The effect of incentive compensation on corporate social performance

Evidence from years prior to and during the financial crisis

Master Thesis
Preface

Dear reader,

In front of you lies my master thesis; a study performed to investigate the effect of CEO incentive compensation on corporate social performance. As Victor Hugo wrote in his novel Histoire d’un Crime in 1877, “no army can withstand the strength of an idea whose time has come”. In my opinion, the time for sustainability and corporate social responsibility has emerged. The topic has been a hot subject in academic literature for years now, though no clear and straight-forward answers to its actual effects have been provided for. It was this ambiguity joined with my interest in management accounting, which motivated me to write my thesis on this topic. I hope you enjoy reading this thesis.

Anneke Vromen
August 30th, 2012
Abstract

This study is aimed at finding a relationship between CEO compensation and corporate social performance. Data for CSP was derived from the Kinder, Lydenberg en Domini Social Index. By performing a panel data analysis on 584 U.S. firms over the years 2003 until 2010, we have found support for the hypothesis that long-term CEO compensation is positively related to total CSP score and CSP strengths. We also found that larger firms have better CSP and that older firms have worse CSP. CSP has increased during the financial crisis, although a causal relationship between the two could not be established. Our study is useful for those who design incentive compensation schemes and for firms who wish to become more socially responsible and sustainable.
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Section 1: Introduction

An explosion on April 20, 2010, aboard the Deepwater Horizon, a drilling rig working on a well for the oil company BP one mile below the surface of the Gulf of Mexico, led to the largest accidental oil spill in history (New York Times, 2011).

According to a U.S. presidential panel all parties involved (BP, Transocean, Halliburton and several other subcontractors) took a series of hazardous and time-saving steps in drilling for oil without adequate consideration of the risks involved. One year later it was reported that poor maintenance, inadequate training and a lax safety culture at Transocean contributed to the lethal explosion and sinking of the company’s rig in 2010. This was supported by employee survey results administered in the weeks before the explosion, which showed that employees were concerned about the compliance with regulations and the overall safety on the rig.

By now, the many consequences of the oil spill are becoming comprehensible. Besides the damage to the ecological systems, the detrimental effect to the local community in terms of employment and tourism and the death of eleven employees, it caused the company billions of dollars on claims and law suits, not to mention the resignation of the CEO and the plummeting of stock prices in the periods thereafter (New York Times, 2011). We can only guess if all this could have been prevented if BP and its associates behaved in a more socially responsible manner. Clearly they ranked cost savings higher than safety for their workers, the environment and society. They took an enormous risk for which the community had to pay the price.

Friedman (1970) believed that it is a business’ primary responsibility to maximize profits. All ethical considerations are irrelevant and may harm a firms’ financial performance. Indeed, dedicating resources to CSR-related activities may increase costs, but Friedman did probably not take into account the massive damage caused by (and consequently to) a company (BP) that has failed to anticipate on certain events (the oil spill). His argument no longer holds in a world were mass communication – via internet and mobile networks – is becoming a daily routine which has increased transparency in such a way that no move of any of the ‘big players’ can remain unnoticed.

As a consequence of the above, firms in the 21st century face increasing pressure to embrace social responsibility; in part because of emerging standards related to social performance (e.g., the United Nations Global Compact, the Organization for Economic Cooperation and Development Guidelines for Multinational Enterprises, and the International Organization for Standardization
9000 and 14000) but also because of the proliferation of independent evaluations and rankings that make social performance more transparent (Deckop, Merriman, & Gupta, 2006). The role of CSR has shifted; to some extent it has become more of a necessity than a choice. Due to increasing taxes, fines and fees on waste as well as on unsustainable products and resources, environment-related costs have increased tremendously in almost any industry. On the other hand, increasingly more governments put grants, tax reductions or other benefits available for firms that pursue sustainable goals. At this point in time and in terms of direct impact on financials, firms need to make a trade-off between investing in sustainability, or taking a gamble on spending (future) money on possibly unnecessary regulatory costs.

Various studies have provided evidence on social responsibility being positively correlated to financial performance (Orlitzky, Schmidt, & Rynes, 2003) and to stock market performance (Moskowitz, 1972; Parket & Eilbirt, 1975; Sturdivant & Ginter, 1977). Possible explanations for this correlation are thought to be improved stakeholder relations and the positive reputational effects of corporate social responsibility. Eventually these improved relationships can increase investments in these firms by shareholders (Moskowitz, 1972), increase customer goodwill (Solomon & Hanson, 1985), and improve relationships with government agencies that might reduce regulatory costs (McGuire, Sundgren, & Schneeweis, 1988). Also, firms that score higher on corporate social performance have more positive reputations and are more attractive employers than firms with lower corporate social performance. Therefore firms that perform socially, have a competitive advantage over firms that do not (Turban & Greening, 1997). Overall, the study by Eccles, Ioannou & Serafeim (2012) concludes that high sustainability firms (i.e. firms that have incorporated sustainability policies) significantly outperform their counterparts over the long-term, both in terms of stock market and accounting performance.

