advantage.

The outcomes of this study are relevant for firms having integrated CSR in their strategy and would like to optimize their CSR-performance. Moreover, the outcomes of this study are valuable for firms not having implemented CSR in their strategy yet, but have the intention to implement CSR in the (near) future. The outcomes of this study will help these firms to implement CSR effectively by giving clarity about the effect of result controls in improving CSR and how the effectiveness of result controls can be enhanced.

The outcomes of this study are of special interest for the board of directors, or, if present, for the compensation committees of firms. A compensation committee has the responsibility of designing effective compensation programs for executives. The outcomes of this study provide guidance in the design of the compensation package, and how an effective design of the compensation package can improve CSR-performance if CSR is part of the current or future business strategy.

1.3.2 Scientific relevance

This study makes an important contribution to the existing literature concerning the association between result controls (pay-for-CSR-performance) and CSR-performance of the top listed companies in the U.S (S&P500). Like I said before, there is limited research focusing on the result controls as possible determinant for CSR-performance. Moreover, the evidence of this limited literature is mixed. While some researchers have found a positive link between result controls and CSR-performance, others have found weak or no support for this specific association.

Furthermore, the existing literature mainly focuses on the environmental compensation indicators and environmental performance, while most firms actually focus on social targets (Maas & Rosendaal, 2016). This study will provide a better understanding of the effect of both environmental and social targets in executive compensation packages on the overall CSR-performance, without focusing on one particular category of CSR.

In addition, limited research focuses on possibilities to enhance the effectiveness of result controls in improving CSR-performance. Thereby, this research addresses an important gap in the literature. More specifically, this study is unique in investigating the effect of compatibility, measurability and controllability of the target, which are important conditions for effective result controls, in the result control-CSR association. These conditions refer to the difference between compatible and non-compatible CSR-targets (CSR is formulated as overall organizational goal, making the target

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compatible with the (integrated) strategy), quantitative and qualitative targets (quantitative CSR target is considered as more measurable) and the effect of controllable and non-controllable targets (CEO with high power has more control over the achievement of the CSR-target).

Finally, this study contributes to several studies (e.g. Russo & Harrison, 2005; Merriman & Sen, 2012) by focusing on the pay at executive level instead of middle-management level. This research focuses on the executive pay for several reasons. First, effective CSR-management is often an important responsibility assigned to executives (Cordeiro & Sarkis, 2008). Second, executives may have a considerable impact on the CSR-initiatives across the company, through employee empowerment, adjusting the organizational culture and training provision (Sharma, 2000). Third, publicly traded companies have the obligation to provide information with regard to the executive compensation and the firm performance, because of disclosure regulations. This results in a large dataset of executive pay- and performance- information (Lazear, 2007).

1.4 Research methodology

This study makes use of a quantitative research method. Using univariate (simple) regression analyses and multivariate (OLS-) regression analyses, the main- and sub-hypotheses belonging to the research question are tested. The study focuses on listed U.S. firms (S&P500) in 2011-2013.

The dependent variable, CSR-performance, is measured based on the MSCI KLD-rating, which consists of the strengths and concerns of six different CSR-dimensions. The data needed to measure the MSCI KLD-rating is gathered from the MSCI database (formerly KLD). The main independent variable, which is a dummy variable indicating if there are CSR-targets included in the executive compensation, is collected from the ESG-ASSET4 database (Datastream).

In order to measure the effectiveness of result controls (compatibility, measurability and controllability of the target), several independent variables are used. First, compatibility of the target is determined based on the existence of an integrated strategy in which CSR is formulated as an overall organizational goal, making the (CSR-) target compatible. The data belonging to this variable is collected from the ESG-ASSET4 database (Datastream).

Second, the proxy for target measurability is related to the type of the target; quantitative or qualitative. The proxy is a dummy variable equals one if the target(s) used in the compensation package is (are) quantitative, assuming that these type of targets are more measurable. The type of the target is (manually) collected from proxy statements trough the EDGAR database and, if necessary, from annual/sustainability reports.

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Finally, controllability of the target is linked to the power of the CEO. I make use of two proxies to measure CEO-power, namely CEO-tenure, which is the number of years since becoming CEO, and

CEO-duality, which is a dummy variable indicating if CEO is also chairman of the board (Li, Li & Minor, 2016). A longer CEO-tenure is associated with a higher CEO-power. In addition, if CEO is also chairman of the board, the CEO-power is expectedly greater. CEO-duality data is obtained from the ESG-ASSET4 database, while the data with regard to the CEO-tenure is collected from the Compustat North America database.

1.5 Structure

The structure of this research starts in chapter 2, which provides an overview of the main theoretical constructs related to result controls (performance-based pay) and CSR. Chapter 3 gives a review of the relevant literature, in which several studies with regard to result controls and CSR-performance are discussed. In particular, based on existing literature, the link between pay and CSR-performance and the link between CSR-performance-based pay and CSR-performance is discussed. The development of the hypotheses, based on relevant theories and existing literature, is part of chapter 4. Chapter 5 presents the research design, including the research method, Libby box, sample selection, data collection and the statistical methods necessary to test the hypotheses. The next chapter, chapter 6, presents and discusses the empirical findings. Finally, the key findings and implications, advice to management and board, limitations and recommendations for further research are provided in chapter 7. The appendices can be found at the end of the thesis. A complete overview of the research structure is provided in figure 1.5.1.

Figure 1.5.1: Research structure

2. Theoretical constructs

This section starts with an explanation of the concept CSR in section 2.1. Then the management control systems of Merchant and Van der Stede (2017) are explained in section 2.2. Section 2.3 discusses the Agency theory, which is the underlying theory of the investigated relationship. Hereafter the difference between intrinsic and extrinsic motivation is defined in section 2.4. (Executive) compensation is the main subject of section 2.5. Finally, section 2.6 focuses on one particular management control type of Merchant and Van der Stede (2017), namely result controls, and how the effectiveness of result controls can be enhanced. This chapter provides an answer to the first sub-question: What are the main theoretical constructs underlying the result controls-CSR performance relation?

Figure 2.1 presents a concept theoretical framework, consisting of the relevant theoretical constructs and the corresponding, expected interrelationships. I discuss the theoretical constructs and interrelationships in the next sections. After an in-depth analysis and discussion of the theoretical constructs and interrelationships, a final framework will be presented in section 2.7.

Figure 2.1: Framework of theoretical constructs belonging to the result controls and CSR-performance relation

2.1 Corporate Social Responsibility

2.1.1 Introduction CSR

This study focuses on the way how companies can enhance their CSR-performance, which can be seen as an overall, organizational goal. As discussed in the introduction, CSR is a 'hot topic' nowadays. It is an issue of growing interest. Barnea and Rubin (2010, p.1) even refer to CSR as "*the most significant corporate trends of the last decade.*" This is also reflected in the trend of CSR-reporting. Investors and other stakeholders demand greater transparency about the activities concerning CSR, which makes CSR-reporting more important (Kim, Park & Wier, 2012). Many companies respond to this increasing demand of CSR-information by voluntarily disclosing a CSR-report, as supplement of their financial statement (Moser & Martin, 2012). Companies have an increased tendency to create a clear understanding of their CSR-activities. This section will explain the concept of CSR and the possible methods for measuring the CSR-performance.

2.1.2 Defining CSR

There is a broad range of definitions of CSR. There is a lack of one, clear definition of CSR. Frankental (2001, p. 20) concludes that "*CSR is a vague and intangible term which can mean anything*

to anybody, and therefore is effectively without meaning." However, the huge collection of definitions are mainly congruent, which makes the lack of one, clear definition less problematic (Dahlsrud, 2008).

The definition of CSR has undergone some changes over the past fifty years (Carrol, 2015). Carrol (2015), describes these massive changes. Around 1960, there were some social movements, which resulted in the concept of Corporate Social Responsibility (CSR). This means that companies have some responsibilities, besides the economic and legal obligations. CSR is associated with embracing all the activities which are not required by law. In 1970, Corporate Social Responsibility was 'transformed' to Corporate Social Responsiveness. According to this concept, companies had to respond to issues in society. Corporate Social Responsibility was more motivation-oriented, while Corporate Social Responsiveness was mainly action-oriented. Then, around 1980, the focus shifted to results (result-oriented) and the term Corporate Social Performance became popular. Nowadays, companies and its society interpret CSR more broadly, including responsibilities, responsiveness and performance.

Besides Carrol (2015), there are many other authors who have developed a CSR-definition. Dahlsrud (2008) investigates 37 definitions of CSR. According to his analysis, the most frequently used definition is originated by the Commission of the European Communities (2001, p. 6): "*A concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis.*" They describe CSR as a voluntary decision of firms to contribute to a cleaner environment and a better society.

According to Dahlsrud (2008), most CSR-definitions are centered around one or more of the following five dimensions: environmental, social, economic, stakeholder and voluntariness. Maas and Rosendaal (2016) conclude that CSR is actually a combination of only two dimensions: social and environmental.

CSR is often associated with sustainability. The terms CSR and sustainability are used interchangeably. Currently, the sustainability term is linked to the achievement of environmental, social and economic goals (Carrol, 2015), just like CSR. However, there are some authors arguing that there are systematic differences between these two concepts. Panapanaan, Linnanen, Karvonen and Phan (2003) argue that corporate sustainability is the overall, ultimate organization goal, whereas corporate responsibility is a subpart. Corporate responsibility consists of an economic, environmental and a social aspect. The social aspect implies CSR. Interpreting this theory, the environmental aspect is excluded from CSR. Contrasting, CSR is sometimes related to the triple bottom line: people, planet and profit, whereas corporate sustainability is the overall goal (Van Marrewijk, 2003). In that case, CSR also focuses on economic and environmental aspects and can be considered as a contribution to sustainability (Van Marrewijk, 2003). Finally, Montiel (2008) states that the environmental aspect is

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part of the wide, social performance in terms of CSR. The social aspect itself is an important subset of sustainability.

As a result of the mixed opinions about the scope of CSR, and to maintain the link with the most widely used definition of CSR (the definition of Commission of the European Communities, 2001) this study considers both environmental and social aspects as part of CSR. The terms CSR and sustainability are used interchangeably, because both focus on environmental and social aspects, which makes them more convergence (Montiel, 2008).

2.1.3 Indices of CSR-performance

Several rating firms have created indices to measure the sustainability/CSR-performance of companies. The most well-known ratings in the U.S. are the Domini 400 Sustainability Index and the Dow Jones Sustainability Index (Márquez & Fombrun, 2005).

The Domini 400 S.I. is a well-known sustainability ranking. The ranking is also called the KLD400 Index or the MSCI KLD 400 Social Index. This study uses the abbreviated term, namely MSCI KLD-rating. The MSCI KLD-rating was developed and independently maintained by KLD Research & Analytics Index (Márquez & Fombrun, 2005). In 2010, KLD was acquired by MSCI. The MSCI KLD-rating covers, among other, almost all firms in the S&P 500, the Domini 400 Social Index, Russell 1000 and 3000 Index.

The MSCI KLD-rating is based on seven dimensions: environment, community, diversity, employee relations, human rights, product quality and safety and corporate governance (Kim et al., 2012). The dimensions include both positive indicators (strengths) and negative indicators (concerns). These strengths and concerns are linked to several subcategories. These subcategories receive a rating of 0 or 1, which depends on the existence of that particular strength or concern (Deckop et al., 2006). Appendix A gives an overview of all the strengths (STR) and concerns (CON) per dimension.

In order to create a net, aggregated MSCI KLD-rating, the concerns have to be subtracted from the strengths. The aggregated MSCI KLD-rating indicates the overall CSR-performance of the firm. The MSCI KLD-rating is an appropriate metric for CSR-performance, because the metric is developed by knowledgeable individuals, who are independent of rating firms (Graves & Waddock, 1994).

Another well-known indicator to measure the sustainability performance of firms is the Dow Jones Sustainability Index (abbreviated DJSI), which is launched in 1999 by S&P Dow Jones Indices and RobecoSAM. The firms included in the DJSI are the best performing companies, in terms of sustainability, in the industry.

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The DJSI focuses on three dimensions: environmental, social and economic dimension. Each dimension is linked to specific opportunities and risks. A set of general criteria (applicable for companies in all industries) and specific criteria (applicable for companies in specific industries) are applied in order to assess these opportunities and risks (Searcy & Elkhawas, 2012). In order to get an aggregated sustainability/CSR-score, the individual scores per dimension are summed up.

2.2 Management control systems (control types)

2.2.1 Defining management control systems (MCS)

When a company would like to enhance the CSR-performance, as one of the main organizational goals, it is important that all employees and managers act in the right direction. This will increase the ability to reach the overall, organizational goals (Merchant & Van der Stede, 2017). Leading the behavior of individuals or groups in the right direction is the main function of Management Control Systems (hereafter MCS).

MCS can be defined as a system that "*provide information that is intended to be useful to managers in performing their jobs and to assist organizations in developing and maintaining viable patterns of behavior*" (Otley, 1999, p.364). A good MCS can be used to avoid or minimize behavior that harms the organization, such as fraud, theft and (un)intentional errors. On the other hand, a good MCS can be used to stimulate behavior that benefits the organization (Merchant, 1982).

The narrow definition of MCS is centered around the MCS feedback loop: measurement of performance, compare measured performance with the performance standard and take corrective actions if the measured performance deviates from the performance standard. According to the broad definition, MCS consist of three components (Lindsay, Lindsay & Irvine, 1996):

1. Defining and communicating the objectives;

2. Monitoring performance (feedback and control);

3. Rewarding employees based on the achievement of the defined objectives (motivating employees).

Especially the latter component of this broad MCS-definition indicates that MCS can be used to enhance the motivation of employees. Thereby, MCS are management vehicles which can be used to motivate and stimulate employees to take actions and make decisions which are in the best interest of the organization and thereby reducing the misalignment of interests between the agent en the principal and achieve the organizational objectives.

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2.2.2 Management control system of Merchant and Van der Stede (2017)

This study focuses on the MCS of Merchant and Van der Stede (2017). These authors make a distinction between four different types of control:

- Action controls: control type designed to ensure that people take actions in the interest of the company. The most important forms of action controls are: behavioral constraints (physical or administrative), pre action reviews (scrutiny of action plans), action accountability (communicating, observing and rewarding the desired actions) and redundancy (backup employees) (Merchant & Van der Stede, 2017).

- Personnel controls: control type designed to ensure that people perform the desired tasks through self-monitoring (or self-motivation). Potential ways to implement personnel controls are: selection and placement (match employees' skills to position), training (develop skills) and job design (job design allows possibility of success) and resourcing (provision of necessary resources) (Merchant & Van der Stede, 2017).

- Cultural controls: control type designed to influence behavior through an organizational culture of shared values and beliefs which communicates the organizations' expectations. These cultural controls can be implemented through group rewards (rewarding based on the achievements as a group), codes of conduct (statements about how the organization should function), employee rotation (improve socialization of employees) and physical arrangements (Merchant & Van der Stede, 2017).

- Result controls: a detailed description is given in section 2.6.

MCS can be used to manage or control a set of CSR-activities in order to achieve the CSR-objectives. MCS have the ability to implement the CSR-strategy into the overall organization strategy and bring CSR-performance to a higher level (Arjaliès & Mundy, 2013). MCS can be associated with a 'house of control'.

2.3 Agency theory and Stakeholder concept

2.3.1 Agency theory

Like mentioned in previous section, MCS are management tools which can be used to align the interests of the agent with those of the principle in order to achieve the organizational objectives. The relationship between an agent and his principal is the foundation of the Agency theory. This theory is originally founded by Jensen and Meckling in 1976. Jensen and Meckling (1976, p. 308) give a clear definition of an agency relationship: "A *contract under which one or more persons (the principal(s))*

engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent." The author assumes that both principal and agent want to maximize their own utility. When there are conflicts of interest between the principal and the agent, the agent does not act in the best interest of the principal and a principle-agent problem is created. The principal expects that the agent takes actions maximizing his wealth, but as a result of conflicting interests, the agent takes action in accordance with his own, personal interests (Jensen & Meckling, 1976).

The main sources underlying the principal-agency relationship are (Shapiro, 2005): lack of time (practical agency), lack of expertise or knowledge (contentful agency) or the desire to collectivize (economies of scope and scale or risk protection) (collective agency).

Two important conditions of principal-agent problems are moral hazard (lack of ability to observe) and adverse selection (lack of ability to judge). Moral hazard refers to hidden action; the action of the agent is not directly observable for the agent (Zeckhauser & Pratt, 1985). Adverse selection is a problem that arises because of hidden information; there is information asymmetry between the principle and the agent, which makes it difficult to judge the agents' behavior (Zeckhauser & Pratt, 1985).

2.3.2 Stakeholder concept

In this study, the Agency theory is linked to the Stakeholder concept. The stakeholder is the principal and management is the agent. Stakeholders consist of shareholders, employees, suppliers, customers, government creditors and the general public (Hill & Jones, 1992). There is a form of interplay between the stakeholders and the management, in which the stakeholders supply resources to the firm and expect a satisfaction of their interests. According to Clarkson (1995), stakeholders can be divided into two groups: primary stakeholders and secondary stakeholders. Primary stakeholders are employees, customers, suppliers, shareholders/investors, government and communities, having a high level of interdependence with the company. Secondary stakeholders have an influence on the firm, but this influence is not necessary for long-term success. To ensure long-term success, managers should create wealth of the primary stakeholders group. This wealth goes beyond just a direct profit maximization (Jamali, 2008). Longo, Mura, and Bonoli (2005) have investigated the key values for stakeholders. Important values for employees are health and safety at work and the development of skills. Customers focus their attention on product quality and transparency of consumer product information. Suppliers benefit from a good partnership with the ordering company. Finally, the primary demand of the community is environmental safety and production (Longo et al., 2005). These values are all part of CSR. Therefore, a high CSR-performance is in the interest of several stakeholders.

2.3.3 Conflicting interests management and stakeholders

On the one hand, there can be a conflict of interest with regard to stakeholders and management, whereby management focuses on the creation of short-term value, and stakeholders pay more attention to the creation of long-term value (Hill & Jones, 1992; Arora & Alam, 2005). Investments in CSR are costly on the short-term, while the benefits will be collected on the long-term. Managers prefer the creation of positive, short-term, financial results and thereby lower down the costly CSR-investments. Stakeholders have more focus on the creation of long-term benefits through CSR. To solve this classical principal-agent problem, the right incentives and/or sanctions should be created, to make the interests of the agent in line with those of the principal (Hill & Jones, 1992). Pay based on CSR-performance is a possible incentive. According to Arora and Alam (2005), to achieve long-term benefits, it is important that a CEO-compensation contracts align the interests of the manager with those of the stakeholders. CSR-based pay will result in a stronger long-term focus of managers, which is necessary to create CSR-value.

2.3.4 Conflicting interests management and shareholders

On the other hand, conflicts can arise between the interests of management and those of shareholders (part of the primary stakeholder group). In this context, the shareholder is the principal and management is considered as the agent. CSR-investments are costly and it is not certain if the benefits exceed the costs in the long run (Barnea & Rubin, 2010). There is namely mixed evidence with regard to the positive effect of CSR-investments on the profitability of the firm (Flammer, 2013), which means that CSR-investments can deteriorate the financial performance of the firm. In that case, it is not in the interest of the shareholder to improve CSR-performance. However, investing in CSR can be in the interest of the manager when it results in great, unique benefits in terms of individual reputation. They can enhance their reputation using a good CSR-rating, whereas the managers are seen as respectful to employees, the environment and society (Barnea & Rubin, 2010).