Despite the fact that several studies show positive correlations between corporate social performance and financial performance, we cannot deny that there are also research outcomes that suggest no relationship at all or even a negative relationship. Nonetheless very convincing evidence can be found in the study by Eccles et al. (2012) and specifically a study by Frooman (1997), who did a meta-analysis on 27 event studies in which stock market reactions to socially irresponsible or illegal corporate actions were examined. He concluded that the abnormal returns after the event were significant and negative across the studies. Clearly, shareholder wealth is affected negatively.

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1 In the Netherlands, municipalities include social criteria in their tender specifications, providing an advantage to firms who present an audited sustainability report (as proof of their social awareness) when tendering for construction contracts, public transport concessions, etc.
when firms act in a socially undesirable way. These results do not trigger firms to invest heavily in CSR-initiatives, but at the least to prevent such events from happening.

Based on the trends mentioned in the above paragraphs, we may state that CSR is becoming (or should become) a vital part of many corporate strategies. In order to achieve strategic sustainability goals, executives must be incentivized to start up initiatives in order to create a more sustainable business. An organizational culture of sustainability must be established in order to make the necessary changes.

Prior research has shown us that performance measures and incentive systems can be used to carry out strategic goals (Salter, 1973; Govindarajan & Gupta, 1985; Simons, 1987; Ittner, Larcker & Rajan, 1997). Sustainability is usually not achieved in a weeks’ time - especially when this requires amendments to organizational culture - therefore incentive compensation would be a useful mechanism to redirect an executives’ attention to long-term social targets (McGuire, Dow, & Argheyd, 2003). Long-term incentives stimulate the manager to sacrifice resources in order to reap the benefits in a few years time. In contrast, if the focus is on short-term (and predominantly financial) goals, we would expect the executive to be demotivated to make a decision that decreases profit in the current year, since this would decrease the likelihood of the manager reaching his short-term target and causes missing the associated bonus. Furthermore, Abernethy, Bouwens and Van Lent (2012) found that when a firm incorporates an ethical work climate on which the focus is ‘on others’, agents exert more effort. This in contrast when there is a focus ‘on self’, as their study shows that agents will shirk and misdirect their effort. This study underwrites the assumption that implementing an organizational culture which is founded on ethical and socially responsible values, results in less agency costs.

We believe that if a firm has given CSR a high priority on its agenda, they will use relatively more long-term incentives to stimulate executives to carry out strategic CSR goals. This is corroborated by Eccles et al. (2012), who have found that high sustainability firms are more long-term oriented. As a result we should be able to identify a positive relationship between long-term compensation and a firms’ corporate social performance, and on the other hand a negative relationship between short-term incentives and corporate social performance. The purpose of this study is to investigate if these assumed relationships actually exist, using a sample of the largest U.S. firms which are observed during 2003 until 2010. We have intentionally included the crisis years 2008, 2009 and 2010 in our sample, as this provides an exogenous shock which may have a significant effect on the outcomes. In short, we would expect that the economic crisis – with cost-
cuttings as a major consequence – flutters the expected relationship between incentives and corporate social performance.

The contribution of this study to the existing literature is established since this type of study has not been performed on a large scale among U.S. firms before. Previous research by McGuire et al. (2003) has been performed, but the data only comprised one year (1999) and given the fact that CSR has incurred such a rapid growth in the last decade, new and more extensive research on this topic is necessary. In addition our study differs because we apply a different research method (i.e. panel data analysis, as explained in our research methodology, refer to chapter 4) and we also include the effects of the economic crisis.

Another comparable study has been performed by Mahony & Thorne (2005) among Canadian firms. This study may be useful to firms that wish to tailor their executive compensation schemes to their corporate social strategy. In addition the results could be beneficial to governments who would like to stimulate sustainable operations in their region.

This paper uses a sample of 584 U.S. firms and investigates the years 2003 to 2010, giving a total of 4,672 observations. Data on corporate social performance is derived from the Kinder, Lydenberg and Domini Social index which provides independent rankings on for example environmental, social and governance dimensions. Results will be presented in the form of descriptive statistics, correlations and regression analyses of different models. As we have a large set of cross-sectional and time-series data, we will also perform a panel data analysis to identify possible trends.

The thesis is structured in several sections. Section 2 summarizes the available literature on this subject and provides a theoretical framework on the research topic. The 3rd section builds further upon section 2, as it contains the hypothesis development based on prior literature. In section 4 the research method and sample are discussed. Section 5 explains the results of the research and in section 6 conclusions are drawn based on the results. Limitations of the study and areas for future research will also be discussed in this section.

The results suggest a positive relationship between long-term compensation and corporate social performance strengths and in total. We did not find an obvious relationship between short-term compensation and CSP concerns. We also find evidence that larger firms have better CSP scores and that older firms perform poorer socially. Some results also suggest that riskier firms have worse CSP scores. During the financial crisis CSP scores increased, although this study cannot determine whether there is a causal relationship between the two. Finally, our results show that on
average, firms that produce or sell to individuals have higher CSP scores whereas firms that operate in heavy industrial sectors are generally underperformers.
Section 2: Literature review

In this section we will discuss available academic literature regarding the research subject in order to formulate an expectation with regard to the research question. In the following section literature on strategy, corporate governance and executive compensation will be discussed briefly, including theoretical perspectives on the agency theory and stakeholder theory. In section 2.2 we will elaborate on the developments in corporate social performance from different perspectives. In section 2.3 the focus is directed towards the expected differences in corporate social performance per industry sector. Also the impact of firm size, age of the firm and firm-specific risk are explained. In the final section 2.4, we will conclude on the literature and provide insights into the formulation of our research question.

2.1 Strategy, corporate governance and executive compensation

2.1.1 Strategy and performance measurement

Industry leaders including Exxon, Nestlé, Nike, and Pfizer can attest that social pressures nowadays are real; these corporations encountered severe blows to their reputations because of their failure to maintain quality, ethical, and other socially responsible standards. In contrast, organizations, such as The Body Shop and Ben and Jerry’s base their business model explicitly on ethical foundations (Pearce & Doh, 2005). In this sense, CSR has moved from ideology to reality and represents an important dimension of contemporary business practices (Maon, Lindgreen, & Swaen, 2009).

Although there is no unambiguous definition of CSR that can be derived from the literature, we know that stakeholders are essential when attempting to define CSR. Stakeholders are groups or individuals that are or can be affected by an organization’s actions. According to the stakeholder theory the firm not only has a binding duty to parties it is related to directly (i.e. employees, investors, suppliers and customers), but also to other stakeholders such as governments, communities, the environment and the public in general. The idea of the stakeholder approach suggests that managers must develop and implement processes which satisfy all these groups. This requires managing and integrating the relationships and interests of stakeholders in a way that ensures the long-term success of the firm (Freeman, 1984).

When we look beyond Freemans’ stakeholder theory - which elaborates on a firm’s responsibilities to various stakeholder groups - Carroll (1997) has another view on CSR and distinguishes between four types of responsibilities of a firm, being an (1) economic responsibility to
generate profits, (2) a legal responsibility to comply to law, (3) the ethical responsibility to meet social expectations other than compelled by law, and (4) the discretionary responsibility to meet additional behaviors and activities that society finds desirable. The way how a firm decides to fulfill these responsibilities are by transforming them into objectives. These objectives can be attained through a times sequence of investment and implementation decisions and govern directly the (re)deployment of resources to make these decisions effective. This is an important part of a firm’s corporate strategy (Andrews, 1997). Conclusively, for a successful implementation of CSR, corporate strategy must be adjusted.

Within organizations, strategy is determined by the top, being mostly the board of directors. Top management is required to see the firm in the broadest perspective possible and to make strategic or entrepreneurial decisions with regard to policy and procedures. They are in a position to do so as they have the final say in the allocation of the firm’s resources – human, financial and material – necessary to carry out these administrative decisions and actions (Chandler, 1997).

Besanko, Dranove, Shanley and Schaefer (2010) state that ‘if a firm’s strategy is to be carried out, or implemented, individuals working within the firm must know about the strategy and its operational requirements for tasks and their coordination.’ (p. 531). Therefore it is up to executives to communicate strategy from the top down in order to make sure the chosen strategy is followed by the company as a whole.

This leads us to another issue, referred to in the literature (e.g. Jensen & Meckling (1976)) as the principal-agent problem. Agency problems arise when an agent, hired by the principal, pursues its own self-interest rather than that of the principal (Zimmerman, 2009, p. 141). When reflected on our case, employees may choose not to follow strategy if it is not aligned with their own self-interest, for example if it means the agent has to exert more effort into a task. This leads to goal incongruence between the agent and the principal. The firm can reduce the agency problem, if not goal incongruence, by structuring agent’s incentives in such a way, that when agents maximize their utility, the principal’s utility is also maximized (Zimmerman, 2009, p. 144). In addition, Besanko et al. (2010, p. 531) notice that in making strategic decisions, top managers will be bound by their routines and will either maintain prior decisions or incrementally modify them. Current decisions about strategy and structure will be constrained by past decisions.