This study focuses on stakeholders other than shareholders, because the main focus of CSR is not to create value for the shareholders, but for the remaining stakeholders (Servaes & Tamayo, 2013). This study investigates if a specific corporate governance mechanism, which was originally created to protect the interests of shareholders, is also applicable for the other stakeholders (McGuire, Dow & Argheyd, 2003). Therefore, special attention is given to the conflict of interests between management (creation of short-term value) and stakeholders (creation of long-term value).

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2.4 Extrinsic and intrinsic motivation

2.4.1 Introduction extrinsic and intrinsic motivation

As discussed in the previous section, in situations of misalignment of interests between the principal and the agent, the agent will take actions that maximize his own utility instead of the utility of the principal. According to Jensen and Meckling (1976), there is an option to limit the misalignment of interests between the principal and the agent, based on creating appropriate rewards (part of the MCS). Examples of interest alignment mechanisms are stock option plans, or contracting schemes linked to performance (share in profit) (Demsetz, 1983). These incentives mainly have the intention to (extrinsically) motivate agents to perform in the interests of the principal. This section will focus on the different types of motivation and its relation with rewards and the Agency theory. In the context of this study, attention is paid to incentives enhancing managements' motivation to take CSR-related actions.

2.4.2 Distinction extrinsic- and intrinsic motivation

The distinction between intrinsic and extrinsic motivation is based on the Self-Determination theory (SDT) of Deci and Ryan (1985). This theory focuses on the determinants of actions, categorized in different motivation-types. When an individual acts in order to achieve a desired outcome, it is called extrinsic motivation. Extrinsic motivation focuses on the instrumental value of the action (conditional reward). Besides extrinsic motivation, individuals can be intrinsically motivated. Intrinsic motivation focuses on the personal enjoyment of the action (Ryan & Deci, 2000) or in other words, focuses on the desire of an individual to perform tasks for its own sake (Benabou & Tirole, 2003). Intrinsic motivation is based on the inherent satisfaction of an action rather than the outcome or result of the action. An intrinsic motivated individual does not move because of external pressures, incentives or rewards. Thus, individuals have, besides different levels of motivation, also different types of motivation (Ryan & Deci, 2000).

Extrinsic motivation can be enhanced by external rewards, which is in this study executive compensation. Section 2.5 gives a detailed explanation of executive compensation. Extrinsic rewards can be monetary, which are mainly rewards in the form of cash or stock, or non-monetary, which are mainly rewards in the form of promotion or providing additional decision authority (Merchant & Van der Stede, 2017). External rewards are provided by external parties. Intrinsic rewards are generated by the individuals themselves and can be derived through "*a sense of accomplishment for achieving the desired results*" (Merchant & Van der Stede, 2017, p. 41).

The strength of extrinsic and intrinsic rewards can be explained on the basis of the Expectancy theory. According to this theory, the motivation of an individual depends on two factors (Merchant & Van der Stede, 2017):

1. their expectancies that their behavior results in an outcome;

2. the strength of their preferences for an outcome.

The motivational strength of rewards depends on personal preferences and circumstances.

2.4.3 Crowding-Out theory extrinsic- and intrinsic motivation

Several studies point out that extrinsic and intrinsic motivation can conflict with each other. This mutual conflict refers to the crowding-out effect. According to the Crowding-Out theory, an external reward (both incentives and punishments) can possibly undermine the intrinsic motivation of an individual (Frey & Jegen, 2001). The provision of a reward for a certain activity can have, indirectly, a negative effect on the motivation of the agent. Therefore, the crowding-out effect is also called the 'hidden' cost of rewards (Frey & Jegen, 2001).

When the crowding-out effect is applied to the CSR-context, assuming that an individual is initially, internally motivated to improve CSR-performance, an extrinsic reward for CSR can enhance CSR-performance on the short-term only when the increase in extrinsic motivation crowds-out the decrease in intrinsic motivation. On the long-term, agents will only improve CSR-performance when they receive a reward. From that moment on, the crowding-out effect is present (Osterloh & Frey, 2000).

The Crowding-Out theory is based on two psychological processes (Frey & Jegen, 2001):

▪ Self-determination: external rewards can be seen by an individual as a reduction to their self-determination and as result, the individual substitutes intrinsic motivation by extrinsic control.

▪ Self-esteem: external rewards can be experienced by an individual as a lack of appreciation for the individuals' competence and motivation. As a result, the intrinsic motivation of the individual is reduced.

However, some individuals perceive extrinsic rewards not as controlling, but rather as supportive. In that case, external rewards enhance self-determination (rewards are associated with more freedom to act) and do not harm self-esteem (rewards are rather an appreciation for their motivation). As result, extrinsic rewards increase intrinsic motivation, which is called the crowding-in effect (Frey & Jegen, 2001).

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2.5 (Executive) compensation

2.5.1 Introduction executive compensation

Like I said before, rewards create incentives for individuals to achieve a certain goal. Incentive systems (rewards) are part of MCS. There are different types of rewards. This study focuses on rewards provided to executives (executive compensation), intended to enhance extrinsic motivation towards CSR-performance. Executive remuneration receives a lot of attention in the literature (Murphy, 1998). This is mainly due to the huge amount of compensation received by executives (Lazear, 2007). The board of directors is responsible for the design of the executive compensation package. Major companies have a compensation committee, which mostly consists of two or more outside directors (independent members of the board not being employees or firms' stakeholders) (Muprhy, 1998). The executive compensation is an useful and effective mechanism which can be used by the board of directors and shareholders to shift the attention of executives to financial-, social- and/or environment-related objectives (McGuire et al., 2003).

2.5.2 Categorizing executive compensation

Executive compensation can be categorized as monetary and non-monetary. Examples of monetary compensation are base salary, short-term cash bonuses or stock-options. Examples of non-monetary rewards are promotions or retirement benefits (Lazear, 2007).

Murphy (1998) categorizes executive compensation in four components:

- Base salaries. This is the fixed component of the remuneration contract. Base salaries are mainly set based on competitive benchmarking. Important factors determining the level of base salary are: age, experience, education and performance (Murphy, 1998).

- Annual bonus plans. A plan which consists mainly of three components: the bonus structure, the performance measure(s) and the performance target(s). When the executive has not achieved the threshold performance target, he/she will not receive a bonus. The executive will receive a minimum bonus when the executive has achieved the threshold performance target. When the executive has reached the performance target, he/she will receive the complete bonus. Mostly, the bonus increases in performance. When the company wants to hold on to a maximum bonus, they can implement a bonus cap (Murphy, 1998). The performance targets used in bonus plans can be financial or non-financial, individual- or group-based (Merchant & Van der Stede, 2017).

- Stock options. These are contracts whereas the executive has the option to buy shares at an exercise price (called strike price), which is pre-specified and set for a fixed term. Over time,

the stock option is exercisable (called vested) (Murphy, 1998). Options can be granted at-the-money (strike price equals the share price on the day of the grant), in-the-money (strike price is lower than the share price on the day of the grant) or out-of-the-money (strike price is higher than the share price on the day of the grant) (Merchant & Van der Stede, 2017).

- Other compensation forms. Examples of other compensation contracts are restricted shares, long-term incentive plans and/or retirement plans:

    o Restricted shares are given to executives (free shares), but the selling of the stock is restricted for a pre-specified period and is only allowed after meeting certain conditions (for example continued employment). Restricted stock gives a reward for an increase in share price, but has also value when there is a flat or decreasing share price. The main purpose of restricted shares is rather retention than incentive (Merchant & Van der Stede, 2017).

    o Long-term incentive plans are rewards mainly based on performance measures over a period greater than one year (Merchant & Van der Stede, 2017). These performance measures are mostly related to rolling-average three- (or five-) year cumulative performance (Murphy, 1998). The main objective of long-term incentive plans is to stimulate the creation of long-term value.

    o Retirement plans provide payments to executives after retirement (Bebchuk, 2004). Executives can be linked to a supplemental executive retirement plan (SERP). The retirement payment can, among other things, be based on the actual or credited years of service or the firm performance (Murphy, 1998).

2.5.3 Executive compensation and the Agency theory

According to Bruce, Buck and Main (2005), executive compensation packages can be used to motivate agents in such a way that the interests of the agent are aligned with those of the principal. This is mainly linked to pay-for-performance sensitivity. While executive compensation is mostly based on financial performance (Cordeiro & Sarkis, 2008), the performance-based pay can also be used to stimulate CSR-activities. According to Arjaliès and Mundy (2013), in order to integrate CSR-activities in the daily business, appropriate compensation contracts, mostly linked to performance, are essential.

Another way to make the executive compensation contract consistent with the Agency theory is by rewarding relative rather than absolute performance. Rewarding relative performance will filter out exogenous shocks, faced by the market or industry, that affect performance. These shocks are beyond the control of the executive (Oyer, 2004).

2.6 Result controls and effectiveness

2.6.1 Introduction result controls

Like mentioned in previous section, executive compensation packages linked to performance can be used to align the interest of the principal with those of the agent. This pay-to-performance is called result controls. Result controls are one of the control types out of the MCS of Merchant and Van der Stede (2017), explained in section 2.2.

Result controls are designed to hold employees accountable for their achieved performances and link the performances to rewards (Picard & Reis, 2002). The concept result controls is also called pay-for-performance. Result controls are especially important in organizations with a high degree of decentralization, whereas a high degree of decision authority is assigned to individual managers (Picard & Reis, 2002).

Result controls are often used in evaluating and rewarding top level executives. Executives receive often a high level of performance-based pay. Possible reasons for this method are the common being availability of performance measures for executives and the high degree of influence executives have on firm performance (Lazear, 2007).

According to Merchant and Van der Stede (2017), there are no agreements about the extent to which incentives should be performance-based. The variation of pay depends on "the selection purpose of incentives" (Merchant & Van der Stede, 2017, p. 357).

2.6.2 Implementation result controls

The implementation of result controls involves four different steps:

1. Determining appropriate performance dimensions. When you set performance dimensions, it is important to balance the responsibilities of the organization to all different stakeholders. After set the performance dimensions, you have to choose performance measures that are congruent with these defined performance dimensions (Merchant & Van der Stede, 2017).

2. Measuring performance. The measurement of performance can be based on objective (impartial judgment) or subjective measures (open to interpretation and opinion). In general, high-level managers are evaluated based on financial and market measures. Low-level managers are mainly evaluated in terms of operational measures, which are more controllable on a lower, organizational level (Merchant & Van der Stede, 2017).

3. Determine for each performance measure the performance target. Performance targets provide a clear goal for employees and allow to assess employees' performance (Merchant & Van der Stede, 2017).

4. Provide rewards for the achievement of the performance target. Incentives in the form of rewards are an important element of the result control system of Merchant and Van der Stede (2017). The most common rewards for executives are discussed in section 2.5.

Like I said before, there is an increased tendency of companies using result controls in a CSR-context. However, the question arises if result controls are effective in influencing the CSR-performance (and thereby possibly the financial performance) and how the effectiveness can be increased?

2.6.3 Effectiveness result controls

In order to make result controls effective, knowledge of the relevant targets and desired results are essential (Theuvsen, 2004). It is important that organizations effectively communicate the relevant targets and desired results, including the priority and weightings, to the managers and employees working in that specific area (Merchant & Van der Stede, 2017).

According to Theuvsen (2004), the effectiveness of result controls can be enhanced when the following conditions are met:

▪ Ability to influence the results (controllability principle) (Theuvsen, 2004). Managers and employees must have the ability to affect the results in a material way. When a certain result measure is not controllable, it does not provide information about the actions performed or the decisions taken (Merchant & Van der Stede, 2017).

▪ Congruency between sub-targets and the overall organizational goals (compatibility principle) (Theuvsen, 2004). If the organization chooses the wrong result areas, the result measures will not be congruent with the overall, organizational objectives. The use of an incongruent set of targets will motivate managers and employees to take the wrong actions (Merchant & Van der Stede, 2017).

▪ Ability to measure the targets and results (measurability principle) (Theuvsen, 2004). It is important that the targets and results can be measured precisely. Therefore, performance measures must be valid and reliable (Theuvsen, 2004).

These are the determinants of the effectiveness of pay-for-performance and make result controls more applicable (Theuvsen, 2004).

2.7 Summary theoretical constructs

In order to give an answer to the first sub-question, I performed an in-depth study and discussion of the theoretical constructs and interrelationships belonging to this study. This has led to a final framework, which is presented in figure 2.7.1. This final framework consists of all interrelationships of the constructs. The green lines present the links between the variables (CSR-performance, result controls and executive compensation) (direct links). The blue lines are the theoretical explanations belonging to the links between the variables (indirect links).

Figure 2.7.1: Final framework of theoretical constructs belonging to the result controls and CSR-performance relation (the 'house of control')

When a company would like to improve its CSR-performance, as one of the main organizational goals, it is important that all employees and managers act in the right direction. Therefore, the design of a well-functioning MCS is critical. MCS can be seen as a 'house of control', consisting of all (in)formal structures, to ensure that the company as a whole performs and meets its objectives. This study highlights the management control system of Merchant and Van der Stede (2017), which consists of action-, personnel-, cultural and result controls. Improving the CSR-performance is the main objective and placed at the top of the 'house of control'.

Incentive systems (rewards) are part of MCS. This research focuses on rewards provided to executives (executive compensation), intended to enhance extrinsic motivation to realize the CSR-related objectives. The use of executive compensation to improve CSR-performance is a relation of interest

which will be discussed in more detail, based on prior literature, in section 3.1. Especially, the effect of different pay components and pay orientation on CSR-performance will be presented.

Creating the right incentives to enhance CSR-performance is essential, because of conflicting interests between the agent and its principal (the classical principal-agent problem) when it comes to CSR. The relationship between an agent and his principal is the foundation of the Agency theory. In this study, the Agency theory is linked to the Stakeholder theory. The stakeholder is the principal and management is the agent. Management focuses especially on the creation of short-term value, while the stakeholders pay more attention to the creation of long-term value. Managers prefer the creation of positive, short-term, financial results and thereby lower down the costly CSR-investments. Stakeholders have more focus on the creation of long-term benefits through CSR. Thus, there is a conflict of interest.

Result controls (pay-for-CSR-performance), a type of MCS of Merchant and Van der Stede (2017), can be an effective tool to enhance the CSR-performance and align the interests of the stakeholders and management. More specifically, CSR-targets implemented in the executive compensation contract will expectedly motivate managers to improve CSR-performance, and thereby reducing the misalignment of interests between management and stakeholders. This can be seen as the 'ladder' to CSR. However, some managers perceive extrinsic rewards like pay-for-CSR-performance as controlling (crowding-out effect), resulting in a lower CSR-performance. Section 3.2 will investigate the relation between result controls and CSR in more detail, based on prior literature.

3. Literature review

This section provides a literature review in order to give an answer on the second sub-question: What have been found in prior literature with regard to the result controls-CSR performance relation?

The findings with regard to some important links out of the final theoretical framework (figure 2.7.1), relevant for this study, are discussed. First, a review of prior literature about (executive) compensation and its relation with CSR-performance is given in section 3.1. In section 3.2, the results of studies investigating the effect of pay-for-CSR-performance (result controls) on the CSR-performance are discussed. Section 3.3 provides a summary of all the relevant literature discussed.

3.1 Compensation and CSR-performance

As stated in section 2.6, implementing social and environmental targets in the executive compensation (result controls) can potentially improve CSR-performance. However, there are several studies which find a link between (executive) compensation and CSR-performance without explicitly including these social and environmental targets in the remuneration contract. These studies investigate, among other things. the effect of the components or orientation of compensation on CSR-performance.

3.1.1 Compensation components and CSR

The first relevant study is of McGuire et al. (2003). This research tests the relation between several components of executive compensation and social firm performance. The researchers expect that executive compensation can be a powerful tool to shift the attention of management to achieving some specific social goals. They make a distinction between weak/poor social performance and strong social performance, suggesting that the factors having an influence on weak/poor social performance may differ from those influencing strong performance.

McGuire et al. (2003) focus on the following compensation components: bonus, equity ownership, long-term incentives (e.g. stock options) and salary. The social performance is based on the strengths and weaknesses (KLD-rating) of the following four dimensions: environment, employee relations, community and product. The results indicate that the compensation components do not affect strong social performance. So executive compensation cannot be used to improve the social strengths of the company. With regard to the social weaknesses, salary and long-term incentives positively affects poor/weak social performance. These compensation forms stimulate managers to take more socially 'risky' actions. First, high fixed salary encourages managerial hubris and drive managerial attention away from stakeholders. The executives with an excessive pay are less socially oriented. Second, holders of long-term incentives like stock options have limited connection with potential downside risk of behavior compared to ownership stake. In attention, in the case of stock options, managers are not directly related to the company (yet), so they do not have to develop a positive CSR-reputation.

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The overall conclusion is that the several components of executive compensation are not effective in improving social strength and thereby not an incentive to implement social responsibility policies required by stakeholders. However, McGuire et al. (2003) use a single database (one year and one country) and relatively simple statistics to draw their conclusions. Therefore, additional evidence is needed to derive conclusions with regard to the effect of compensation components on CSR.

Mahoney and Thorn (2006) conduct a similar kind of study, using a Canadian setting. These authors investigate the relation between three key components of executive compensation (salary, bonus and stock options) and CSR-performance. CSR-performance is measured by the CSID index, which is a CSR-rating developed for Canadian companies based on extensive research. The CSR-performance was again divided into CSR-strengths and CSR-weaknesses, but also the effect on total CSR-performance was taken into account. In contrast to McGuire et al. (2003), these authors measure CSR-performance in seven instead of four dimensions (including international, diversity and other).

First, the authors find a positive relation between fixed salary and poor/weak CSR-performance, which is in accordance with McGuire et al. (2003). Again, this result can be explained by the increased managerial hubris associated with high, fixed salary. In addition, the authors find a positive association between bonus (for the achievement of short-term targets) and CSR-strengths, which is an outcome not found by McGuire et al. (2003). This finding suggests that bonuses stimulate managers and executives to take social responsible actions, while the opposite was expected. Unfortunately, the authors do not give any explanation for this deviating result. Finally, they conclude that a positive relation exists between stock options (long-term incentives) and CSR-strengths and total CSR-performance. This is in contrast with McGuire et al. (2003). Mahoney and Thorn (2006) interpret this result by executives realizing that investments in CSR will benefit the firm (and the society) on the long-term. Executives rewarded based on stock options will give up short-term benefits in exchange for CSR-related actions with long-term benefits.

Concluding these two studies, there is no consensus about how the executive pay should be structured to have a positive effect on CSR. Particularly, the authors disagree about the use of short-term incentives (e.g. bonuses) and long-term incentives (e.g. stock options) and the effect on CSR-performance. Therefore, I discuss the effects of the executive pay orientation to gather more evidence with regard to the use of short-term versus long-term incentives.

3.1.2 Compensation orientation and CSR

A study which focuses on the effect of executive pay orientation on Corporate Social Performance (CSP) is the study of Deckop et al. (2006). A short-term pay focus is, in this study, related to bonuses earned by CEO's during one year. A long-term pay focus refers to the use of stock options and

restricted stock. Deckop et al. (2006) expect that a short-term focus in CEO-pay negatively affects CSP for several reasons. First, when a company has CSR-weaknesses, the impact on financial performance will be (mainly) on the long-run. Therefore, these CSR-weaknesses are not of great importance for executives on the short-term. Second, executives do not have an incentive to take CSR-activities when they earn a short-term bonus based on financial performance, because the CSR-investments are costly and will negatively affect the financial performance on the short-term. Besides the direct, negative effect on (short-term) financial performance, CSR-investments also result in an opportunity cost (resources are used to make CSR-investments instead of investments regarding an improvement of short-term financial performance).