The principal-agent problem can be mitigated through incentive-based compensation primarily, which can be used to ‘steer’ managers’ decisions. Determining an incentive and compensation system is not an easy task and much is still debated over what the best compensation
and performance measurement system designs are. For example Kaplan and Norton (1992) developed the Balanced Scorecard (BSC), which is designed to identify those key performance indicators used to focus on actions required to implement the firms’ strategy\(^2\). Although the BSC has been implemented at numerous large corporations, it is questionable whether it is suitable as a performance measurement system (Jensen, 2001). This is mainly caused by the fact that a BSC involves many (10 to 30) performance indicators. Since a manager can only maximize one variable at a time, the manager must make a trade-off between which variables to maximize within a given time-period. In line with the agency theory, managers will choose those measures easiest to achieve and ignore more difficult tasks (Zimmerman, 2009, p. 676). Firm value will most certainly suffer in these cases and it is questionable whether the desired effect will be achieved.

Although the BSC is a good attempt to integrate strategy into performance measurement design, it may not work out well when linked to compensation systems due to relative weighting. This is unfortunate as CSR has many aspects to focus on, such as social, environmental and governance issues, which would fit well in the idea of the balanced scorecard. The question is which performance measure will receive which relative weight, and consequently how this will affect the agent’s decisions. Many academics argue that in order to maximize firm value, the total of performance measures should be kept to a minimal. For example Bouwens & Van Lent (2004) argue that the ideal amount of performance measures is between two and five. They provide several arguments, such as a limited human cognitive capacity to cope with an extensive package of performance measures. In addition they mention that a large amount of performance measures give poorly performing managers the opportunity to mask ill results. The agent will always choose to put effort into affecting those measures, that will provide the most optimal results.

Keeping these opinions in mind, firms that are interested in incorporating CSR-related measures into their performance measurement and compensation systems face a complex and difficult task, due to the multifaceted nature of CSR. The balanced scorecard seems the most suitable option, but the (negative) side-effects are substantial. There is a need for performance measures or incentives that can maximize CSR without enabling the negative effects mentioned above, therefore a single performance measure – or tool, if you like – is preferred to exert influence on the decision making of managers. This is were long-term incentives as a motivator for corporate social responsibility enter into the mix.

\(^2\) Also see: Kaplan, R. & Norton, P., “Transforming the Balanced Scorecard from Performance Measurement to Strategic Management: Parts I and II”, Accounting Horizons, March and June 2004, pp. 87-104 and 147-60
2.1.2 Short-term versus long-term compensation

Accounting researchers have argued that managerial compensation contracts influence managerial decision-making (Watts & Zimmerman, 1978) (Hagerman & Zmijewski, 1979). In his study, Larcker (1983) sketches a situation where a manager receives a fixed salary and a yearly bonus. He argues that this type of compensation design heavily influences the managers’ decision making, directing it to the short-term. Consequently, investments with negative cash flows upon inception but future benefits are not considered. If we assume the adoption of a long-term performance plan, where the benefits for the manager are deferred until the end of a given period, the managerial decision-making horizon may be lengthened by three to six years, dependent on the specifics of the plan. Due to the longer decision-making horizon the manager will consider projects that exhibit later pay-offs as more attractive.

The distinction between short-term and long-term compensation plans is usually based on the time period associated with the performance measure. However, the distinction between short-term and long-term plans is not clear-cut for at least four reasons. First, the labor market for managers reduces the possibility that an executive compensated by a bonus plan will have a strictly short-term (one-year) decision-making horizon (Fama, 1980). Second, earnings are correlated over time, and a manager may be willing to make decisions which have an adverse effect on this year’s bonus but a favorable impact on future bonuses. Thus, in corporations where a portion of the short-term compensation is deferred, ultimate payment to an executive is sometimes subject to certain long-term constraints (e.g. a pre-specified growth in earnings-per-share in years prior to payment). Third, the bonus may be paid in stock (sometimes with disposal restrictions), and this will reduce the short-term orientation of bonus plans (Larcker, 1983). This makes it difficult to determine when a compensation plan is short-term or long-term.

Over the years we have seen many forms of long-term compensation. The most common forms are stock options, stock appreciation rights, phantom stock, dividend units, restricted stock and performance plans. Frydman & Saks (2005) have identified a positive trend in executive compensation over the last decades, whereas they mention that especially long-term compensation has incurred a massive growth. Larcker (1983) builds upon this research and has investigated the relationship between the adoption of performance plans and capital investment expenditures. The results show that firms that have adopted a performance plan have significantly increased capital investment expenditures, although the author mentions attributing this effect to the incentive effects of performance plans as being problematic. Nonetheless, this study underwrites the idea that long-term incentives increase long-horizon investment decisions of managers. In the light of this
study we label exercised stock options, vested restricted shares and long-term incentive payouts as long-term compensation.