In addition, Deckop et al. (2006) take a stand with regard to the long-term focus of pay, which is in contrast with the outcome of Mcguire et al. (2003) but in line with the outcome of Mahoney and Thorn (2006). They expect that long-term incentives positively affects CSP. In addition, the authors assume that the CSR-investments positively affects financial performance in the long-run, because of the necessary long time frame needed to capture the effect of a positive CSR-reputation. This will stimulate executives rewarded based on long-term targets to adopt CSR- initiatives.

Based on a regression analysis, in which six different dimensions of the KLD-rating are tested, the results are in accordance with the expectations. A long-term focus is significantly, positively related to CSP, in accordance with the findings of Mahoney and Thorn (2006). A short-term focus is significantly, negatively related to CSP, which is in contrast with the positive association found by Mahoney and Thorn (2006). However, this does not suggest that only long-term executive incentives can have a positive effect on CSR-performance. A short-term bonus can possibly improve CSR-performance, by explicitly including CSR-targets in the remuneration. The next section gives more evidence on this concept.

3.2 CSR-targets in compensation and CSR-performance

3.2.1 Environmental targets in compensation and environmental performance

Prior research focusing on the inclusion of CSR-targets in compensation is limited (Maas & Rosendaal, 2016). One of the first studies regarding CSR-based pay and its effect on CSR-performance is the study of Russo and Harrison (2005). These authors focus on the environmental aspect of CSR, namely the emission of toxic substances. Based on a linear regression analysis on a sample of U.S. electronics plants, Russo and Harrison (2005) find weak support for enhancing environmental performance by linking pay to environmental performance. They expected that linking the managers' salary to emission performance would reduce the emission of toxic substances. This is in line with the idea that a remuneration system can improve CSR by shifting the focus of managers to both financial-related and environmental-related practices. The results are disappointing, because they

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only find an emissions reduction for plant managers, not for environmental quality managers. They give a possible explanation for this result, based on the crowding-out effect explained in section 2.4. Environmental quality managers can experience the toxic-related pay as being redundant (crowding-out the intrinsic motivation) or the agency problem is more significant for the environmental quality managers.

Cordeiro and Sarkis (2008) conduct a similar research, whereas they focus on the link between environmental criteria in the compensation plan and environmental performance (e.g. toxic emissions, likelihood of spills and lack of compliance). These authors investigate if executive compensation is more positive and significant related to environmental performance if executive compensation is explicitly linked to environmental performance. Reasoning is based on a trade-off between a reduction in compensation as a result of lower financial performance and an increase in compensation as a result of the achievement of environmental objectives. Executives are more willing to accept a decrease in their financial-performance-based pay as a result of the costly, environmental investments, when they are compensated for the improvement in environmental performance. In other words, executives will only invest in environmental activities when it has a positive net effect on their compensation.

Environmental performance is divided into three measures: emission index (release of toxic substances), compliance index (penalties incurred under environmental statutes) and the spill index (chemicals and oil spills experienced by the firm). CEO-compensation is the sum of fixed salary, variable bonus, the value of stock options and other compensation.

The results of Cordeiro and Sarkis (2008) are convincing. There is a negative and significant relation between the spill -and compliance performance (high index represents poor performance) and executive compensation, but only for the sample of firms with pay-for-environmental-performance. This provides evidence of the effectiveness of paying for environmental performance.

Merriman and Sen (2012) focus on the pay at middle-management level and its relation with sustainability performance concerning different types of sustainability projects. Their expectations are comparable with those of Cordeiro and Sarkis (2008). The authors expect that managers whose variable compensation based on sustainability performance is higher than the variable compensation based on financial performance, will invest more in sustainability performance than in financial performance.

They conduct an experiment to test above mentioned association. In the first scenario, the incentive payout for the financially-oriented project (cost-savings project) is equal to the payout for the sustainability-oriented project (green project). In the second scenario, the incentive payout is higher for the sustainability-oriented project.

They evidence that pay related to sustainability increases management attention to environmental issues, but some results were inconsistent with their expectations. The participants invested less in the sustainability-oriented project in both scenarios (although the results with regard to the second scenario are not statistically significant). However, the difference in invested amount between the 'green' project and the 'cost-saving' project was smaller in the second scenario. In other words, the results show that pay for sustainability ensure that management pay increased attention to sustainability activities, but in a lower extent than expected. A possible explanation can be attributed to the cognitive decision-making of people. When manager do not have enough resources (time, effort, money) to fulfil all opportunities, they have the tendency to focus on the more traditional, financially-oriented projects rather than the sustainability-oriented projects.

3.2.2 Monetary versus non-monetary incentives and environmental-performance

The studies I have discussed so far only focus on pay for environmental performance in terms of monetary incentives. Eccles, Ioannou, Li and Serafeim (2012) investigate the difference in effectiveness between monetary and non-monetary incentives in enhancing environmental performance. Environmental performance refers to carbon emissions. The type of incentives included (monetary or non-monetary incentives linked to carbon emissions reduction) in the remuneration is gathered through an investor survey of the Carbon Disclosure Project (CDP). Examples of monetary incentives are personal bonuses, while non-monetary incentives can refer to winning an award or employee recognition programs.

Contrary to the expectations, the results indicate that monetary incentives tied to environmental performance increase carbon emissions. On the other hand, non-monetary incentives linked to environmental performance are effective in reducing carbon emissions. The unexpected result with regard to the monetary incentives can be assigned to the crowding-out effect, explained in section 2.4. When employees take actions to reduce carbon emissions driven by intrinsic motivation (perform pro-social behavior gives them a sense of accomplishment), monetary incentives can be perceived as "*external controllers of their behavior*" (Eccles et al., 2012, p. 8). In that case, the extrinsic rewards undermine the intrinsic motivation resulting in a lower environmental performance.

Interestingly, when the environmental performance (reduction carbon emissions) is explicitly stated as part of the business strategy, employees perceive reducing carbon emissions as one of their responsibilities. In that specific context, Eccles et al. (2012) conclude that the positive effect of monetary incentives on carbon emissions is completely mitigated (making it a negative effect). Employees perceive the carbon emissions reduction as a formal job function, whereas the monetary incentive operates as an effective tool. Thus, monetary incentives tied to environmental performance

provided to employees who are responsible for environmental performance are useful (lower carbon emissions), similar to non-monetary incentives.

So far, I have mainly discussed the effect of environmental-based pay on environmental performance, whereby the social-based pay and social performance is disregarded. Unfortunately, there are no studies investigating the relation from the social point of view.

3.3 Summary literature review

The final framework presented in section 2.7 (figure 2.7.1) indicates two important relations associated with this study:

1. the effect of (executive) compensation on CSR-performance;

2. the effect of pay-for-CSR-performance (result controls) on CSR-performance.

Several studies investigate the effect of (executive) compensation on CSR performance. However, the authors do not have unanimous conclusions. McGuire et al. (2003) have found a positive relation between long-term incentives and fixed salary and CSR-weaknesses. This conclusion is partly supported by Mahoney and Thorn (2006), who have found a positive relation between fixed salary and CSR-weaknesses. However, according to Mahoney and Thorn (2006), long-term incentives have a positive effect on CSR-strengths instead of CSR-weaknesses. In addition, these authors conclude that an annual bonus improves the CSR-performance of firms. In other words, the authors agree on the effect of fixed salary on CSR-performance, but are not unanimous with regard to the effect of short term pay (annual bonus) and long-term pay (long-term incentives) on CSR-performance.

In addition, Deckop et al. (2006) investigated the effect of pay focus (short-term and long-term) on CSR-performance. They concluded that short-term pay negatively affects CSR-performance, while the opposite result was found in the study of Mahoney and Thorn (2006). The long-term pay focus has a positive effect on CSR-performance, in line with the study of Mahoney and Thorn (2006).

Thus, certain pay components or -focus do not guarantee an improvement in CSR-performance. However, compensation can possibly improve CSR-performance when the compensation is explicitly linked to CSR-targets. Several authors investigated the effect of CSR-targets in the compensation on CSR-performance. Most studies focused on the environmental aspect of CSR.

First, Cordeiro and Sarkis (2008) conclude that paying for environmental performance has a positive net effect on compensation. Thus, when executives are paid based on environmental performance, an increase in environmental performance results in a higher compensation. The decrease in financial-based pay is compensated by the increase in environmental-based pay.

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While most authors have found a positive effect of environmental-based pay on the environmental performance (Russo & Harrison, 2005; Merriman & Sen, 2012), there were also some contradicting results as in the study of Eccles et al. (2012). These authors have found a positive effect of monetary incentives tied to carbon emissions reduction and carbon emissions (unless emissions reduction is seen as formal job function). A possible explanation is related to the crowding-out effect. On the other hand, the authors conclude that non-monetary incentives linked to environmental performance are effective in reducing carbon emissions.

Because of the contradicting results, it is relevant to investigate the effectiveness of pay-for-CSR-performance. Besides, it is useful to investigate the effect on overall CSR-performance instead of only the effect on environmental performance, because most firms actually make use of social targets instead of environmental targets (Maas & Rosendaal, 2016).

Table 3.3.1 (compensation and CSR-performance) and table 3.3.2 (CSR-related compensation and CSR-performance) provide an overview of all relevant literature discussed in previous sections.

Author(s) and year	Dependent variable	Independent variable	Sample	Methodology	Relation found
McGuire, Dow and Argheyd (2003)	Weak/poor social performance and strong social performance (KLD-strengths and KLD-weaknesses)	Components executive compensation: base salaries, annual bonus, equity ownership and long-term incentives (stock options)	374 U.S. firms	Regression analysis	No relation between executive compensation components and social strengths. Positive relation between long-term incentives and salary and social concerns.
Mahoney and Thorn (2006)	Overall CSR-performance, CSR-strengths and CSR-weaknesses (CSID index)	Components executive compensation: base salaries, annual bonus and long-term incentives (stock options)	69 Canadian firms (TSE 100)	Regression analysis	Positive relation between salary and poor/weak CSR-performance. Positive relation between bonus and CSR-strengths. Positive relation between long-term incentives and CSR-strengths and total CSR-performance.
Deckop, Merriman and Gupta (2006)	Corporate Social Performance (CSP) (KLD-rating)	Mix of CEO-pay orientation (long-term versus short-term)	313 U.S. firms (S&P 500)	Regression analysis	Negative relation between a short-term pay focus and CSP. Positive relation between a long-term pay focus and CSP.

Table 3.3.1: Summary literature review compensation and CSR-performance

Author(s) and year	Dependent variable	Independent variable	Sample	Methodology	Relation found
Russo and Harrison (2005)	Environmental performance (toxic emissions)	Pay-to-environmental-performance	169 U.S. firms (electronics plants)	Survey	Negative relation between pay-to-environmental-performance and toxic emissions (only for plant managers).
Cordeiro and Sarkis (2008)	CEO-compensation	Environmental performance (emission index, compliance index and spill index)	207 U.S. firms (S&P 500)	Regression analysis	Negative relation between environmental performance (spill -and compliance index) and CEO-compensation for sample of firms with an environmental performance–compensation link.
Merriman and Sen (2012)	Investment in sustainability-oriented project versus investment in financially-oriented project	Scenario 1: incentive payout for financially-oriented project is equal to incentive payout for sustainability-oriented project. Scenario 2: incentive payout is higher for sustainability-oriented project.	83 participants (working adults part of a graduate business-degree program with an average of 11 years work-experience)	Experiment	In both scenarios, participants invest less in the sustainability-oriented project compared to the financially-oriented project. The higher incentive payout for the sustainability-oriented project in scenario 2 has increased attention to sustainability.
Eccles, Ioannou, Li and Serafeim (2012)	Environmental performance (carbon emissions)	Pay-to-environmental-performance (monetary or non-monetary incentives tied to carbon emissions reduction)	794 firms (European 300, Global 500, S&P 500 and South African 100).	Regression analysis based on survey outcomes	Positive relation between monetary incentives tied to carbon emissions reduction and carbon emissions (unless emissions reduction is seen as formal job function). Negative relation between non-monetary incentives tied to carbon emissions reduction and carbon emissions.

Table 3.3.2: Summary literature review CSR-targets in compensation and CSR-performance

4. Hypotheses development

This section focuses on the development of the hypotheses. The hypotheses are formulated based on the theoretical constructs explained in section 2 and the empirical results of prior literature discussed in section 3. This section provides an answer to the third sub-question: Which hypotheses can be formulated with regard to the result controls-CSR performance relation?

Section 4.1 covers the development of the main hypothesis, focusing on the effect of CSR-related pay on CSR-performance. The hypotheses related to the improvement of the effectiveness of pay-for-CSR-performance are explained in section 4.2.

4.1 Result controls and CSR-performance

The association investigated in this study is based on the traditional Agency theory in combination with the Stakeholder concept, explained in section 2.3, which focuses on the conflict of interests between stakeholders and management (Shapiro, 2005). The interests of stakeholders and management conflict, because managers are focused on creating short-term (financial) value, while stakeholders are more focused on the creation of long-term (social) value (Hill & Jones, 1992; Arora & Alam, 2005). Therefore, it is essential to find a mechanism to solve these kind of principal-agent problems.

Theoretically, the provision of appropriate incentives through an efficient compensation contract design is a tool to solve this principal-agent problem (Jensen & Meckling, 1976). These extrinsic rewards trigger the extrinsic motivation of the executives and align the interest of stakeholders and management. However, existing executives' compensation packages, usually linked to financial performance, often fail in terms of aligning managers' and stakeholders' interests (Arora & Alam, 2005). Based on the reasoning of Deckop et al. (2006), explained in section 3.1, there can be a conflict between CSR-performance and financial performance, because CSR-strategies are costly and decrease (short-term) financial performance. When executive pay is based on (short-term) financial performance, CSR-strategies can possibly reduce variable executive compensation. This results in insufficient executive incentives to exploit CSR-strategies and -activities.

One possibility to change this ineffective compensation contract design is by implementing result controls, explained in section 2.6. More specifically, companies should include CSR-targets in the remuneration structure to stimulate the creation of long-term value and promote the interest of stakeholders (Arora & Alam, 2005). Linking pay to CSR-performance will align organizational CSR-goals and management incentives (Cordeiro & Sarkis, 2008). When executives are directly rewarded based on CSR-performance, they will be more willing to accept the decrease in compensation based on financial performance as a result of the costly CSR-investments. Thus, executives will only focus on CSR when it has a positive net effect on their compensation (Cordeiro & Sarkis, 2008). The study

of Cordeiro and Sarkis (2008), explained in section 3.2, provide evidence that pay-for-CSR-performance has a positive (net) effect on executive compensation.

I assume that investments in CSR or taking CSR-related activities will improve CSR-performance. One of the potential positive effects of CSR might be a growing financial performance on the long-term (Flammer, 2013). When CSR-investments increase financial performance, the managers who are rewarded based on long-term financial performance have an even higher incentive to invest in CSR and thereby improve CSR-performance. Managers investing in CSR will not only have a higher CSR-performance-based pay, but indirectly also a higher financial-performance based pay. However, like I mentioned before, evidence regarding the CSR-financial performance association is mixed. The investigation of the CSR-financial performance relation is beyond the scope of this study.

There are also doubts with regard to the inclusion of CSR-targets in the remuneration of executives. These doubts mainly refers to the (negative) crowding-out effect of extrinsic incentives (like rewarding based on CSR-performance) on intrinsic motivation, which is explained in section 2.4. The crowding-out effect was also present in one of the studies discussed in section 3.2. Eccles et al. (2012) provide evidence that pay-for-performance in terms of carbon emissions results in an emission increase rather than an emission decrease. So the pay incentive crowds out the intrinsic motivation to increase performance in terms of carbon emissions reduction.

However, I expect that the increase in extrinsic motivation, due to pay-for-CSR-performance, will outweighs the reduction in intrinsic motivation. More specifically, I expect that the inclusion of CSR-targets in the executive compensation plan positively affects the actual CSR-performance. This is in line with the outcomes of the study of Russo and Harrison (2005) and partly with the study results of Eccles et al. (2012) (only under the assumption that CSR is seen as formal job function). The formal hypothesis in alternative form is:

- **H1:** Pay-for-CSR-performance (CSR-performance targets in executive compensation) has a positive effect on actual CSR-performance.

4.2 Effectiveness of result controls and CSR-performance

As explained in section 2.6, the effectiveness of pay-for-performance is based on the applicability of result controls (Theuvsen, 2004). The effectiveness will be higher when result controls are better applicable. The applicability of result controls depends, among other things, on the compatibility and measurability of goals and the ability to influence the desired results (Theuvsen, 2004). These three aspects are discussed below.

Compatibility- This aspect refers to whether and to what degree the (sub-)goals are congruent with the overall organizational goal(s) (Theuvsen, 2004). In this context, the CSR-target, included in the

executive compensation program, is only compatible when the organization has formulated CSR as overall organizational goal. Otherwise, a company rewards CSR-performance, while it is not part of the overall organizational goal. In that situation, a company rewards their executives to take the wrong actions.

This is in line with the study of Eccles et al. (2012). This study states that when CSR-performance is explicitly stated as part of the business strategy, employees perceive CSR as one of their responsibilities. In that case, employees perceive CSR-improvement as a formal job function, whereas the CSR-based pay operates as an effective tool.

When a company has formulated CSR as an overall organizational goal, a company has an integrated strategy. It strives to achieve a company-wide vision, strategy or policy with social and/or environmental elements included. Thus, the CSR-targets are more compatible when a company has an integrated strategy (or the intention to have an integrated strategy) with CSR-performance as one of the overall organizational goals. In particular, this study explores the effectiveness of compatible and non-compatible targets. The formal hypothesis in alternative form is:

- **H2a:** The relation between pay-for-CSR-performance and actual CSR-performance is stronger when the target is more compatible.

Measurability- This aspect relates to the measurability of goals and outcomes (Theuvsen, 2004). More precise, objective and accurate measures improve the effectiveness of pay-for-performance plans (Merchant & Van der Stede, 2017). When employees or managers believe that the target is precise, objective and accurate, they are stimulated to do their utmost to achieve the goals.

I use the type of CSR-targets (quantitative versus qualitative) as proxy for measurability, assuming that quantitative targets are more measurable than qualitative targets. Quantitative targets are linked to numbers, mentioned either in absolute terms or in percentage changes. These kind of goals are SMART-formulated, in which the M stands for measurability. In order words, I expect that the effectiveness of a pay-for-CSR-performance plan is enhanced by making use of quantitative CSR-targets rather than qualitative CSR-targets. The formal hypothesis in alternative form is:

- **H2b:** The relation between pay-for-CSR-performance and actual CSR-performance is stronger when the target is more measurable.

Controllability- This last aspect relates to the ability to influence the desired result in a material way (Theuvsen, 2004). Result controls are useful to the extent that the measure provides information about the actions/decisions that have been taken. The controllability-principle indicates that the effectiveness of result controls increases when individuals are evaluated against performance goals whose

attainment they can control (Merchant & Van der Stede, 2017). Kolk and Perego (2014) state that sustainability-actions in general have a lack of controllability. However, I expect a higher potential controllability of CSR-activities for CEO's with more power (extended authority). The power of the CEO relates to his ability to influence CSR-activities (primary decision maker regarding CSR-initiatives). It is a corporate governance factor which gives a CEO the ability to pursue his or her desired decisions and actions (Jiraporn & Chintrakarn, 2013).

I expect that the effectiveness of a pay-for-CSR-performance plan is enhanced when the CEO-power is high, indicating a higher decision-making power regarding CSR-activities. The formal hypothesis in alternative form is:

- **H2c:** The relation between pay-for-CSR-performance and actual CSR-performance is stronger when target attainment is more controllable.