In contrast, cash compensation such as bonuses and salary direct attention to the short-term (Larcker, 1983). The study of Narayanan (1996) suggests that cash compensation creates an incentive for the manager to underinvest in long-term projects. Other researchers hypothesize that if managerial rewards are weighted heavily toward annual cash payments, there may be a tendency on the part of senior management to attempt to persuade the firm’s board of directors to have the firm retain a large proportion of earnings, to enhance the firm’s future ability to make those payments (Smith & Watts, 1983) (Lewellen, Loderer, & Martin, 1987). This is by definition contradictory to long-term investments. For this study we have therefore used salary, bonus payments and non-equity incentive awards as determinant for short-term compensation.

We have now established that introducing long-term performance plans leads to a redirection of managers attention towards the long-term. In the next paragraphs we will continue to discuss whether investments with a longer horizon have a beneficial effect on a firm’s corporate social performance.

2.2 Developments in corporate social performance

Corporate social responsibility is probably one of the newest and fastest growing aspects of business. The idea that companies can contribute to societal well-being beyond their legal obligations has a long tradition in many parts of the EU. In general, the development of CSR in Europe has been driven both by proactive strategies adopted by pioneering businesses, European institutions and national governments, as well as by external pressures from other stakeholders such as civil society and the investor community, among others (CSR Europe, 2010). This trend is characteristic for other developed countries as well, such as the USA, Canada and Japan.

A 2001 interview, conducted by Environics International, among 1,000 people in each of 20 countries - including countries in North-America, Japan and Europe, but also Mexico, India, Russia and Nigeria - showed very interesting results with respect to corporate social performance of firms. The results indicated that for example in the USA, where 61% of the population owns shares, more than a quarter said they had bought or sold shares on the basis of a company’s social performance. A similar picture emerged in Canada, Japan, Britain and Italy. In addition, 42% of all respondents from the USA reported to have punished socially irresponsible companies by not buying their products (IISD, 2010). These results give a good indication of the growing importance of a company’s

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3 Environics International became GlobeScan Inc. as of 2003.
corporate social responsibility. Customers and investors continue demanding more social responsibility on the one hand, and remain punishing irresponsible firms on the other.

Based on these results it becomes clear what incentives firms have to invest in CSR. Market share may be lost to competitors who are more profoundly involved in sustainable practices. End-customers (or the public) as well as investors are interested in what a firm does to fulfill its obligations to society. Pressure – both mandatory and voluntary – is also placed by governments.

2.2.1 Stakeholder pressure

In 1992, the Earth Summit — formally the United Nations Conference on Environment and Development (UNCED) – crafted a new global social contract, Agenda 21, based on a positive vision of progress, bringing together agendas (economic, social, and environmental), countries, actors (governments, civil society, business, trade unions, scientists), prioritizing critical areas (climate change, biodiversity, desertification, corporate responsibility, information and disclosure), adopting fundamental principles, and establishing supportive institutions. Ten years later, the Johannesburg Plan of Implementation built upon Agenda 21 by agreeing to undertake concrete steps to translate the vision into action (RIO +20 booklet, 2011). The summit in 1992 was one of the first large scaled attempts to bring social and environmental issues to the attention of world leaders.

An important achievement of the Earth Summit in 1992 was an agreement on the Climate Change Convention which in turn led to the Kyoto Protocol in 1997, one of the best known examples of governmental pressure towards sustainability. The ratification of the protocol gave birth to emission trading, the trade in emission rights. The economic consequences were especially great for companies in the utilities and raw material sector. Unfortunately for the founders our country of interest – the USA – did not ratify the protocol. There is a market for the reduction of pollutants that cause for example acid rain, although the American emission trade market is not as large as that of the EU and of other areas in the U.S. that have ratified the protocol.

In addition, firms suffer governmental pressure in the form of taxes. For example in the Netherlands, the government stimulated the purchase of solar panels for households by subsidizing the purchase price. A more recent example is that of tax reductions which are put available for consumers who buy an energy efficient or hybrid car (a measure which gigantic success makes it almost impossible to maintain). We also see that using less energy is nowadays sold by not only emphasizing on lower cost for the consumer, but also by invoking less harm to the environment. By changing the buying behaviour of the masses, firms are stimulated to develop new and efficient products; on the other hand, products with poor quality and leading to product recalls are costly and cause harm to a firm’s stock price and overall profitability (Wood & Jones, 1995).
Several other countries in the EU used similar tactics to achieve a more sustainable economy and – more important – sustainable awareness among the public. In addition a report on strategic sustainability among managers, written by KPMG and The Economist Intelligence Unit from 2011, showed that 39% of all managers surveyed believe that increased regulation will provide incentives to stimulate sustainability (Corporate Sustainability, 2011, p. 26). Although our focus has been mainly on environmental examples, the same growing interest can be observed on other dimensions of CSR, such as governance (Sarbanes-Oxley act, Tabaksblat-code) and social aspects (stimulation of a diverse workforce, reduction of social exclusion).