5. Research design

This section presents the research design. First, the research method used in this study is described in section 5.1, including the regression equation and variable definitions. Second, section 5.2 presents the theoretical constructs and operational proxies belonging to above mentioned hypotheses in a Libby box. The sample selection and data collection is discussed in section 5.3. Finally, the last section describes the statistical methods used to test the hypotheses. Overall, this section provides an answer to the fourth sub-question: Which research methodology should be used to analyze the result controls-CSR performance relation?

5.1 Research method

5.1.1 Regression equation

In order to give an answer to the research question, I perform, among other things, a (multivariate) regression analysis. An explanation and motivation of this statistical method is given in section 5.4. In particular, I use the following OLS-regression model to explore hypothesis H1:

$$CSR_{PER}t = \beta_0 + \beta_{1.1}CSR_{IND}\ t + \beta_{1.2}CONTROLS\ t + \varepsilon\ t$$

In order to test hypotheses H2a, H2b and H2c, the following OLS-regression equation is used:

$$CSR_{PER}t = \beta_0 + \beta_{2.1}CEO_{TENURE}t + \beta_{2.2}CEO_{DUAL}t + \beta_{2.3}CSR_{IND_{COMPAT}}t + \beta_{2.4}CSR_{IND_{QUANT}}t + \beta_{2.5}CONTROLS\ t + \varepsilon\ t$$

Where; for a given company in year t:

$$CSR_{PER} = \left(\frac{ENV\ STR}{TOT\ ENV\ STR} - \frac{ENV\ CON}{TOT\ ENV\ CON}\right) + \left(\frac{COM\ STR}{TOT\ COM\ STR} - \frac{COM\ CON}{TOT\ COM\ CON}\right) + \left(\frac{HR\ STR}{TOT\ HR\ STR} - \frac{HR\ CON}{TOT\ HR\ CON}\right) + \left(\frac{EMP\ STR}{TOT\ EMP\ STR} - \frac{EMP\ CON}{TOT\ EMP\ CON}\right) + \left(\frac{DIV\ STR}{TOT\ DIV\ STR} - \frac{DIV\ CON}{TOT\ DIV\ CON}\right) + \left(\frac{PRO\ STR}{TOT\ PRO\ STR} - \frac{PRO\ CON}{TOT\ PRO\ CON}\right)$$

CSR_{IND} = dummy variable indicating if the firm has included CSR-performance indicators in its executive compensation plan.

CEO_{TENURE} = number of days that CEO is serving on the firm as a CEO. Calculated as end fiscal year minus the date the CEO became CEO of the company.

CEO_{DUAL} = dummy variable indicating if the CEO is also chairman of the board of directors of the same company.

$CSR_{IND_{COMPAT}}$ = dummy variable indicating if the company has formulated CSR as overall organizational goal, making the (CSR-)target compatible (integrated strategy).

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$CSR_{IND_{QUANT}}$ = dummy variable equals 1 if the CSR-target in the executive compensation plan is quantitative.

$CONTROLS$ = CSR_PER$_{t-1}$ (prior year CSR-performance; MSCI-KLD rating in year t-1), SIZE (firm size; total assets), ROE (Return On Equity; net income divided by market value of equity), LEV (debt-equity ratio; (debt in current liabilities + long-term debt)/stockholders' equity) and INDUSTRY (industry effects; first two digits of SIC-code).

The hypotheses predict that coefficients $\beta_{1.1}$, $\beta_{2.1}$, $\beta_{2.2}$, $\beta_{2.3}$ and $\beta_{2.4}$ will be positive. With regard to the control variables, I expect positive, significant coefficients for CSR_PER$_{t-1}$, SIZE and ROE. I expect a negative, significant coefficient for the control variable LEV.

5.1.2 Variables

5.1.2.1 Dependent variable

The dependent variable is CSR-performance (CSR_PER), which is measured by the yearly MSCI KLD-rating. The KLD-rating is described in section 2.1. This metric is often used in CSR-studies (Chatterji, Levine & Toffel, 2009). The MSCI KLD-rating focuses on the strengths and concerns in seven CSR-dimensions. However, in this study, the dimension corporate governance is excluded. As stated in section 2.3, the main focus of CSR is not to create value for shareholders, but for the stakeholders other than the shareholders. Corporate governance is related to the "*mechanisms that allow the principals (shareholders) to reward and exert control on the agents (the managers)*" (Servaes & Tamayo, 2013, p. 1049). Therefore, corporate governance is excluded from the rating.

The six remaining categories are: environment, community, diversity, employee relations, human rights and product quality and safety (Kim et al., 2012). The *environmental category* focuses, among other things, on the implementation of recycling- and pollution prevention programs or the demonstration of environmental concerns in its day-to-day operations. A firm will achieve a high score in the category *community* when the firm puts effort into relationships with local communities and when it donates to nonprofit organizations or charities. The category *diversity* focuses, among other things, on support of minorities and women to top positions in management or a position in the board of directors. When a firm encourages involvement and ownership through stock options or stock ownership for a majority of the employees or when it involves the employees in management decisions, it pays attention to the *employee relations* dimension. The KLD-category *human rights* focuses on relationships with indigenous people, good union relationships outside U.S. or human-rights initiatives. The last category, *product quality and safety,* focuses on the existence of a long term, well developed quality program or the attention to Research and Development (R&D) and innovation.

A complete overview of all sub-categories belonging to the strengths and concerns per CSR-category is given in appendix A.

In order to measure the effect of pay-for-CSR-performance on the actual CSR-performance, I construct a CSR-ranking in which I add all strengths and subtract all weaknesses per dimension. However, the maximum number of strengths and concerns per category varies per year, because of adjustments in the MSCI-KLD database during the sample period. Like Is said before, appendix A presents a list of all sub-categories. This list presents also the year initiated and the year ended per subcategory. I follow the methodology of Servaes and Tamayo (2013) and divide per category, per year, the number of strengths (concerns) by the maximum number of strengths (concerns) concerning that particular year. The net CSR-performance score per category is obtained by subtracting the concern-index from the strengths-index. Combining the net CSR-scores of the six CSR-categories results in a total CSR-performance score, ranging from -6 to +6 (formula is presented in section 5.1.1).

5.1.2.2 Independent variables

In order to measure if an executive compensation contract includes CSR-targets, which is the independent variable of hypothesis H1, I create a dummy variable (CSR_IND). CSR_IND indicates whether the firm rewards their executives for the CSR-performance of the firm. The targets for the compensation contract are usually determined at the beginning of the year or at the end of prior year. I expect a positive coefficient with regard to this independent variable, based on the Agency theory. When CSR-targets are included in the compensation plan of executives, executives will put more effort in the CSR-related activities, making the interests of the executives in line with those of the stakeholders (adoption of stakeholder-orientation).

On the other hand, like explained in section 2.4, the inclusion of CSR-targets in the compensation plan (extrinsic reward) can crowd out the intrinsic motivation. When the decrease in intrinsic motivation crowds out the increase in extrinsic motivation, there will be a net negative effect on CSR-performance. In that case, the coefficient of CSR_IND will be negative.

The independent variable of hypothesis H2a is the target compatibility. The target compatibility is measured by an indicator equals one if the company has formulated CSR (consisting of social and/or environmental aspects) as overall organizational goal or has the intention to do this in the near future. More precisely, this variable indicates whether the company has integrated (or the intention to integrate) environmental and social (CSR-) issues into its strategy and day-to-day decision making. The compatibility of the target is operationalized by a dummy variable (CSR_IND_COMPAT).

The independent variable of hypothesis H2b is the target measurability, which is measured by a dummy variable indicating if the CSR-target in the executive compensation plan is quantitative

(CSR_IND_QUANT). As stated before, a quantitative target is SMART-formulated. SMART refers to specific, *measurable*, achievable, realistic and time-bound. I consider a target as quantitative when the measurement method is explicitly stated, including a numerical (absolute or in terms of percentage) target value and including a time frame.

Finally, to measure CEO-power, which belongs to hypothesis H2c, I follow Li et al. (2016) and use CEO-tenure and whether the CEO is chairman of the board as proxies. When a CEO has a long tenure within the company, probably, the CEO will have more relationships in the company, which is associated with a higher CEO-power (Hill & Phan, 1991). CEO-duality is associated with a greater (in)formal power for the person who occupies two positions. The CEO can dominate the board of directors and management (Hill & Phan, 1991). CEO-tenure (CEO_TENURE) is measured as number of days since becoming CEO. The dummy variable (CEO_DUAL) indicates if the CEO is also chairman of the board of that same company.

5.1.2.3 Control variables

Several control variables are included in this study. The control variables are selected based on a theoretical effect on the CSR-performance of companies. First, according to McGuire, Sundgren and Schneeweis (1988), firms with a low CSR-performance have lower profitability in terms of Return On Equity (ROE). When economic profitability is high, the firm has the ability to invest in CSR-activities. It has the financial capacity to, besides meeting the stockholders' expectations, meet the expectations of the other stakeholders. Therefore, I add Return On Equity (ROE) as control variable (Artiach, Lee, Nelson & Walker, 2010), expecting a positive relation with CSR-performance.

In addition, I control for prior year CSR-performance (CSR_PER$_{t-1}$), which is an important predictor of future CSR-levels.

Third, I control for firm size (SIZE), as important determinant of CSR–performance (Artiach et al., 2010). Artiach et al. (2010) conclude that firms with a high CSR-performance score are significantly larger. Large companies receive more public attention and have a greater impact on society due to its scale. Therefore, these kind of companies will have more incentives to have a high CSR-performance.

Fourth I include leverage (LEV) as control variable in the regression equation. When a company has a high leverage, it will put more emphasis on the claims of the debt holders instead of the claims of less powerful stakeholders (Artiach et al., 2010).

Finally, I add the average CSR-score for each industry (INDUSTRY) to control for possible industry effects (Jiraporn & Chintrakarn, 2013). By including a dummy for industry effects (group dummies), I control for the average differences across industries in any (un)observable predictors.

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Appendix B provides an overview of the variables used in this study.

5.2 Libby box

Figure 5.2.1 presents the theoretical constructs and operational proxies belonging to hypotheses H1, H2a, H2b and H2c in a Libby box. A Libby box shows the conceptual items of the relevant relationship (result controls, CSR, target compatibility, - measurability and -controllability), and its corresponding operationalization.

Libby Box hypotheses H1, H2a, H2b and H2c

Figure 5.2.1: Libby box of result controls and CSR-performance relation

5.3 Sample selection and data sources

5.3.1 Sample selection

The sample belonging to this study consists of S&P500 companies. More specifically, this study focuses on U.S. S&P500 firm-year observations, with non-missing MSCI KLD-data, in the period 2011-2013. I have chosen to include large public (S&P500) companies in this study, because of the possibility to measure the overall CSR-performance score (KLD-MSCI), which is determined and

registered for S&P500 companies by KLD Research & Analytics. The sample represents a wide variety of industries (see appendix H) and a large proportion of the total national (U.S.) output. In addition, I have chosen for this sample period, because 2011-2013 are the most recent years with data available in the KLD/MSCI-database. I follow Kim et al. (2012) and leave financial institutions out of account (SIC-codes 6000–6999), because some CSR-categories are irrelevant for financial institutions.

The starting sample consists of 509 firms (with non-missing MSCI-KLD data) and 1338 firm-year observations. However, 184 firms are lost because of missing data with regard to the several variables or because of dropping financial institutions. This corresponds with 490 firm-year observations. The final sample consists of 325 firms with 848 firm-year observations. The complete sample selection procedure with corresponding selection criteria is presented in appendix C.

In order to test hypotheses H2a, H2b and H2c, a subsample of firms is used. The sample belonging to these hypotheses consists of U.S. S&P500 firm-year observations in which CSR-targets are implemented in the executive compensation structure. This subsample consists of 191 firms with 446 firm-year observations.

5.3.2 Data sources

The pay-for-CSR-performance data is obtained from ESG- ASSET4, which is accessible through the Thomson Reuters Datastream database. It provides environmental, social and governance (ESG) information on firm level, including the sustainability compensation incentives. The same database is used to gather the information with regard to the target compatibility (integrated strategy).

The target type (quantitative- or qualitative target) is manually gathered from Proxy Statements, also called DEF 14A filing. These are mandatory filings for S&P500 firms. Proxy Statements are easily accessible through the EDGAR database (U.S. Security Exchange Commission). The information with regard to the type of the target can be found in the section 'Compensation Discussion and Analysis'. When the type of target was not mentioned in the Proxy Statement, the company's annual report and corporate social responsibility report of that particular year were reviewed.

The MSCI KLD-rating information is available in the MSCI database (formerly KLD), which is accessible by means of WRDS. As stated in section 5.1, the maximum number of subcategories in the MSCI-KLD rating has changed during the sample period. The information with regard to the specific subcategories are obtained using the organization MSCI itself.

The data with regard to CEO-duality is obtained from the database Institutional Shareholder Service (ISS) (formerly RiskMetrics). This database contains information with regard to the employment title of senior executives. When a senior executive has an employment title of CEO and chairman, the

indicator equals 1. When there was a change of CEO during the year, the person who serves as CEO for the major part of the year is used in the analysis.

In order to measure CEO-tenure, I make use of information out of the database Execucomp of Compustat North America. The Compustat North America database is also used in order to gather the data required to measure the control variables (size, Return On Equity leverage and industry).

5.4 Statistical methods

5.4.1 Univariate tests

The univariate test is a simple statistical test, and a good starting point for further statistical analyses. It can be categorized as descriptive statistics, which describes the features of the sample. In other words, an univariate analysis does not test for causality or specific relations, it only describes the data and tries to find certain patterns in the data (Moore, 2011). The descriptive statistics focuses, among other things, on the mean, standard deviation, variance, minimum value, median value and maximum value of the sample. The univariate analysis can also be used to derive the differences in means and their significance. The latter is possible by performing an independent group t-test or running an univariate (simple) regression analysis. However, univariate analyses do not take the correlation of the independent variables with the control variables into account. Moreover, these analyses do not correct for any other effects (e.g. year- or industry effects).

5.4.2 Multivariate tests

A multivariate (regression) test measures in what extent a response variable (y; dependent variable) changes as an explanatory variable (x; independent variable) changes. A regression line can predict the value of the dependent variable for a given value of the independent variable (Moore, 2011). The slope of the regression line is the rate at which the predicted value of the dependent variable changes along the line as the independent variable changes. The intercept of the regression line is the predicted value of the dependent variable when the independent variable is zero (starting point).

For this study, I make use of the OLS-(Ordinary Least Squares) regression analysis. The OLS-line is a regression line that makes the sum of the squares of vertical distances between the predicted value of the dependent variable and the actual value of the dependent variable as small as possible (Moore, 2011). An advantage of this method is the minimization of prediction errors. When a regression line is used to predict the value of the dependent variable based on the value of the independent variable, prediction errors will exist in the vertical distance of the scatterplot (overview of data points with independent variable as x-axis and dependent variable as y-axis). The OLS-regression minimize the squared error between the data you try to approximate.

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6. Empirical results and analyses

This section presents the results of the statistical tests. All statistical test are performed using Stata. First, section 6.1 presents the results of the correlation analysis and VIF-analysis, which are performed to test for potential multicollinearity. Section 6.2 covers the descriptive statistics. In addition, section 6.3 presents the results of the univariate analyses (independent group t-test and simple regression analysis) of hypothesis H1. In section 6.4 the results of the multivariate analysis (multiple OLS-regression analysis) for hypothesis H1 are given. The univariate and multivariate analyses belonging to hypotheses H2a, H2b and H2c are given in section 6.5 and 6.6, respectively. Section 6.7 shows the result of the robustness checks. Finally, a summary of all statistical results is included in section 6.8.

This section provides an answer to the last sub-question: What are the empirical findings with regard to the result controls-CSR performance relation?

6.1 Normality tests and correlation analyses

6.1.1 Normality tests

Before the discussion of the descriptive statistics, the normality of the distribution of the (continuous) dependent variable, independent variables and control variables is determined. In order to decide whether a variable has a normal distribution, it is useful to make histogram graphs and/or Kernel density plots. Both methods make clear if a certain distribution is normal or (lightly) skewed. Appendix D gives an overview of the graphs and plots for all (continuous) variables.

The histograms and Kernel density plots show that there are several variables with a deviation from a normal distribution, namely CEO_TENURE, SIZE, ROE and LEV. There are quite large outliers in the data belonging to these variables. An outlier is a data point (firm-year observation) that is outside the overall pattern of all other data points. In case there is an outlier in the y-direction, it has a large residual. A residual is the difference between the actual and predicted value of the dependent variable. When it is an outlier in the x-direction, it does not necessarily have large residuals (Moore, 2011).

Outliers can skew data in such a way that it shifts the data from a normal distribution. Outliers make the statistical analyses less accurate. There are two solutions to overcome this problem: trimming or winsorizing the data. Both methods aim to reduce the (possible) impact of these outliers (Artiach et al., 2010). In the case of trimming the data, extreme values are removed, resulting in a loss of observations. Winsorizing the data is a transformation process in which extreme values in the datasets are replaced. This study makes use of the second method, in which the number of firm-year observations is maintained. The outliers are winsorized such that they were set at 1th and 99th percentiles.

Appendix E provides the graphs and plots for the variables CEO_TENURE, SIZE, ROE and LEV after winsorizing. The data belonging to these variables is less skewed after the winsorize process. The winsorized variables form the basis for the statistical analyses of this research.

It is important not to rely solely on graphical techniques to determine the distribution of variables (Razali & Wah, 2011). Therefore, an additional normality test is performed; the Shapiro–Francia W test. This test comes from the original Shapiro-Wilk test. According to the study of Razali and Wah (2011), The Shapiro-Wilk test is the most powerful normality test for all types of sample sizes. The test is only applied to the continuous variables. The main value of the test, W, relies between zero and one. A small value indicates a non-normal distribution. In addition to the Shapiro–Francia W test, Q-Q- (quantile-quantile) plots are made. The results of the test and plots are presented in appendix F.

Concluding, the test and plots indicate that the variables CSR_PER and CSR_PER$_{t-1}$ are close to normal, while the variables CEO_TENURE, SIZE, ROE and LEV are (still) not normally distributed. However, according to Ghasemi and Zahediasl (2012), this should not cause major problems during performing statistical tests when the sample size is larger than 30 observations. The sample size of this study consists of 848 observations (446 observations in the subsample). Thus, I do not expect unreliable or inaccurate outcomes as result of non-normal data.

6.1.2 Correlation analyses

In order to test for possible multicollinearity, it is essential to make a correlation matrix. Multicollinearity is a phenomenon in which two independent variables are highly correlated. This can result in imprecise regression outcomes. Multicollinearity inflates the standard errors of the estimated coefficients. A correlation matrix shows the correlation coefficients between each variable and the other variables. It can be used to analyze the dependence between variables at the same time (Verbeek, 2008). In this study, I make use of the Pearson correlation matrix. The Pearson Correlation Coefficient (Pearson's R) measures the linear correlation between two variables and will result in an outcome between +1 and −1 (+1 is perfect positive correlation, -1 is perfect negative correlation and 0 is no correlation). When the correlation coefficient is close to -1 or +1, there is a strong (inter)correlation between the independent variables, which can distort the (regression) results (Moore, 2011).

To determine the multicollinearity in a model with many independent variables, it is useful to use the Variance Inflation Factor (VIF)- method. This method makes a comparison between the situation in which there is no correlation between the independent variables and the VIF, which is the factor by which the variance of a coefficient is inflated. When the VIF is equal or higher than ten, there is high multicollinearity (Verbeek, 2008).

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The results of the Pearson correlation test and the VIF-(variance inflation factor) analysis are given in panel B of table 6.2.1.1. The correlation matrix presents the correlation coefficient (Pearson's R). The matrix shows no multicollinearity problems. With regard to the VIF-analysis, the variable CSR_IND has the highest VIF (1.08). The average VIF is 1.05. Therefore, I can conclude that there are no multicollinearity problems with the variables used in this study.

The correlation coefficients in the Pearson correlation matrix have the expected signs. CSR_IND, CSR_PER$_{t-1}$, SIZE and ROE are positively correlated with CSR-performance. LEV is negatively correlated with CSR-performance. This holds also for CSR_PER$_{t-1}$. Interestingly, CSR_PER$_{t-1}$ is positively correlated with CSR_IND, indicating that firms with a high CSR-performance in prior year should have more often CSR-indicators implemented in the executive compensation plan.

The Pearson correlation test and the VIF-analysis is also performed for the subsample belonging to hypotheses H2a, H2b and H2c. The results of these analyses are presented in appendix G. Again, there are no multicollinearity problems.

6.2 Descriptive statistics

6.2.1 Descriptive statistics main sample (hypothesis H1)

Panel A of table 6.2.1.1 presents the descriptive statistics of the dependent variable, independent variables and control variables. As stated in section 5.3, the final sample used for the statistical tests consists of 848 firm-year observations. Panel A of table 6.2.1.1 shows that, on average, 52.6% of the firm-year observations had included CSR-indicators in their executive compensation plan during 2011-2013. This equals 50.6% of the firms (153 of 302 firms) in 2011, 52.0% of the firms (158 of 304 firms) in 2012 and 55.8% of the firms (135 of 242 firms) in 2013 (untabulated results). This is considerably higher than the frequency of pay-for-CSR-performance mentioned in the study of Ceres and Sustainalytics (2014). This study states that (only) 24.0% of the largest, publicly traded U.S. companies had included CSR-criteria in their compensation programs in 2014. The difference can potentially be explained by the loss of relatively many observations in this study, whereby not all S&P500 firms are included. Another potential explanation can be a difference in the used definition of CSR. As explained in section 2.1, sustainability and CSR are used interchangeably. However, some authors state that there are systematic differences between the two definitions. This study focuses on CSR in terms of social and environmental aspects. It can be possible that the definition used in the study of Ceres and Sustainalytics (2014) only focuses on the social dimension.

The mean CSR-performance of S&P500 firms in the period 2011-2013 was 0.487. So the number of environmental and/or social strengths exceeds the number of environmental and/or social weaknesses. In order to make an inference about the difference in CSR-performance scores between firms which

have included CSR-indicators in their compensation plan and firms which have not, an univariate analysis is performed in section 6.3.

Descriptive Statistics, Correlation Analysis and VIF-analysis
848 Firm-Year Observations from 2011 till 2013

Panel A: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
CSR_PER	0.487	0.831	-2.476	3.25
CSR_IND	0.526	0.4996	0.00	1.00
CSR_PER t-1	0.280	0.947	-2.726	3.25
SIZE (TA)	27431	39445	1641	232982
ROE	0.0512	0.0586	-0.36	0.17
LEV	0.938	2.212	7.360	16.247

Panel B: Pearson Correlation test and VIF-analysis

	CSR_PER	CSR_IND	CSR_PER t-1	SIZE (TA)	ROE	LEV	*VIF*
CSR_PER	1.000						
CSR_IND	0.148***	1.000					1.08
CSR_PER t-1	0.730***	0.081**	1.000				1.01
SIZE (TA)	0.150***	0.253***	0.077**	1.000			1.10
ROE	0.084**	0.027	0.035	0.146***	1.000		1.03
LEV	-0.004	0.065	-0.055	0.038	-0.078**	1.000	1.02

*, **, *** indicate significance of the coefficients at 10%, 5% and 1% significance level, respectively.   *mean* 1.05

Panel A: *shows the Descriptive Statistics of the following variables:*

CSR_PER (CSR-performance-score according to MSCI KLD-rating in year t), CSR_IND (dummy variable equals 1 if the firm has included CSR-performance indicators in its executive compensation plan), CSR_PER t-1 (CSR-performance-score according to MSCI KLD-rating in year t-1), SIZE (total assets) ROE (net income divided by market value of equity) LEV ((debt in current liabilities + long-term debt)/stockholders' equity).

Panel B: shows the intercorrelation between the dependent variable and the independent variables (same as Panel A).

Table 6.2.1.1: Descriptive statistics, correlation analysis and VIF-analysis

6.2.2 Industry-specific descriptive statistics main sample (hypothesis H1)

In order to gain more insight in the composition of the sample used in this study, the descriptive statistics per industry (based on first two digits of SIC-codes) is given in appendix H. The industry 'Hotels & Other Lodging Places' has the highest mean CSR-performance score, while the industry 'Nonmetallic Minerals' performs worst on CSR. Among other things, the industries 'Mining', 'Nonmetallic Mineral', 'Lumber and Woods products 'Petroleum and Coal products' and 'Hotels &

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Other Lodging Places' make extensive use (100% of the industry-specific firm-year observations) of CSR-based result controls. Contrastingly, the industries 'Educational Services', 'Amusement & Recreation Services', 'Personal Services and 'Wholesale Trade' make, based on this sample, no use of CSR-based incentives. This can, according to Merchant and Van der Stede (2017), be a result of differences in the selection purpose of incentives. In other words, different incentive systems (or different degrees of performance-based pay) attract different types of employees/managers to different types of organizations.

Interestingly, the industry 'Nonmetallic Mineral' makes use of CSR-targets in executive compensation in a large extent, but this industry has the lowest mean CSR-performance. On the other hand, the industry 'Hotels & Other Lodging Places' has the highest mean CSR-performance, making use of CSR-based pay. In other words, it seems that pay-for-CSR-performance is not equally effective in each industry. However, this is not statistically tested in this study. Therefore, an in-depth analysis of these industry-specific results is relevant for further research.

Finally, the industry 'Petroleum & Coal Products' has companies of a relatively large size (in terms of total assets), while the industry 'Educational Services' is more related to smaller sized companies.

6.2.3 Descriptive statistics subsample (hypotheses H2a, H2b and H2c)

The descriptive statistics of the subsample, belonging to hypotheses H2a, H2b and H2c, is presented in appendix G. First of all, the mean CSR-performance of firms which have a pay-for-CSR-performance system is 0.604 in the period 2011-2013 (0.358 for firms without a pay-for-CSR-performance system). Second, the firms in this subsample have a CEO with the CEO-employment title for about 2327 days (+/-6,4 years) and, on average, 59.9% of the firms have a CEO who is also chair of the board. For the firms without CSR-related pay, the mean CEO-tenure is 2881 days and, on average, 51.5% of the firms have a CEO with a dual employment title in 2011-2013. Third, on average, 83.6% of the subsample-firms have CSR-targets which are compatible with the overall organizational goal. Finally, 32.7% of the firms in the subsample make use of quantitative CSR-targets in the remuneration of senior executives.

6.3 Univariate analysis hypothesis H1

In all statistical tests, I make use of three significance levels: 10% (90% confidence level), 5% (95% confidence level) and 1% (99% confidence level). Each confidence level is related to a critical t-statistic, which depends on the degrees of freedom. The critical values belonging to 90%, 95% and 99% confidence levels are: 1.647, 1.963 and 2.581, respectively. The critical t-values are also denoted in the notes of each table. When the t-statistic exceeds its critical value, the coefficient is significant at

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the corresponding significance level. Then, the p-value is smaller than the significance level, resulting in a rejection of the null hypothesis.

For the univariate analysis, the complete dataset of 848 firm-year observations is used. Based on the results of the univariate analysis, presented in table 6.3.1, I can conclude that there is a significant difference in CSR-performance scores of the sample firms which have implemented pay-for-CSR-performance and firms which have not. The firms with CSR-indicators in their executive compensation structure have significantly higher CSR-performance scores. The firms with a pay-for-CSR-performance system have a mean CSR-performance score of 0.604, while the firms without a pay-for-CSR-performance system have a mean score of 0.358. The difference in means is significant with a p-value of 0.000. The t-statistic of 4.351 exceeds its critical t-value of 2.581 (t-distribution with 846 degrees of freedom) based on a significance level of 1%. The same conclusion holds for two control variables; CSR-performance of prior year (p-value of 0.019, t-value of 2.360) and firm size (p-value of 0.000, t-value of 7.602). The latter indicates that especially the large firms (in terms of total assets) use CSR-targets to compensate the executives. In other words, CSR-performance based pay is more common in larger firms.

The control variable Return On Equity (ROE) is insignificant (p-value of 0.429, t-value of 0.791), while the control variable leverage (LEV) is significantly associated with CSR-performance (p-value of 0.059, t-value of 1.888). However, the coefficient of the control variable leverage has the opposite sign as expected.

Univariate Analysis
848 Firm-Year Observations from 2011 till 2013

	CSR_IND=0	CSR_IND=1	CSR_IND=0	CSR_IND=1	Pred.	Difference		
	Mean	Mean	Frequency	Frequency	Sign	(mean)	T-statistic	P-value
CSR_PER	0.358	0.604	402	446	+	0.246	4.351	0.000 ***
CSR_PER t-1	0.199	0.352	402	446	+	0.153	2.360	0.019 ***
SIZE (TA)	16932	36895	402	446	+	19963	7.602	0.000 ***
ROE	0.050	0.053	402	446	+	0.003	0.791	0.429
LEV	0.788	1.074	402	446	-	0.287	1.888	0.059 *

*, **, *** indicate significance of the coefficients at 10% ($t \geq 1.647$) or ($t \leq -1.647$), 5% ($t \geq 1.963$) or ($t \leq -1.963$) and 1% ($t \geq 2.581$) or ($t \leq -2.581$) significance level, respectively.

Table 6.3.1: Univariate t-test analysis, difference CSR_IND

In order to draw a conclusion about the increase in CSR-performance (CSR-performance in year t versus CSR-performance in year t-1), I perform a second univariate analysis (table 6.3.2). The coefficient of CSR_PER_{t-1} in the univariate (simple) regression analysis is positive and significant (p-value of 0.000, t-value of 15.15), indicating that prior year CSR-performance is a good predictor of current year CSR-performance. An increase in prior year CSR-performance of 1 causes an increase in current year CSR-performance of 0.641.

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.308	31.10	0.000 ***
CSR_PER t-1	+	0.641	15.15	0.000 ***
Adj R-squared		0.533		
Observations		848		

*, **, *** *indicate significance of the coefficients at 10% (t ≥ 1.647) or (t ≤ -1.647), 5% (t ≥ 1.963) or (t ≤ -1.963) and 1% (t ≥ 2.581) or (t ≤ -2.581) significance level, respectively.*

Table 6.3.2: Univariate regression analysis CSR_PER t-1

However, the univariate analysis of hypothesis H1 does not take correlation of the independent variables with the control variables into account. Moreover, this analysis does not correct for any industry effects. Therefore, I perform a multivariate analysis, in which control variables and the industry effects are included.

6.4 Multivariate analyses hypothesis H1

Table 6.4.1 presents the results of the multivariate analysis concerning hypothesis H1. In order to test this hypothesis the complete sample, consisting of 848 firm-year observations, is used. First I perform a regression analysis without the control variables (panel A of table 6.4.1). The results indicates that there is a positive, significant effect (at 1% significance level) of pay-for-CSR-performance on the actual CSR-performance score, with a p-value of 0.000 (t-value of 4.35) and a coefficient of 0.246. This is, as expected, the same result as the univariate analysis (table 6.3.1). The adjusted R-squared is 0.021, which means that only 2.2% of the variance in the variable CSR-performance score (CSR_PER) is explained by the variable CSR-targets in executive compensation (CSR_IND).

In addition, I include control variables in the regression analysis (panel B of table 6.4.1), which is likely to increase the explanatory strength of the model. By regressing this model, 53.9% of the variation in CSR-performance is explained. Again, CSR_IND is positive and significant (p-value of 0.020, t-value of 2.34). The t-statistic exceeds the critical value of 1.963, making it significant at 5%-level. The implementation of CSR-targets in the executive compensation plan will increase the CSR-score, on average, with 0.107. Thus, the provision of incentives for CSR-performance to senior executives may be effective in improving the CSR-performance.

With regard to the control variables, the control variable CSR_PER_{t-1} is positive and significant (p-value of 0.000, t-value of 26.38) at 10%-level, which indicates that the CSR-score of prior year is a good predictor of the CSR-performance of current year. The size (in terms of total assets) is also a good determinant of the CSR-score, having a positive and significant impact (5%-level) (p-value of 0.025, t-value of 2.25). This is in accordance with the results of Artiach et al. (2010). Return On Equity (ROE) also positively affects CSR-performance (p-values of 0.061, t-value of 1.88), with a significance at a 10%-level. However, leverage (LEV) is insignificant, this contrary to the expectation.

OLS Regression Results Hypothesis H1

848 Firm-Year Observations from 2011 till 2013

Panel A: Regression results without Control Variables

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.358	8.73	0.000 ***
CSR_IND	+	0.246	4.35	0.000 ***
Adj R-squared			0.021	
Observations			848	

Panel B: Regression results with Control Variables

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.179	4.77	0.000 ***
CSR_IND	+	0.107	2.34	0.020 **
CSR_PER t-1	+	0.618	26.38	0.000 ***
SIZE (TA)	+	1.32 E-06	2.25	0.025 **
ROE	+	0.680	1.88	0.061 *
LEV	-	0.009	0.97	0.334
Industry effects	Yes			
Adj R-squared			0.539	
Observations			848	

*, **, *** indicate significance of the coefficients at 10% (t ≥ 1.647) or (t ≤ -1.647), 5% (t ≥ 1.963) or (t ≤ -1.963) and 1% (t ≥ 2.581) or (t ≤ -2.581) significance level, respectively.

Panel A shows the results of the OLS regressions without control variables.
The dependent variable is **CSR_PER** (CSR-performance-score according to MSCI KLD-rating in year t).

The independent variable is **CSR_IND** (dummy variable equals 1 if the firm has included CSR-performance indicators in its executive compensation plan).

Panel B shows the result of the same OLS regression, including control variables.
The control variables are **CSR_PER t-1** (CSR-performance-score according to MSCI KLD-rating in year t-1), **SIZE** (total assets) **ROE** (net income divided by market value of equity) **LEV** ((debt in current liabilities + long-term debt)/stockholders' equity).

Table 6.4.1: OLS-regression results hypothesis H1

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6.5 Univariate analysis hypotheses H2a, H2b and H2c

Table 6.5.1 and table 6.5.2 present the outcomes of the univariate t-tests concerning hypotheses H2a, H2b and H2c. In order to test these hypotheses, a subsample consisting of 446 firm-year observations is used. This subsample consists of firms which have implemented CSR-targets in the executive compensation. The use of a smaller subsample results in a lower degrees of freedom. Therefore, the critical values belonging to 90%, 95% and 99% confidence levels are somewhat higher than for the main sample: 1.648, 1.965 and 2.587, respectively. I perform the univariate t-tests for the variables CEO_DUAL, CSR_IND_COMPAT and CSR_IND_QUANT. Since it is not possible to perform a t-test on two continuous variables, I perform an univariate linear regression for CEO_TENURE.

Based on the results, I can conclude that there is no significant difference (p-value of 0.682, t-value of 0.410) in CSR-performance score between the sample firms which have a dual CEO and those who have not (CEO_DUAL). The difference in means between firms with a dual CEO and firms without a dual CEO in a particular year is (only) 0.035, which is not significant. In other words, firms with a powerful CEO in terms of duality, which should result in more control over the achievement of the CSR-target(s), do not have significantly higher CSR-performance scores in a particular year.

However, there is a significant difference (p-value of 0.000, t-value of 4.842) between sample firms which have compatible targets versus firms who do not have compatible targets (CSR_COMPAT). Compatible in this context implies that firms have included CSR-targets in the compensation plan and have an integrated strategy in which CSR is an important element (overall organizational goal). The firms with a compatible CSR-target in the executive compensation plan have a mean CSR-performance score of 0.692, while the firms without a compatible CSR-target have a mean score of 0.152. The difference in means is significant at 1% significance level.

Univariate Analysis
446 Firm-Year Observations from 2011 till 2013

	CSR_PER				
	Dummy 0/1	Mean	Frequency	T-statistic	P-value
CEO_DUAL	0	0.583	179		
	1	0.618	267		
Difference (mean) (+)		0.035		0.410	0.682
CSR_IND_COMPAT	0	0.152	73		
	1	0.692	373		
Difference (mean) (+)		0.540		4.842	0.000 ***
CSR_IND_QUANT	0	0.656	300		
	1	0.496	146		
Difference (mean) (+)		-0.160		-1.782	0.076 *

*, **, *** *indicate significance of the coefficients at 10% (t ≥ 1.648) or (t ≤ -1.648), 5% (t ≥ 1.965) or (t ≤ -1.965) and 1% (t ≥ 2.587) or (t ≤ -2.587) significance level, respectively.*

Table 6.5.1: Univariate t-test analysis, difference in CEO_DUAL, CSR_IND_COMPAT and CSR_IND_QUANT

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Finally, I can conclude that there is a slightly significant (p-value of 0.076) effect on CSR-performance when the target is quantitative (CSR_QUANT). However, I expected a positive effect on CSR-performance when the target is quantitative, but the coefficient is surprisingly negative. The t-statistic is negative (-1.782) and is smaller than its negative critical value of -1.648.

The second proxy for hypothesis H2a is CEO-tenure. The results of the univariate (simple) regression analysis in table 6.5.2 indicate that the tenure of the CEO has no significant (p-value of 0.947, t-value of 0.07) effect on the CSR-performance score. Thus, the use of another proxy for CEO-power does not change the conclusion with regard to hypothesis H2a. A CEO with more power and probably more control over the achievement of the CSR-target implemented in the compensation plan (target controllability), will not result in a higher CSR-performance.

Univariate Analysis
446 Firm-Year Observations from 2011 till 2013

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.600	8.57	0.000 ***
CEO_TENURE	+	1.60 E-06	0.07	0.947
Adj R-squared		0.000		
Observations		446		

*, **, *** *indicate significance of the coefficients at 10% (t ≥ 1.648) or (t ≤ -1.648), 5% (t ≥ 1.965) or (t ≤ -1.965) and 1% (t ≥ 2.587) or (t ≤ -2.587) significance level, respectively.*

Table 6.5.2: Univariate regression analysis CEO_TENURE

Based on these results, only hypothesis H2a is accepted.

6.6 Multivariate analysis hypotheses H2a, H2b and H2c

This section presents the results of the multivariate analysis concerning hypotheses H2a, H2b and H2c. These results are based on the subsample of 446 firm-year observations.

Panel A of table 6.6.1 presents the regression analysis without the control variables. The results are comparable with those of the univariate analyses explained in section 6.5. The variable CSR-IND_COMPAT is again significant (p-value of 0.000, t-value of 4.85) at 1%-level. The variable CSR_IND_QUANT is significant at 10%-level (p-value 0.073, t-value -1.80). However, the variable CSR_IND_QUANT has the opposite sign as expected (negative instead of positive coefficient).

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The adjusted R-squared is 0.049, so (only) 4.9% of the variance in the CSR-performance score of the subsample is explained by the independent variables CEO-tenure and CEO-duality (CEO-power), compatible target (CSR is formulated as overall organizational goal) and type of target (quantitative versus qualitative).

Then, I include more predictors (control variables) in the regression analysis. Naturally, the control variables are variables that are held constant in order to clarify the relationship between the dependent variable and the main independent variables. The results of the regression analysis including control variable are presented in panel B of table 6.6.1.