2.2.2 Changes in Corporate Social Performance in 2003 to 2010

The increasing interest in business opportunities associated with innovative CSR approaches, together with the growing stakeholder expectations for corporate accountability and responsible business practices, continue to push the CSR agenda forward (CSR Europe, 2010). Our interest now is in to what extent these developments have influenced the actual corporate social performance. Corporate social performance and its sister concepts – corporate social responsibility, corporate social responsiveness, corporate citizenship – have been present in management scholarship for about 45 years. Notwithstanding this longevity, the CSP domain has remained controversial, fluid, ambiguous and difficult to research (Wood, 2010). This makes it hard to measure the worldwide development of corporate social performance.

Despite these difficulties several research institutions attempt to measure the degree of CSP on individual firm level. Business in the Community publishes a yearly responsibility index consisting of 100 companies on a global basis. From 2002 to 2003, a large increase in all four dimensions (community, environment, marketplace and workplace) has occurred. From 2003 onward to 2006 there was still an increase although it was less steep dan in the preceding year. In their 2007 report they state that “over the last six years the average overall score has increased from 68% to 87%”. They highlight the fact that over the last couple of years, the index has shown more companies involving stakeholders in identifying risks and opportunities for their organisations. 75% of the companies in the listing have asked stakeholders to what extent they live up to their principles and have taken steps to redress (compared to 63% in 2006 and 45% in 2003) (Business in the Community, 2008).

In addition the 2007-index shows a significant increase in the proportion of companies that have appointed a main board member with specific responsibility for each of the various components of corporate responsibility. 80% now has supply chain issues represented at their main board, compared to 50% last year. Similarly on workplace health & safety and on community issues,
around 86% now have a main board member, up from around 60% last year. Another interesting result is that 75% of the companies report that CR issues are explicitly included in the performance review of board members. This is up from 67% last year, and from around 50% only two years ago. In general they report an overall willingness by businesses to communicate their approach, targets and performance with respect to doing business in a responsible manner (Business in the Community, 2008).

These results still make it difficult to directly link for example governmental pressure to enhanced social performance. Nevertheless it does show us that more and more companies are seeking to involve stakeholders in their business, improve stakeholder relations and that transparency in the social areas receives attention by top managers. It has become clear that much has changed on an organizational and strategic level, and second of all many of these changes have occurred in our period of investigation.

In his paper Galbraith (2009) mentions an explanation for the above, namely that stakeholder theory recognizes that firms have explicit costs (e.g. payments to bondholders) and implicit costs (e.g. environmental costs, human resource costs). Stakeholder theory predicts that if firms try to lower their implicit costs by acting socially irresponsible (e.g. not investing in pollution control systems, treating employees poorly) they will actually incur higher explicit costs, which can result in a competitive disadvantage. Reflecting this logic, Alexander and Buchholz (1982) argue that demonstrating high levels of responsibility towards stakeholders is an indicator of superior management skill, which leads to lower explicit costs. Additionally, the actual costs of stakeholder management versus the benefits may be minimal. For example, enlightened employee management policies may have a relatively low cost, but the gains in productivity, morale and retention can yield substantial performance advantages over less responsible firms (Huselid, 1995). Furthermore, based on a meta-analysis by Orlitzky, Schmidt, & Rynes (2003), we see that the increased reputational effects caused by better corporate social performance leads to better financial performance.

In this research our area of interest are the United States. Research performed by Environics International in 2001 shows that the public CSR demands are highest in North- and Central-America and in the UK (Environics International, 2001). This leads us to believe that especially in these areas CSR has acquired a relatively high priority on CEO’s agenda’s. All of this is in line with the general result of the Environics International research in which they conclude that among G20-inhabitants, the most important factor when forming an impression of a company is CSR-related for 49% of the respondents.
In the years 2003 until 2007, business was growing and the economies were going strong. As of 2008, the financial crisis hit hard in the United States. This event immediately triggered the question whether CSR initiatives and projects would suffer. That there will be an impact is expected, though opinions differ on how this impact will play out.