The results provide support for hypothesis H2a (compatibility). The variable CSR-IND_COMPAT is significant at a 1%-level (p-value of 0.008, t-value of 2.68). The corresponding coefficient is 0.259 indicating that, when a company has implemented CSR-targets in the executive compensation plan, the use of a compatible target (CSR is formulated as overall organizational goal) will result in an increase in the CSR-performance score of 0.259.

With regard to hypothesis H2b (measurability), the coefficient of the variable CSR_IND_QUANT has again the opposite sign as expected. The relation between CSR_IND_QUANT is negative instead of positive. However, the variable is insignificant (p-value of 0.881, t-value of -0.15).

Furthermore, the variables CEO_TENURE and CEO_DUAL are insignificant (p-values of 0.569 and 0.716 respectively), as in the univariate analysis. Thus, the statistical tests do not provide support for hypothesis H2c (controllability).

Regarding the control variables, the only significant control variable is the CSR-performance of prior year (CSR_PER$_{t-1}$) (p-value of 0.00, t-value of 16.84). The t-statistic exceeds its critical value of 2.587, which makes the coefficient significant at 1%-level. In contrast to the results of the regression analysis belonging to hypothesis H1, the control variables size (in terms of total assets) and Return On Equity (ROE) are insignificant (p-values of 0.130 and 0.727 respectively). The variable leverage is also insignificant (p-value of 0.465). In other words, only prior year CSR-performance has a significant (positive) effect on this year's CSR-performance.

By including the control variables, the explanatory power increased. As shown in table 6.6.1, the adjusted R-squared of this statistical model is 0.525, indicating that 52.5% of the variation in CSR-performance of firms which have a pay-for-CSR-performance system can be explained by the independent variables CEO_TENURE, CEO_DUAL, CSR_IND_COMPAT, CSR_IND_QUANT and the control variables.

Panel A: Regression results without Control Variables

Condition: CSR_IND=1

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.177	1.39	0.164
CEO_TENURE	+	2.10 E-06	0.09	0.931
CEO_DUAL	+	0.035	0.40	0.692
CSR_IND COMPAT	+	0.541	4.85	0.000 ***
CSR_IND_QUANT	+	-0.158	-1.80	0.073 *
Adj R-squared		0.049		
Observations		446		

Panel B: Regression results with Control Variables

Condition: CSR_IND=1

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.118	1.12	0.265
CEO_TENURE	+	-0.000	-0.57	0.569
CEO_DUAL	+	0.026	0.36	0.716
CSR_IND COMPAT	+	0.259	2.68	0.008 ***
CSR_IND_QUANT	+	-0.011	-0.15	0.881
CSR_PER t-1	+	0.606	16.84	0.000 ***
SIZE (TA)	+	1.28 E-06	1.52	0.130
ROE	+	0.196	0.35	0.727
LEV	-	0.011	0.73	0.465
Industry effects	Yes			
Adj R-squared		0.526		
Observations		446		

*, **, *** *indicate significance of the coefficients at 10% (t ≥ 1.648) or (t ≤ -1.648), 5% (t ≥ 1.965) or (t ≤ -1.965) and 1% (t ≥ 2.587) or (t ≤ -2.587) significance level, respectively.*

*Panel A shows the results of the OLS regressions for firm-year observations in which CSR-performance indicators are included in the executive compensation plan (**CSR_IND=1**) without control variables.*
*The dependent variable is **CSR_PER** (CSR-performance-score according to MSCI KLD-rating in year t).*

*The independent variables are **CEO_TENURE** (number of days since becoming CEO), **CEO_DUAL** (dummy variable equals 1 if the CEO is also chairman of the board of directors of the same company), **CSR_IND_COMPAT** (dummy variable equals 1 if the company has formulated CSR as overall organizational goal) and **CSR_QUANT** (dummy variable equals 1 if the CRS-target in the executive compensation plan is quantitative).*

Panel B shows the result of the same OLS regression, including control variables.
*The control variables are **CSR_PER t-1** (CSR-performance-score according to MSCI KLD-rating in year t-1), **SIZE** (total assets) **ROE** (net income divided by market value of equity) **LEV** ((debt in current liabilities + long-term debt)/stockholders' equity).*

Table 6.6.1: OLS-regression results hypotheses H2a, H2b and H2c

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6.7 Additional robustness checks

This section presents the results of four robustness checks: a stationarity test, a reverse causality test, a heteroskedasticity test and an additional regression analysis performed without fixed industry effects and with fixed year effects.

6.7.1 Stationarity and co-integration

The data belonging to the dependent variable and the independent variables must be stationary in order to perform a valid OLS-regression analysis. When the data is stationary, the mean, variance and autocorrelation structure do not change over time. In stationary time series, the shocks by independent variables dissipate with time and there are no permanent effects over the time series (Enders, 2015). However, in non-stationary time series, shocks by independent variables have a permanent effect on the evolution of time series. Non-stationary data can have an effect on (OLS-)regression models, giving potentially spurious results (Enders, 2015).

The sample of this study consists of panel data, with a small number of time periods (three years). That is the reason why I am somewhat less concerned with the time series component of the data. Nevertheless, time-series elements are still important in the treatment of panel data.

If the time series is non-stationary, it is possible to transform the time series to stationary by differencing the data. Then, a new series is created. The number of times required to make the non-stationary data stationary is called 'd' (integration of order 'd'). However, this can result in a loss of observations. Another possibility is related to co-integration, which is a (linear) combination of non-stationary variables (Enders, 2015). When there is co-integration between two time series, the variables share stochastic trends and the variables have a long-run relationship. The superior test for co-integration is the Johansen test (1995), which tests the number of co-integrating relationships in time series (Verbeek, 2008). The Johansen test requires all variables to be integrated in order 1.

An unit root indicates that the series is non-stationary. Unit root tests can be used to examine whether the data is stationary or evolving. I make use of the Augmented Dickey Fuller- test (ADF-test), which is a commonly used unit root test. The null hypothesis for this test is that there is an unit root. The alternative hypothesis is that the time series is stationary.

Appendix I presents the outcome of the ADF-test. For all variables, the t-statistics are smaller than -3.430 (1% critical value). I can reject the null-hypothesis that the series has a unit root at 1%, for all variables. This is also confirmed by the (MacKinnon) p-values (0.000 for all variables). Thus, the time series is stationary, which makes it possible to perform a valid OLS-regression analysis. I do not have to transform the data to stationary by differencing or to test for co-integration using the Johansen test.

6.7.2 Reverse causality

In the previous statistical tests, the effect of CSR-indicators in the executive compensation plan on CSR-performance is tested. I have found a positive, significant effect of these CSR-related indicators on the CSR-performance of companies. However, it is possible that this statistical result is subject to reverse causality bias. Reverse causality implies that the dependent and independent variables are associated, but in another way than expected. Thus, the dependent variable affects the independent variable, instead of the other way around (Granger, 1969). In the context of this study, the CSR-performance can affect the use of CSR-based contracting. It is possible that firms with better social and environmental performance also engage more in CSR-contracting. Therefore, I perform a reverse causality test.

I make use of the Granger causality test, which investigates whether a variable is explained by (the lag of) another value. The null hypothesis states that there is no Granger causality and the alternative hypothesis suggests that there is Granger causality (Granger, 1969).

Appendix J presents the outcomes of the Granger causality test. The test is performed using both one year lag and two years lag. The table indicates that Granger causality (p-value of 0.000) exists in the same direction as the previous statistical tests. Thus, CSR-indicators in the executive compensation plan significantly affect the CSR-performance. In addition, appendix J indicates that no Granger exists in the opposite direction. Thus, CSR-performance does not affect the inclusion of CSR-indicators in the executive compensation plan. These results hold for using both one year time lag (panel A of appendix J) and two year time lag (panel B of appendix J). This result is in accordance with my expectation, because the determination of the compensation structure is prior to the measurement of CSR-performance.

6.7.3 Heteroskedasticity

An important assumption to make inferences based on OLS-regression analysis is homoscedasticity. Homoskedasticity implies that all error terms have the same variance. Otherwise, heteroskedasticity exists in the regression model (Verbeek, 2008). Heteroskedasticity can result in bias in the standard errors of the coefficients, making OLS-regression inefficient.

In order to test for heteroskedasticity, I perform the White test. The results of the White test are presented in appendix K. The null hypothesis of the White test assumes that the variances for the standard errors are equal. The alternative hypothesis assumes unequal variances.

The statistic belonging to the regression model of hypothesis H1 is significant at a 1%-level (p-value of 0.000). With regard to the model of hypotheses H2a, H2b and H2c, the statistic is significant at a

10%-level (p-value of 0.052). This indicates that I can reject the null hypothesis for both models. In other words, there is evidence of heteroskedasticity in the regression models used to make inferences about CSR-based pay and CSR-performance.

A possible solution for this problem is the use of White standard errors. I have performed the multivariate (regression) analyses for hypotheses H1, H2a, H2b and H2c using the White standard errors. The results are given in appendix L. The regression results indicate that the conclusions drawn based on prior analyses still hold after controlling for heteroskedasticity.

6.7.4 Industry and Year effects

The Hausman test can be used to differentiate between a fixed effects model or a random effects model (Verbeek, 2008). According to the (untabulated) results of the Hausman test, a fixed effects model is more appropriate to my study. I have already controlled for fixed industry effects in prior analyses in order to rule out the differences between industries and its effect on CSR-performance. However, as a robustness check, I perform the regression analyses of hypothesis H1 and hypotheses H2a, H2b and H2c without the industry effects (INDUSTRY). The results of the OLS-regressions are presented in appendix M. The results do not change the conclusions which are made based on the regression analyses presented in table 6.4.1 and 6.6.1.

In addition, I include dummies for fixed year effects. Including both fixed industry- and year effects is in line with the study of Li et al. (2016). The (untabulated) results indicate that the conclusions of hypothesis H1 and hypotheses H2a, H2b and H2c still hold after controlling for these fixed effects.

6.8 Summary and discussion empirical results and analyses

In order to give an answer to the research question, several statistical tests and analyses are performed. After checking the normal distribution of the (continuous) variables and performing the correlation analyses, the *descriptive statistics* regarding the main and sub sample was given. The descriptive statistics gives insight in the composition of the sample. An interesting outcome was the relatively high percentages of firms with a pay-for-CSR-performance system in the period 2011-2013 (50.6% of the firms in 2011, 52.0% of the firms in 2012 and 55.8% of the in 2013). In addition, it seems that pay-for-CSR-performance is not equally effective in each industry. Making extensive use of CSR-targets

in the executive compensation does not guarantee high CSR-performance scores in each industry (e.g. the industry 'Nonmetallic Mineral'). However, the descriptive statistics cannot be used to make inferences about the population. Therefore, additional statistical analyses were performed.

The outcomes of the *univariate analysis of hypothesis H1* indicate that the firms with CSR-indicators in their executive compensation structure have significantly higher CSR-performance scores. Based on

the *univariate results of hypotheses H2a, H2b and H2c*, companies which have a pay-for-CSR-performance system can enhance the effectiveness the result control by making use of compatible targets (compatibility of the target). The effectiveness will, contrary to the expectation, be lower when the company make use of quantitative rather than qualitative targets (measurability of the target). However, the latter results is (only) slightly significant. The results with regard to CEO_TENURE and CEO_DUAL (controllability of the target) are insignificant. This indicates that the power (extended authority) of the CEO, which should give the CEO more control over the achievement of the CSR-target, does not have an effect on the effectiveness of CSR-related result controls.

Panel A of table 6.8.1 provides an overview of the results of the *multivariate statistical tests* belonging to *hypothesis H1*. These results are based on the regression analyses in which the control variables were included. The results of the multivariate analyses do not deviate substantially from the results of the univariate analyses. Again, making use of CSR-indicators in the executive compensation plan will significantly increase the CSR-score, on average, with 0.107. In other words, hypothesis H1 is accepted. Thus, the implementation of CSR-targets in the remuneration of executives is an effective tool to stimulate the creation of long-term value and promote the interests of stakeholders. Pay-for-CSR-performance is not subject to the crowding-out effect of incentives.

Panel B of table 6.8.1 presents the outcomes of the *multivariate statistical tests* concerning *hypotheses H2a, H2b and H2c*. As said before, these tests were performed using a subsample of firm-year observations in which CSR-targets are implemented in the executive compensation structure. The multivariate model appears to have a good fit, because 52.6% of the total variance in CSR-performance is explained. In line with the results of the univariate tests, I can accept hypothesis H2a. Thus, compatible targets are more effective than non-compatible targets.

However, based on the multivariate analysis, hypothesis 2b is not accepted. This is in contrast with the results of the univariate analysis. Thus, the use of a quantitative rather than a qualitative target will not result in an increase in CSR-performance for firms using a pay-for-CSR-performance system. I expected an enhanced motivation to invest in CSR-activities when executives believe that the CSR-target is precise, objective and accurate. However, the statistical results do not support this expectation. Although qualitative goals are hard to measure regarding their progress, apparently, these goals are as motivating as quantitative goals. The univariate statistical test even indicates that qualitative targets are more motivating than quantitative targets.

There are several explanations for not finding a significant result with regard to the measurability variable. First of all, it is possible that the relation between type of the CSR-target and the CSR-performance score is too weak to detect. Second, the data is hand-collected. I considered a target as quantitative when the measurement method and measurement time frame is explicitly stated in the

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proxy statement. However, it is possible that a target has a detailed measurement method and is linked to a particular time frame, but these details are not included in the proxy statements. In that case, a target is categorized as qualitative instead of quantitative. In addition, a target can be by nature qualitative, but linking the target to a comprehensive measurement method and to a particular time frame makes a qualitative target being categorized as quantitative. In other words, the insignificant outcome can be the result of bias in the (hand collected) data. Finally, the conclusion is drawn based on a relatively limited (sub) sample (446 firm-year observations). A limited number of observations can make it difficult to find a significant effect.

Hypothesis H2c focuses on the controllability of the CSR-target. I expected that the effectiveness of the CSR-related result controls would have been enhanced when using controllable targets. CEO's with high power have more control over the target. In general, CEO-power is associated with a long CEO-tenure and/or a dual employment title (being CEO and board chair). Contrary to the expectation, CEO-tenure and CEO-duality are insignificantly related to the CSR-performance score for firms with a pay-for-CSR-performance system. The effect is positive, but very small and insignificant. Therefore, I cannot accept hypothesis H2c.

A potential explanation for this insignificant result is related to the general characteristics of CSR-activities. Like I said in section 4.2, sustainability-actions in general have a lack of controllability (Kolk & Perego, 2014). A higher CEO-power does possibly not improve the controllability of the CSR-target. In addition, CEO-power measures the degree of control the CEO has towards the CSR-target attainment. The decision-making power of the other senior executives is not taken into account, while the pay-for-CSR-performance system can also apply to these executives. It can be possible that a better and more extended proxy for controllability improves the significance of the (positive) effect. However, these potential explanations are not statistically tested in this study. Finally, the relatively limited (sub) sample or just a (too) weak relation can be the cause of finding an insignificant result.

With respect to the control variables, which are not tabulated in (summarized) table 6.8.1, the control variables included in the regression analysis of hypothesis H1 were almost all significant. Only leverage does not have a significant effect. Again, this can be the result of the relatively limited number of observations in the sample or the composition of the sample. However, there can also be a particular reason for this insignificant result. For example, debt holders expect nowadays more CSR-related activities of firms. Therefore, firms with a high leverage engage more in CSR in order to meet the expectations of debt holders (Roberts, 1992). However, this study does not provide statistical support for this potential explanation. In the regression analysis belonging to hypotheses H2a, H2b and H2c, prior year CSR-performance is the only significant control variable. The variables size (in terms of total assets), Return On Equity (ROE) and leverage are insignificant.

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All statistical results still hold after performing several robustness checks: a stationarity test, a reverse causality test, a heteroskedasticity test and an additional multivariate analysis performed without industry effects and with year effects.

Summary Regression Results Hypotheses H1, H2a, H2b and H2c

Panel A: Regression results H1

848 Firm-Year Observations from 2011 till 2013

H1: Pay-for-CSR-performance (CSR-performance targets in executive compensation) has a positive effect on actual CSR-performance.

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
CSR_IND	+	0.107	2.34	0.020 **

Hypothesis accepted

*, **, *** indicate significance of the coefficients at 10% (t ≥ 1.647) or (t ≤ -1.647), 5% (t ≥ 1.963) or (t ≤ -1.963) and 1% (t ≥ 2.581) or (t ≤ -2.581) significance level, respectively.

Panel B: Regression results H2a, H2b and H2c

446 Firm-Year Observations from 2011 till 2013

CSR_IND=1

H2a: The relation between pay-for-CSR-performance and actual CSR-performance is stronger when the target is more compatible.

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
CSR_COMPAT	+	0.259	2.68	0.008 ***

Hypothesis accepted

H2b: The relation between pay-for-CSR-performance and actual CSR-performance is stronger when the target is more measurable.

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
CSR_QUANT	+	-0.011	-0.15	0.881

Hypothesis rejected

H2c: The relation between pay-for-CSR-performance and actual CSR-performance is stronger when target attainment is more controllable.

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
CEO_TENURE	+	-0.000	-0.57	0.569
CEO_DUAL	+	0.026	0.36	0.716

Hypothesis rejected

*, **, *** indicate significance of the coefficients at 10% (t ≥ 1.648) or (t ≤ -1.648), 5% (t ≥ 1.965) or (t ≤ -1.965) and 1% (t ≥ 2.587) or (t ≤ -2.587) significance level, respectively.

Panel A shows the results of the OLS regressions concerning hypothesis H1. The results are based on all firm-year observations (main sample).

Panel B shows the results of the OLS regressions concerning hypotheses H2a, H2b and H2c. The results are based on firm-year observations in which CSR-performance indicators are included in the executive compensation plan (CSR_IND=1) (sub sample).

Note that these results are based on regression analyses including (untabulated) control variables.

Table 6.8.1: Summary regression results hypotheses H1, H2a, H2b and H2c

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7. Conclusion

Nowadays, an optimization of CSR-performance is crucial, because the public awareness of sustainability issues is increasing (Berrone & Gomez-Mejia, 2009). The current CSR-performance of many firms is inadequate and far from the desired level, demonstrated by a large amount of recent CSR-related scandals and problems. In addition, companies with a focus on CSR outperform the firms lacking this valuable CSR-focus (Eccles et al., 2014). In other words, improving the CSR-performance can be valuable for companies. This study investigates whether the well-known management 'tool' pay-for-performance (result controls) can be used to enhance the CSR-performances of companies. In addition, this research delves deeper into the effectiveness of these CSR-related result controls. To summarize, this study gives an answer to the following research question: **Do result controls improve CSR-performance?**

In order to give an answer to the research question, the key findings and implications of this study are discussed in section 7.1. In addition, in this section I compare the results of my study with the results of the studies discussed in section 3. Then, I will give an advice to management and board in section 7.2. Section 7.3 focuses on the contribution of this study to prior literature. Section 7.4 describes the limitations of this research, followed by recommendations for my successors in section 7.5.

7.1 Key findings and implications

Linked to the research question (**Do result controls improve CSR-performance?**), this study is centered around one main hypothesis (H1) and three sub-hypotheses (H2a, H2b and H2c):

H1: Pay-for-CSR-performance (CSR-performance targets in executive compensation) has a positive effect on actual CSR-performance.
- **H2:** The relation between pay-for-CSR-performance and actual CSR-performance is stronger when the target is more compatible (**a**), more measurable (**b**) and more controllable (**c**).