According to Wayne Visser – CEO of the CSR International – the actual impact may depend upon the extent in which CSR is embedded in a company’s strategy (Visser, 2008). It is likely that Michael Porter and Mark Kramer’s concept of strategic CSR will pay dividends for its followers in the aftermath of the financial crisis. They argue that “the more closely tied a social issue is to a company’s business, the greater the opportunity to leverage the firm’s resources — and benefit society.” Hence, companies that have aligned their philanthropic and broader CSR efforts with their core business are more likely to protect these initiatives, even during the recession.

For example, the commitment Coca-Cola has made to become a water neutral company4 is so closely tied to its core business that they cannot afford to abandon this as a superfluous CSR programme. They know that if they are not perceived to be responsibly managing the scarce water resources of the communities in which they operate, their business will ultimately fail (as they have already found to their detriment in India) (Kumar, 2010).

Visser (2008) concludes that firms that have adopted an immature version of CSR – for example in which CSR is primarily about philanthropy – would be expected to decrease in CSR performance due to the crisis. If we reflect this on our research, we would expect that the community dimension would suffer most from the financial crisis. The community dimension in the KLD data contains indicators like charitable and innovative giving. As the crisis most mainly forces companies around the world in cost-cutting actions, we would expect that philanthropy budgets will be among the first to be trimmed, resulting in a decreasing community score.

On the other hand, environmental initiatives will most likely not suffer. For example, the demand for renewable energy and low-carbon technologies now far exceeds the supply. And given the escalating costs of climate change, the high oil price and ambitious political targets, companies that have strategically positioned themselves as clean technology solutions providers will continue to benefit (Visser, 2008).

Furthermore the corporate governance dimension, which includes indicators like transparancy and political accountability, may also increase due to the financial crisis. The crisis has

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created a demand by investors on the proper functionality of a firm’s corporate governance. The financial crisis – like many other crises – causes uncertainty in the financial markets (Lang & Maffett, 2011). In these times investors are unlikely to invest in risky firms with low transparancy, as they are insecure about the firms’ resilience to such shocks. Rather, investors would include stock in their portfolio from strong, reliable firms with secure positions, consistent performance and capital buffers. Firms are likely to anticipate on this by increasing their corporate governance activities in order to set their (potential) shareholders at ease. The 12th Global Fraud Survey of Ernst & Young (Ernst & Young, 2012) also showed that employees are more inclined to undertake fraudulent activities during hard economic times; all the more reason for top management to enhance corporate governance in times of crises or recession.

### 2.3 Determinants of corporate social performance

#### 2.3.1 Dimensions

Despite the problematic nature of defining and measuring CSP, several research institutions attempted to rank companies by their performance on a social level. Some of them we have already discussed in the previous paragraphs. The disadvantage of these rankings is that different methodologies are used. A firm may have a high score in one ranking while it may reside in the lower segment in another. In most cases the cause lies with the relative weighting that is given to the different dimensions associated with CSR.

For our sample we have used the Social Index of Kinder, Lydenberg and Domini (KLD). According to Waddock and Graves (1997), the KLD database provides several advantages. The database is based on earlier work by the Council of Economic Priorities\(^5\) to assess CSP. For each industry, the evaluations by KLD are performed the same time each year which increases the consistency in evaluations among companies within industries. Due to the fact that KLD employs a research staff to evaluate the companies and the evaluations are based on objective rules, the assessments are expected to be consistent among the evaluators. Furthermore, the staff will meet to resolve any unclear judgement. Assessments are based on data gathered from company and government documents, database searches, press clippings, and interviews with corporate managers, regulators, and activist groups. This is corroborated by Ruf, Muralidhar & Paul (1998).

KLD ratings are based upon several dimensions. In the below paragraphs we will briefly discuss the dimensions and the strenghts and concerns associated with them. As described in the KLD methodology, firms that are considered to have a strenght score one point per strength. Firms

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\(^5\) The Council of Economic Priorities (CEP) produced governmental indices in which a ranking was given relating to pollution control performance.
with concerns score minus one point per concern. If a firm does not have any strenghts or concerns the score remains zero.

**Community**

The community dimension consists of strenghts encompassing charitable giving, support for innovation and education and volunteer programs. Firms that engage in any of the above receive a positive rating. Concerns are based upon investment controversies (e.g. bad mortgage debt), bad economic impact on the community and tax disputes. Firms’ involved in any of the above will receive a negative rating.

**Corporate Governance**

With regard to corporate governance the KLD provides positive ratings for firms that provide limited compensation to their top executives have shown responsible leadership (political accountability) and are transparent in their social performance. The KLD not only determine the score of the parent firm, but also includes firms in which the firm in question has a controlling interest. This is also applied in concerns assessment. Ensuing from the above, concerns are denonitimated as the opposite of the strenghts: high compensation, being involved in accounting and/or tax controversies or being weak when it comes to transparency.