Every firm should take the social and environmental role (CSR) into account, in order to build trust with society. When CSR is a priority, this study provides evidence that it is useful to make the executive compensation dependent of the CSR-performance of the company. I can conclude that firms with CSR-indicators in their executive compensation structure have significantly higher CSR-performance scores. I accept hypothesis H1. Thereby, pay-for-CSR-performance is an effective tool to create long-term value and promote the interests of stakeholders. This indicates that pay-for-CSR-performance is not subject to the crowding-out effect of incentives. The increase in extrinsic motivation, due to pay-for-CSR-performance, will outweighs the reduction in intrinsic motivation. This result is in line with the Agency theory (Stakeholder concept). When CSR-targets are included in the compensation plan of executives, executives will put more effort in the CSR-related activities,

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making the interests of the executives in line with those of the stakeholders. However, it is worth noting that the effect on financial performance is uncertain, resulting in a potential conflict of interests between managers and shareholders.

In order to enhance the effectiveness of CSR-related result controls, it is important to have an integrated strategy and to have CSR formulated as overall organizational goal. This makes the CSR-target compatible with the organizational objectives. In other words, when firms have implemented CSR-targets in the executive compensation, compatible targets will be more effective than non-compatible targets. I accept hypothesis H2a.

The use of measurable targets (in terms of quantitative targets) and controllable targets (in terms of CEO-power) does not have a significant effect on the CSR-performance score. First, the use of a quantitative rather than a qualitative target will not result in an increase in CSR-performance for firms using a pay-for-CSR-performance system. I cannot accept hypothesis H2b. Second, CEO-tenure and CEO-duality, which are measure for CEO-power, are insignificantly related to CSR-performance score of firms remunerating executives based on the CSR-performance. Hypothesis H2c is not accepted. However, additional research (e.g. by using another operationalization or another data collection method) is required to give a final conclusion with regard to the use of measurable and controllable targets in result controls. This will be discussed in more detail in section 7.4 en 7.5.

Returning to the research question I can conclude that **result controls improve CSR-performance**, especially when the organization makes use of compatible targets. When the target is compatible with the strategy, employees perceive CSR-improvement as a formal job function, which increases the motivation towards CSR. The use of measurable or controllable targets does not significantly improve the effectiveness of result controls.

With regard to prior literature, which is discussed and summarized in section 3.3, my study is part of the literature stream investigating the effect of result controls on social and/or environmental performance. My study results are in line with the results of Russo and Harrison (2005) and Merriman and Sen (2012). Both studies have found a positive effect of environmental-based pay on environmental performance. My research provides evidence that this conclusion also holds for companies focusing on both environmental and social performance (overall CSR-performance). My study (partly) contradicts with the results of Eccles et al. (2012). These authors conclude that (monetary) pay-for-performance in terms of carbon emissions results in an emission increase rather than an emission decrease, which means that there is a crowding-out effect of extrinsic incentives (like rewarding based on CSR) on intrinsic motivation. The crowding-out effect is not present in my study.

However, the outcomes of my study are in line with another important conclusion of the authors Eccles et al. (2012). Eccles et al. (2012), state that employees perceive carbon emissions reduction improvement as a formal job function when it is part of the strategy. When it is seen as a formal job function, employees are more motivated to reduce the carbon emission, making the emission-based pay an effective tool. In the context of this study, when CSR-improvement is seen as one of the executive's responsibilities (CSR is formulated as overall organizational goal, making the CSR-target compatible with the strategy), the executive is (more) motivated to invest in CSR-activities.

My study makes use of an assumption, which is supported by the study of Cordeiro and Sarkis (2008). Executives are more willing to accept a decrease in their financial-performance-based pay as a result of the costly CSR-investments, when they are compensated for the improvement in CSR-performance. Executives will only invest in CSR-activities when it has a positive net effect on their compensation.

My study has practical implications for management and stakeholders, but especially for compensation committees (or the board of directors). Compensation committees have the responsibility to design the compensation packages of executives. This study provides guidance in the design of the compensation package, and how an effective design of the compensation package can improve CSR-performance if CSR is part of the current or future business strategy.

7.2 Advice to management and board

In general, I would advise the management and board of directors of firms to improve their CSR-management and –performance. Like I said before, it is relevant to optimize the CSR-performance, because of the increasing public awareness of sustainability issues. In addition, it is important to focus on CSR given the growing belief that CSR-oriented strategies are an important source of competitive advantage (Berrone & Gomez-Mejia, 2009). Companies with a CSR-focus focus have, among other things, a higher financial performance (Carroll & Shabana, 2010; Flammer, 2013) , stock market performance (Eccles et al., 2014) and access to finance (Cheng et al., 2014).

When firms have decided to focus (or already focus) on CSR, it is important to implement CSR effectively. A tool which can be used for an effective implementation and incorporation of CSR in the organization is performance-based pay (result controls), part of the MCS. My study provides evidence that CSR-related executive pay can improve CSR-performance, assuming that pay-for-CSR-performance has a positive (net) effect on the executive compensation (Cordeiro & Sarkis, 2008).

In order to increase the effectiveness of result controls, management should have CSR formulated as overall organizational goal; an integrated strategy with a focus on economic, environmental and social aspects. This makes the targets included in the executive compensation plan compatible with the

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organizational strategy. Managers perceive CSR-improvement as a formal job function when it is part of the business strategy, which increases the motivation towards CSR.

7.3 Contribution

This study contributes to prior literature in several ways. First, like I said in the introduction, there is limited research focusing on the result controls as possible determinant for CSR-performance. In addition, the findings with regard to the association between result controls and CSR-performance in existing literature are mixed. This study gives clarity about the above mentioned relation: there is a positive effect of result controls on the actual CSR-performance.

Second, prior literature mainly focuses on the use of environmental-related targets in the compensation and its effect on environmental performance. The results of this study refer to the overall CSR-performance in terms of both environmental and social performance. This is useful, given the fact that most firms actually focus on social targets while prior literature mainly focuses on environmental targets (Maas & Rosendaal, 2016). I can conclude that the use of CSR-targets in the executive compensation improves the overall CSR-score (consisting of environmental and social performances).

Third, the outcomes of this study focuses on the possibilities to enhance the effectiveness of CSR-related result controls. More specifically, this study investigates the difference between compatible and non-compatible CSR-targets, quantitative and qualitative CSR-targets and controllable and non-controllable CSR-targets in the executive compensation. Thereby, this research addresses an important gap in the literature.

7.4 Limitations

There are some limitations which should be kept in mind in order to interpret and accept the results of this study. First, the model can be subject to omitted variable bias. The chosen control variables are based on prior literature and theories. There could be other variables explaining the variances in CSR-performance. More specifically, it is possible that some important factors (determinants of CSR-performance) are incorrectly left out. Therefore, the inclusion of more control variables could increase the *internal validity* of the model.

Second, this study has a relatively low *external validity*. Like I said in section 5.3, the sample used to test hypothesis H1 consists of 325 firms (848 firm-year observations). The sample belonging to hypotheses H2a, H2b and H2c consists of 191 firms (446 firm-year observations). Thus, the sample size is relatively limited. In addition, the sample is limited to only U.S. S&P500 firms. In other words, the data has selection bias towards large (public) companies, although S&P 500 companies are widely used in scientific studies. I expect different results for other countries and for (smaller) non-S&P500 firms. For example, in accordance with Maas and Rosendaal (2016), Scandinavian firms make

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relatively less use of CSR-related targets. A low effectiveness of these targets in executive compensation packages can be a potential explanation. A larger and more diverse sample size can enhance the accuracy of the results and can make it possible to extend the study outcomes to a broader set of companies, improving the external validity of this study.

Third, like I said in section 6.8, the data with regard to the type of target (quantitative or qualitative) is hand-collected and is potentially subject to bias. It is possible that some details with regard to the type of target is not included in the proxy statement. In addition, a target can be by nature qualitative, but linking the target to a comprehensive measurement method and to a particular time frame makes a qualitative target being categorized as quantitative according to the definition used in this study.

Fourth, I find insignificant results with regard to the effect of controllable targets on CSR-performance. The proxies used to measure the controllability of the target were CEO-tenure and CEO-duality (CEO power). While the pay-for-CSR-performance system can be applied to both the CEO and the other senior executives, the proxy CEO-power only focuses on the decision-making power of the CEO. The decision-making power of the other senior executives is not taken into account.

Finally, this study focuses on CSR-targets in the executive compensation and its effect on the actual CSR-performance in the years 2011-2013. As a result of this limited time frame, it was not possible to analyze and draw a (significant) conclusion about whether the use of CSR-targets and the actual CSR-performance have changed (increased or decreased) over time.

7.5 Recommendations for further research

First, the design of this study can be made more specific. This study focuses on the overall CSR-performance of companies and the use of CSR-related targets. As stated in section 2.1, CSR is related to both environmental and social performance. My recommendation for further research is the examination of the impact of social versus environmental targets in executive compensation on the social versus environmental CSR-performance of firms. In addition, the environmental and social performance can be divided into several categories. For example, social performances imply performances in the field of Human Rights, Community, Employee Relations etcetera. It can be useful to investigate the effect of compensation targets linked to individual CSR-categories on the CSR-performance of these individual CSR-categories. I expect that the crowding-out effect will be more or less present in some categories, resulting in differences in the effectiveness of pay-for-CSR-performance. Conducting this additional research will provide companies a more customized advice with regard to the design of the compensation package.

Second, an idea for further research is related to the use of CSR-based incentives in combination with financial performance-based incentives. More specifically, I am wondering in what extent the CSR-

related bonus actually increases the (net) extrinsic rewards for managers (both on long and short term). On the one hand, executives get an extrinsic reward for the CSR-performance of the company. On the other hand, CSR-activities are costly, reducing the financial performance-based bonus in the short term. The impact of CSR-activities on the financial performance (and thus the financial performance-based bonus) on the long-term are unknown. Cordeiro and Sarkis (2008) provide evidence that pay-for-CSR-performance has a positive (net) effect on the executive compensation, but this study focuses only of the environmental aspect of CSR. Conducting a similar research in which both the social and the environmental aspect is included can be useful for further research.

Third, an idea for further research is related to a replication of this study making use of a more extensive dataset. My successors can, for example, increase the dataset by including (smaller) non-S&P500 firms or using a more extended sample period. An extension of the number of firm-year observations can have a positive influence on the significance of the independent variables. In addition, the results of this study might differ from the results for the (smaller) non-S&P500 firms. An extended dataset can also be used in order to investigate whether the use of CSR-targets and the actual CSR-performance within firms have increased over time. Finally, a more extensive dataset gives also the opportunity to investigate the effectiveness of pay-for-CSR-performance per industry. The current dataset has too few observations per industry to draw a reliable (significant) conclusion.

Fourth, as stated in section 6.8, there were some mixed results with regard to the control variables and its significant effect on CSR-performance. In the multivariate analysis belonging to hypotheses H2a, H2b and H2c, several control variables (size, Return On Equity and leverage) were insignificant. I already gave some possible explanations, but these are not statistically tested in this study. It can be relevant for further research to perform some additional tests with regard to the determinants of CSR-performance, besides result controls examined in this study. Artiach et al. (2010) investigate several determinants of CSR-performance, but the results of their study were, as in my study, mixed.

Fifth, a topic for further research is related to the difference in effectiveness between short-term and long-term targets in executive compensation. This study tested whether a compatible target used in the pay-for-CSR-performance system is more effective. This aspect refers to whether and to what degree these (sub-)goals are congruent with the overall organizational goal(s) (Theuvsen, 2004). The compatibility of the target can also be operationalized using another proxy, namely the time frame of the target used in the compensation plan. CSR-performance is associated with the creation of long-term value. To stimulate the creation of long-term CSR-performance (organizational goal) the executive compensation should (partly) depend on the achievement of long-term targets (sub-goal). This is in line with the lower effectiveness of short-term cash rewards compared to long-term equity rewards, in increasing firm performance (Maas & Rosendaal, 2016). Therefore, investigating the effectiveness of short-term versus long-term targets is in my opinion relevant for further research.

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Finally, like I said in section 7.4, a limitation of this study is the potential bias in the data with regard to the type of target (quantitative or qualitative). A possible solution is the use of another data collection method: survey research (e.g. questionnaires). However, there are some disadvantages of survey studies like a low response rate resulting in a limited number of observations and/or inaccurate answers as a result of dishonesty or different interpretations. Still, survey research can provide valuable results. It can enhance the reliability of the outcomes of this study and gives the opportunity to extend this study by gathering more information regarding CSR which is not included in databases.

Survey research can also be used to replicate this study using another proxy for controllability. The current proxy can be extended by the inclusion of the power of the other senior executives. Another possibility is the use of a proxy taking into account the degree of influencing factors, associated with the achievement of the CSR-target, which are beyond the control of the senior executive(s). This information can possibly be collected by using survey research and can be used to ascertain that controllability of the target has indeed no effect on the effectiveness of CSR-related result controls.

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Appendix A – List of MSCI-KLD categories

CSR-Dimension	STR/CON	Sub-Categories	Year initiated	Year ended
Environment(ENV)	*Strengths (STR)*	Environmental Opportunities - Environmental Opportunities in Clean Tech	1991	ongoing
		Pollution & Waste - Toxic Emissions and Waste	1991	ongoing
		Pollution & Waste - Packaging Materials & Waste	1991	ongoing
		Climate Change - Carbon Emissions	1991	ongoing
		Environmental Management Systems	2006	ongoing
		Natural Capital - Water Stress	2012	ongoing
		Natural Capital - Biodiversity & Land Use	2012	ongoing
		Natural Capital - Raw Material Sourcing	2012	ongoing
		Climate Change - Financing Environmental Impact	2013	ongoing
		Environmental Opportunities - Opportunities in Green Building	2013	ongoing
		Environmental Opportunities - Opportunities in Renewable Energy	2013	ongoing
		Pollution & Waste - Electronic Waste	2013	ongoing
		Climate Change - Energy Efficiency	2013	ongoing
		Climate Change - Product Carbon Footprint	2013	ongoing
		Climate Change - Climate Change Vulnerability	2013	ongoing
		Environment - Other Strengths	1991	ongoing
	Concerns (CON)	Regulatory Compliance	1991	2014
		Toxic Emissions and Waste	1991	ongoing
		Energy & Climate Change	1999	ongoing
		Impact of Products and Services	2010	2014
		Biodiversity & Land Use	2010	ongoing
		Operational Waste	2010	ongoing
		Supply Chain Management	2012	ongoing
		Water Stress	2012	ongoing
		Environment - Other Concerns	1991	ongoing
Community (COM)	*Strengths (STR)*	Charitable Giving	1991	2011
		Innovative Giving	1991	2013
		Community Engagement	2010	ongoing
		Other Strength	1991	2011
	Concerns (CON)	Impact on Local Communities	1991	ongoing
Human Rights (HUM)	*Strengths (STR)*	Indigenous Peoples Relations	2000	ongoing
		Human Rights Policies & Initiatives	1994	ongoing

	Concerns (CON)	Support for Controversial Regimes	1994	2014
		Operations in Sudan	2010	2011
		Civil Liberties	2012	ongoing
		Human Rights Concerns	2012	ongoing
		Human Rights - Other Concerns	1994	ongoing
Employee Relations (EMP)	*Strengths (STR)*	Union Relations	1991	ongoing
		Cash Profit Sharing	1991	ongoing
		Involvement	1991	ongoing
		Health & Safety	2003	ongoing
		Supply Chain Labor Standards	2010	ongoing
		Compensation & Benefits	2012	2013
		Employee Relations	2012	2013
		Professional Development	2012	2013
		Human Capital Development	2012	ongoing
		Labor Management	2013	ongoing
		Stakeholder Opposition - Controversial Sourcing	2013	ongoing
		Human Capital - Other Strengths	1991	ongoing
	Concerns (CON)	Collective Bargaining & Unions	1991	ongoing
		Health & Safety	1991	ongoing
		Supply Chain Labor Standards	2010	ongoing
		Child Labor	2012	ongoing
		Labor Management Relations	2013	ongoing
		Labor Rights & Supply Chain - Other Concerns	1991	ongoing
Diversity (DIV)	*Strengths (STR)*	Representation	1991	ongoing
		Board Diversity - Gender	1991	ongoing
		Work/Life Benefits	1991	2011
		Women & Minority Contracting	1991	2013
		Gay/Lesbian Policies	1995	2011
		Employment of Underrepresented Groups	2010	2013
		Other Strength	1991	2011
	Concerns (CON)	Discrimination & Workforce Diversity	1991	ongoing
		Representation	1993	2011
		Board Diversity - Gender	2010	ongoing
		Board Diversity - Minorities	2012	2013
Product (PRO)	*Strengths (STR)*	Product Safety & Quality	1991	ongoing
		Social Opportunities-Access to Healthcare	1991	ongoing
		Social Opportunities - Access to Finance	2010	ongoing
		Social Opportunities-Access to Communications	2013	ongoing
		Social Opportunities-Opportunities in Nutrition & Health	2013	ongoing

		Product Safety - Chemical Safety	2013	ongoing
		Product Safety -Financial Product Safety	2013	ongoing
		Product Safety - Privacy & Data Security	2013	ongoing
		Product Safety - Responsible Investment	2013	ongoing
		Product Safety - Insuring Health & Demographic Risk	2013	ongoing
	Concerns (CON)	Product Safety & Quality	1991	ongoing
		Marketing & Advertising	1991	ongoing
		Anticompetitive Practices	1991	ongoing
		Customer Relations	2012	ongoing
		Customers - Other Concerns	1991	ongoing

Appendix B – Variable descriptions

Variable descriptions

Variable	Description
CSR_PER	CSR-performance-score according to MSCI KLD-rating in year t. $CSR_{PER} = \left(\frac{ENV\ STR}{TOT\ ENV\ STR} - \frac{ENV\ CON}{TOT\ ENV\ CON}\right) + \left(\frac{COM\ STR}{TOT\ COM\ STR} - \frac{COM\ CON}{TOT\ COM\ CON}\right) +$ $\left(\frac{HR\ STR}{TOT\ HR\ STR} - \frac{HR\ CON}{TOT\ HR\ CON}\right) + \left(\frac{EMP\ STR}{TOT\ EMP\ STR} - \frac{EMP\ CON}{TOT\ EMP\ CON}\right) + \left(\frac{DIV\ STR}{TOT\ DIV\ STR} -\right.$ $\left.\frac{DIV\ CON}{TOT\ DIV\ CON}\right) + \left(\frac{PRO\ STR}{TOT\ PRO\ STR} - \frac{PRO\ CON}{TOT\ PRO\ CON}\right)$
CSR_IND	Dummy variable equals 1 if the firm has included CSR-performance indicators in its executive compensation plan; 0 otherwise
CSR_IND_COMPAT	Dummy variable equals 1 if the company has formulated CSR as overall organizational goal, making the (CSR-)target compatible; 0 otherwise
CSR_IND_QUANT	Dummy variable equals 1 if the CSR-target in the executive compensation plan is quantitative; 0 otherwise
CEO_TENURE	Number of days since becoming CEO
CEO_DUAL	Dummy variable equals 1 if the CEO is also chairman of the board of directors of the same company
ROE	Net income divided by market value of equity (Return On Equity)
CSR_PER_{t-1}	CSR-performance-score according to MSCI KLD-rating in year t-1
SIZE	Total assets (stated in millions of dollars)
LEV	Debt-equity-ratio (debt in current liabilities + long-term debt)/stockholders' equity
INDUSTRY	Industry effects (first two digits of SIC-codes)

Appendix C – Sample selection

Sample selection

Selection criteria		Number of firms
Firms in S&P 500 in period 2011-2013		573
Less: Firms without MSCI-KLD observations		64
Start sample after merging MSCI-KLD database		**509**

Selection criteria	Firm Year Observations	Number of firms
Number of observations after merging MSCI-KLD database	1338	509
Less: Observations for firms with missing CSR_PER t-1 data	57	26
Total firm year observations (KLD-MSCI dataset)	**1281**	**483**
Number of observations before merging ESG-ASSET4	1281	483
Less: Observations for firms with missing CSR_IND data	153	72
Total firm year observations (including ESG-ASSET4 dataset)	**1128**	**411**
Number of observations before merging ISS Risk Metrics database	1128	411
Less: Observations for firms with missing CEO_DUAL data	16	4
Total firm year observations (including ISS-Risk Metrics dataset)	**1112**	**407**
Number of observations before merging ExecuComp Compustat database	1112	407
Less: Observations for firms with missing CEO_TENURE data	14	4
Total firm year observations (including ExecuComp Compustat dataset)	**1098**	**403**
Number of observations before merging Compustat North America database	1098	403
Less: Observations for firms with missing CONTROL data	46	1
Total firm year observations (including Compustat North America dataset)	**1052**	**402**
Number of observations before merging ESG-ASSET4	1052	402
Less: Observations for firms with missing CSR_COMPAT	5	2
Total firm year observations (including ESG-ASSET4 dataset)	**1047**	**400**
Number of observations before dropping financial institutions	1047	400
Less: Observations of financial institutions	197	75
Total firm year observations (after dropping financial institutions)	**850**	**325**
Number of observations before merging handcollected data (proxy statements)	850	325
Less: Observations for firms with missing CSR_QUANT	2	0
Total firm year observations (including handcollected dataset)	**848**	**325**

Appendix D – Histograms and plots before winsorizing

Histogram and Kernel density plot of variable CSR_PER before winsorizing

Histogram and Kernel density plot of variable CSR_PER$_{t-1}$ before winsorizing

Histogram and Kernel density plot of variable CEO_TENURE before winsorizing

Histogram and Kernel density plot of variable SIZE (TA) before winsorizing

Histogram and Kernel density plot of variable ROE before winsorizing

Histogram and Kernel density plot of variable LEV before winsorizing

Appendix E – Histogram and plots before winsorizing

Histogram and Kernel density plot of variable CEO_TENURE after winsorizing

Histogram and Kernel density plot of variable SIZE (TA) after winsorizing

Histogram and Kernel density plot of variable ROE after winsorizing

Histogram and Kernel density plot of variable LEV after winsorizing

Appendix F – Normality tests

Shapiro-Francia W' test for normality
848 Firm-Year Observations from 2011 till 2013

	W'	z	Prob>z
CSR_PER	0.993	3.202	0.001
CSR_PER t-1	0.995	2.287	0.011
CEO_TENURE	0.851	10.111	0.000
SIZE (TA)	0.603	12.333	0.000
ROE	0.653	12.023	0.000
LEV	0.488	12.910	0.000

*I make use of the Shapiro-Francia normality test as my sample is between the 5
and 5000 observations.*

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Appendix G – Descriptive statistics and correlation/VIF analysis hypotheses H2a, H2b and H2c

Descriptive Statistics, Correlation Analysis and VIF-analysis
446 Firm-Year Observations from 2011 till 2013

Panel A: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
CSR_PER	0.604	0.894	-1.783	3.25
CEO_TENURE	2327.2	1770.5	194.0	12052.0
CEO_DUAL	0.599	0.491	0.00	1.00
CSR_IND_COMPAT	0.836	0.370	0.00	1.00
CSR_IND_QUANT	0.327	0.470	0.00	1.00
CSR_PER t-1	0.352	1.018	-2.060	3.25
SIZE (TA)	36895.0	46252.3	1797.2	232982.0
ROE	0.053	0.061	-0.327	0.167
LEV	1.074	2.177	7.360	16.247

Panel B: Pearson Correlation test and VIF-analysis

	CSR_PER	CEO_TENURE	CEO_DUAL	CSR_IND_COMPAT	CSR_IND_QUANT	CSR_PER t-1	SIZE (TA)	ROE	LEV	VIF
CSR_PER	1.000									
CEO_TENURE	0.003	1.000								1.10
CEO_DUAL	0.019	0.279***	1.000							1.10
CSR_IND_COMPAT	0.224***	-0.041	-0.016	1.000						1.09
CSR_IND_QUANT	-0.084*	-0.0351	-0.033	-0.001	1.000					1.03
CSR_PER t-1	0.734***	0.0344	0.040	0.203***	-0.103**	1.000				1.09
SIZE (TA)	0.125***	-0.055	0.083*	0.159***	0.111**	0.080*	1.000			1.09
ROE	0.094**	-0.002	0.030	0.158***	-0.033	0.067	0.180***	1.000		1.06
LEV	-0.076	-0.080*	-0.025	-0.013	-0.024	-0.146***	0.017	-0.061	1.000	1.03

*, **, *** indicate significance of the coefficients at 10%, 5% and 1% significance level, respectively.   mean 1.07

Panel A: shows the Descriptive Statistics of the following variables:

CSR_PER (CSR-performance-score according to MSCI KLD-rating in year t), **CEO_TENURE** (number of days since becoming CEO), **CEO_DUAL** (dummy variable equals 1 if the CEO is also chairman of the board of directors of the same company), **CSR_IND_COMPAT** (dummy variable equals 1 if the company has formulated CSR as overall organizational goal) and **CSR_QUANT** (dummy variable equals 1 if the CRS-target in the executive compensation plan is quantitative), **CSR_PER t-1** (CSR-performance-score according to MSCI KLD-rating in year t-1), **SIZE** (total assets) **ROE** (net income divided by market value of equity) **LEV** ((debt in current liabilities + long-term debt)/stockholders' equity).

Panel B : shows the intercorrelation between the dependent variable and the independent variables (same as Panel A).

Appendix H – Descriptive statistics per industry

Descriptive Statistics per Industry

848 Firm-Year Observations from 2011 till 2013

SIC code	SIC description	Frequency (firm-year observations)	Frequncy (firms)	Mean CSR PER	Mean CSR_IND	Mean SIZE (TA)
10	Metal mining, agriculture production crops, gold and silver ores	9	3	0.414	**100%**	20428,7
12	Coal mining	3	1	0.435	**100%**	12196.8
13	Oil & Gas Extraction	63	23	0.310	74.6%	30824.2
14	Nonmetallic Minerals, Except Fuels	2	1	**-0.974**	**100%**	8244.2
15	General Building Contractors	8	3	-0.155	37.5%	8181.6
16	Heavy Construction, Except Building	6	2	0.169	50.0%	7505.5
17	Special Trade Contractors	3	1	-0.444	**0%**	5211.0
20	Food & Kindred Products	42	16	0.756	50.0%	23533.8
21	Tobacco Products	9	3	0.692	66.7%	29632.1
22	Textile Mill Products	3	1	0.115	66.7%	7001.4
23	Apparel & Other Textile Products	6	3	0.310	33.3%	7591.6
24	Lumber & Wood Products	3	1	0.538	**100%**	13229.3
25	Furniture & Fixtures	3	1	-0.355	33.3%	3092.7
26	Paper & Allied Products	16	6	0.717	62.5%	18533.3
27	Printing & Publishing	3	1	0.124	**0%**	1956.4
28	Chemical & Allied Products	86	32	0.810	54.7%	35193.5
29	Petroleum & Coal Products	14	5	0.094	**100%**	**114178.2**
30	Rubber & Miscellaneous Plastics Products	5	2	0.530	60.0%	17035.6
31	Leather & Leather Products	3	1	0.234	**0%**	3090.4
32	Stone, Clay, & Glass Products	3	1	-0.016	33.3%	8647.7
33	Primary Metal Industries	11	4	-0.217	72.7%	10536.8
34	Fabricated Metal Products	11	4	0.369	72.7%	7470.9
35	Industrial Machinery & Equipment	55	21	0.693	49.1%	23819.8
36	Electronic & Other Electric Equipment	47	19	0.951	25.5%	24168.2
37	Transportation Equipment	27	10	0.422	66.7%	55758.3
38	Instruments & Related Products	44	16	0.351	29.5%	11236.9
39	Miscellaneous Manufacturing Industries	9	3	0.774	33.3%	5549.9
40	Railroad Transportation	12	4	-0.095	66.7%	28764.4
42	Trucking & Warehousing	6	2	0.301	50.0%	19586.8
44	Water Transportation	3	1	-0.060	**0%**	39300.7
45	Transportation by Air	6	3	0.997	66.7%	28621.8
47	Transportation Services	4	2	-0.238	**0%**	4143.8
48	Communications	26	9	0.657	30.8%	88534.4
49	Electric, Gas, & Sanitary Services	93	33	0.307	81.7%	33603.7
50	Wholesale Trade - Durable Goods	8	3	0.095	**0%**	5098.1
51	Wholesale Trade - Nondurable Goods	10	4	0.977	70.0%	20265.9
52	Building Materials & Gardening Supplies	4	2	0.822	50.0%	36956.8
53	General Merchandise Stores	18	9	0.110	33.3%	35141.6
54	Food Stores	7	3	0.631	14.3%	**12334.2**
55	Automative Dealers & Service Stations	9	4	-0.047	**0%**	6786.0
56	Apparel & Accessory Stores	12	6	0.705	25.0%	5475.9
57	Furniture & Homefurnishings Stores	4	2	0.874	25.0%	**11199.1**
58	Eating & Drinking Places	13	5	0.630	61.5%	**13448.5**
59	Miscellaneous Retail	6	3	0.120	50.0%	**52227.0**
70	Hotels & Other Lodging Places	3	1	**1.516**	**100%**	6348.7
72	Personal Services	2	1	0.151	**0%**	4593.7
73	Business Services	80	33	0.513	45.0%	**19045.1**
75	Auto Repair, Services, & Parking	3	1	0.619	**0%**	8346.9
78	Motion Pictures	3	1	-0.175	**0%**	4149.9
79	Amusement & Recreation Services	3	1	-0.025	**0%**	7517.7
80	Health Services	10	4	0.450	70.0%	**10558.2**
82	Educational Services	3	1	-0.175	**0%**	**1848.7**
87	Engineering & Management Services	3	2	0.540	33.3%	9458.3
99	Non-Classifiable Establishments	3	1	0.703	**100%**	42365.3
		848	**325**	**0.487**	**52.6%**	**27431.4**

Appendix I – Unit root test

Augmented Dickey Fuller test for stationarity
847 Firm-Year Observations from 2011 till 2013

Variable	Test statistic	P-value	
CSR_PER	-20.392	0.000	***
CSR_IND	-16.769	0.000	***
CEO_TENURE	-16.171	0.000	***
CEO_DUAL	-15.946	0.000	***
CSR_IND COMPAT	-15.479	0.000	***
CSR_IND_QUANT	-14.847	0.000	***
CSR_PER t-1	-19.445	0.000	***
SIZE (TA)	-14.069	0.000	***
ROE	-23.580	0.000	***
LEV	-23.313	0.000	***

*, **, *** indicate significance at 10% (t ≤ -2.570), 5% (t ≤ -2.860) and 1% (t ≤ -3.430) significance level, respectively.

Appendix J – Causality test

<div align="center">

Granger test for causality

521/222 Firm-Year Observations from 2011 till 2013

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Panel A: Granger-test lag = 1 year

Null hypothesis	Coefficient	T-statistic	P-value
CSR_PER does not Granger Cause CSR_IND	0.012	0.83	0.406
CSR_IND does not Granger Cause CSR_PER	0.202	3.90	0.000 ***

*, **, *** indicate significance of the coefficients at 10% (t ≥ 1.648), 5% (t ≥ 1.965) and 1% (t ≥ 2.585) significance level, respectively.

Panel B: Granger-test lag = 2 years

Null hypothesis	Coefficient	T-statistic	P-value
CSR_PER does not Granger Cause CSR_IND	0.033	1.25	0.214
CSR_IND does not Granger Cause CSR_PER	0.381	4.16	0.000 ***

*, **, *** indicate significance of the coefficients at 10% (t ≥ 1.652), 5% (t ≥ 1.971) and 1% (t ≥ 2.598) significance level, respectively.

Appendix K – Heteroskedasticity test

White test for heteroskedasticity
848/446 Firm-Year Observations from 2011 till 2013

	CHI^2	DF	P-value
Regression model hypothesis H1	57.97	19	0.000
Regression model hypothesis H2a, H2b and H2c	56.13	41	0.052

Df = degrees of freedom

Appendix L – Multivariate analyses White errors

OLS Regression Results Hypothesis H1
848 Firm-Year Observations from 2011 till 2013

Panel A: Regression results with Control Variables and "White" standard errors

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.179	4.60	0.000 ***
CSR_IND	+	0.107	2.26	0.024 **
CSR_PER t-1	+	0.618	23.07	0.000 ***
SIZE (TA)	+	1.32 E-06	1.88	0.060 *
ROE	+	0.680	1.75	0.080 *
LEV	-	0.009	0.94	0.346
Industry effects	Yes			
Adj R-squared		0.539		
Observations		848		

*, **, *** *indicate significance of the coefficients at 10% ($t \geq 1.647$) or ($t \leq -1.647$), 5% ($t \geq 1.963$) or ($t \leq -1.963$) and 1% ($t \geq 2.581$) or ($t \leq -2.581$) significance level, respectively.*

Panel A shows the results of the OLS regressions without control variables.
*The dependent variable is **CSR_PER** (CSR-performance-score according to MSCI KLD-rating in year t).*

*The independent variable is **CSR_IND** (dummy variable equals 1 if the firm has included CSR-performance indicators in its executive compensation plan).*

Panel B shows the result of the same OLS regression, including control variables.
*The control variables are **CSR_PER t-1** (CSR-performance-score according to MSCI KLD-rating in year t-1), **SIZE** (total assets) **ROE** (net income divided by market value of equity) **LEV** ((debt in current liabilities + long-term debt)/stockholders' equity).*

The regression results are based on robust White standard errors.

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OLS Regression Results Hypothesis H2a, H2b and H2c
446 Firm-Year Observations from 2011 till 2013

Panel A: Regression results with Control Variables and "White" standard errors

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.118	1.00	0.318
CEO_TENURE	+	-0.000	-0.63	0.530
CEO_DUAL	+	0.026	0.34	0.731
CSR_IND COMPAT	+	0.259	2.43	0.016 **
CSR_IND_QUANT	+	-0.011	-0.14	0.890
CSR_PER t-1	+	0.606	16.04	0.000 ***
SIZE (TA)	+	1.28 E-06	1.26	0.207
ROE	+	0.196	0.33	0.740
LEV	-	0.011	0.71	0.481
Industry effects	Yes			
Adj R-squared		0.526		
Observations		446		

*, **, *** *indicate significance of the coefficients at 10% (t ≥ 1.648) or (t ≤ -1.648), 5% (t ≥ 1.965) or (t ≤ -1.965) and 1% (t ≥ 2.587) or (t ≤ -2.587) significance level, respectively.*

Panel A shows the results of the OLS regressions for firm-year observations in which CSR-performance indicators are included in the executive compensation plan (CSR_IND=1) without control variables.
The dependent variable is CSR_PER (CSR-performance-score according to MSCI KLD-rating in year t).

The independent variables are CEO_TENURE (number of days since becoming CEO), CEO_DUAL (dummy variable equals 1 if the CEO is also chairman of the board of directors of the same company), CSR_IND_COMPAT (dummy variable equals 1 if the company has formulated CSR as overall organizational goal) and CSR_QUANT (dummy variable equals 1 if the CRS-target in the executive compensation plan is quantitative).

Panel B shows the result of the same OLS regression, including control variables.
The control variables are CSR_PER t-1 (CSR-performance-score according to MSCI KLD-rating in year t-1), SIZE (total assets) ROE (net income divided by market value of equity) LEV ((debt in current liabilities + long-term debt)/stockholders' equity).

The regression results are based on robust White standard errors.

Appendix M – Multivariate analyses without Industry effects

OLS Regression Results Hypothesis H1

848 Firm-Year Observations from 2011 till 2013

Panel A: Regression results with Control Variables, without Industry Effects

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.163	4.81	0.000 ***
CSR_IND	+	0.115	2.88	0.004 ***
CSR_PER t-1	+	0.631	30.90	0.000 ***
SIZE (TA)	+	1.45 E-06	2.84	0.005 ***
ROE	+	0.701	2.11	0.035 **
LEV	-	0.012	1.38	0.169
Industry effects	No			
Adj R-squared		0.547		
Observations		848		

*, **, *** indicate significance of the coefficients at 10% ($t \geq 1.647$) or ($t \leq -1.647$), 5% ($t \geq 1.963$) or ($t \leq -1.963$) and 1% ($t \geq 2.581$) or ($t \leq -2.581$) significance level, respectively.

<u>Panel A</u> shows the results of the OLS regressions without control variables.
*The dependent variable is **CSR_PER** (CSR-performance-score according to MSCI KLD-rating in year t).*

*The independent variable is **CSR_IND** (dummy variable equals 1 if the firm has included CSR-performance indicators in its executive compensation plan).*

<u>Panel B</u> shows the result of the same OLS regression, including control variables.
*The control variables are **CSR_PER t-1** (CSR-performance-score according to MSCI KLD-rating in year t-1), **SIZE** (total assets) **ROE** (net income divided by market value of equity) **LEV** ((debt in current liabilities + long-term debt)/stockholders' equity).*

Note that these results are based on regression analyses excluding industry effects.

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OLS Regression Results Hypothesis H2a, H2b and H2c
446 Firm-Year Observations from 2011 till 2013

Panel A: Regression results with Control Variables, without Industry Effects

Condition: CSR_IND=1

Variable	Pred. Sign	CSR_PER		
		Coefficient	T-statistic	P-value
Intercept		0.211	2.30	0.022 **
CEO_TENURE	+	-5.54 E-06	-0.33	0.744
CEO_DUAL	+	-0.019	-0.30	0.761
CSR_IND COMPAT	+	0.156	1.93	0.054 *
CSR_IND_QUANT	+	-0.030	-0.49	0.625
CSR_PER t-1	+	0.630	21.47	0.000 ***
SIZE (TA)	+	1.11 E-06	1.72	0.085 *
ROE	+	0.386	0.80	0.425
LEV	-	0.012	0.88	0.379
Industry effects	No			
Adj R-squared		0.542		
Observations		446		

*, **, *** *indicate significance of the coefficients at 10% (t ≥ 1.648) or (t ≤ -1.648), 5% (t ≥ 1.965) or*
(t ≤ -1.965) and 1% (t ≥ 2.587) or (t ≤ -2.587) significance level, respectively.

<u>*Panel A*</u> *shows the results of the OLS regressions for firm-year observations in which CSR-performance indicators are included in the executive compensation plan (* **CSR_IND=1** *) without control variables.*
The dependent variable is **CSR_PER** *(CSR-performance-score according to MSCI KLD-rating in year t).*

The independent variables are **CEO_TENURE** *(number of days since becoming CEO),* **CEO_DUAL** *(dummy variable equals 1 if the CEO is also chairman of the board of directors of the same company),* **CSR_IND_COMPAT** *(dummy variable equals 1 if the company has formulated CSR as overall organizational goal) and* **CSR_QUANT** *(dummy variable equals 1 if the CRS-target in the executive compensation plan is quantitative).*

<u>*Panel B*</u> *shows the result of the same OLS regression, including control variables.*
The control variables are **CSR_PER t-1** *(CSR-performance-score according to MSCI KLD-rating in year t-1),* **SIZE** *(total assets)* **ROE** *(net income divided by market value of equity)* **LEV** *((debt in current liabilities + long-term debt)/stockholders' equity).*

Note that these results are based on regression analyses excluding industry effects.

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