**Diversity**

The diversity dimension relates to the in- or exclusion of minority groups and the disabled, in the composition of the board of directors and workforce. There is a strength (concern) reported if women are (not) board members or senior executives. Additionally the diversity dimension also covers the presence of work-life benefits such as childcare and flextime.

**Employee relations**

Employee relations are linked to the diversity dimension, though this dimension gives a broader perspective on the entire workforce in general. The strenghts include union relations, profit sharing (through stock ownership), strong retirement benefit plans and the presence of health and safety policies. Again, the concerns relate to the opposite of the above, being a lack of union relations and health and safety policies, but also recent workforce reductions.

**Environment**

Environmental strengths are given if a company engages in the promotion of products and services that are beneficial to the environment, pollution prevention, recycling, clean energy and the reporting of environmental best practices. The concerns are addressed for firms that produce hazar-
dous waste, greenhouse gasses or reinforce climate change. Also firms that have received fines or penalties recently under environmental regulations receive a negative rating.

**Human Rights**

This dimension also includes ratings based on the historical performance of a firm. For example the company’s social record in South Africa in ’94 and ’95 is considered. Furthermore the strengths cover relations with indigenous peoples and overseas labor rights. Concerns not only enclose the contrary of the above noted, but also those firms’ which have operations in Northern Ireland and Burma.

**Product**

KLD provides positive ratings for those firms which engage in good product quality, continuous leadership in R&D and product innovation and benefits to economically disadvantaged groups. Concerns relate to poor product quality (and safety issues), recent antitrust violations or misleading advertising campaigns.

**2.3.2 Other determinants**

Other than the performance of our sample of firms on the dimensions noted in paragraph 2.3.1, there are other determinants which are linked to the corporate social performance of a firm. First of all, *industry* is valid determinant in assigning the presence of CSR initiatives. With regard to industry KLD mentions in its methodology that their rankings are not normalized for industry sector. As a consequence, KLD notes that in some industries firms score on average much higher than in other industries. For example, an accounting firm will receive points with regard to environmental strengths with less effort than a company in the utilities sector. This also holds for the diversity sector, for example a software developer will find it more difficult to compose a diverse workforce (as fewer women choose for studies in technology than men) than a firm in another type of industry.

From another perspective we would expect that firms operating at the end of the supply chain are more likely to be affected by poor CSP performance. In 2011, KPMG and The Economist Intelligence Unit published a report on Corporate Sustainability. Their research consisted of in-depth interviews among 8 senior executives and survey filled out by 378 senior executives of firms worldwide (of which 29% was obtained from executives in North-America), conducted in October 2010. The result showed that there are industry specific trends. For example, in the consumer goods industry, eight of ten companies have developed a sustainability strategy (Corporate Sustainability, 2011). Additionally the study performed by Eccles et al. (2012) provided evidence of high sustainability firms performing better on the stock market and being more profitable, in which they highlighted that the outperformance was strongest in sectors were customers are individual
customers, sectors in which companies compete based on brands and reputation and in sectors where companies’ products significantly depend upon extracting large amounts of natural resources. Waddock and Graves (1997) also found considerable differences in their mean CSP scores per industry, showing lower results for manufacturing-intensive industries compared to less-intensive or non-manufacturing industries.

In addition to specific industry sectors, we note that firm size is another variable which impacts corporate social performance. In general, larger firms invest more in sustainability, simply because they have more resources to dedicate to CSR but also because reputational effects are more severe for larger and/or listed players. We agree with McGuire et al. (1988) that the initiation or cancellation of voluntary social and environmental policies may, to a large extent, depend on the availability of excess funds. For example, environmental activists rather attack a large company to attract media attention for their cause, instead of a small, insignificant firm. The public also finds it more disturbing when a large firm with a billion dollar turnover ‘takes advantage’ of its powerful position, and are therefore easily targeted by accusations if problems arise. Second of all, large firms are able to spread the costs associated with CSR due to economies of scale, whereas small firms cannot benefit from this (McWilliams & Siegel, 2001). Our assumptions are corroborated by the KPMG report (Corporate Sustainability, 2011), which shows that 79% of the large companies in the survey (defined as public companies with revenues over $1 billion) incorporated sustainability in their strategy. For private companies with revenues of less than $500 million this is 49%.

Another determinant is the age of the firm. Established firms with a long history may need to invest more heavily in sustainability, whereas younger firms have had the opportunity to engage in sustainable practices from the start. Consequently younger firms may face a lower threshold when it comes to investments in CSR. This idea is supported by Cochran and Wood (1984), whose study has indicated that asset age is negatively related to corporate social responsibility.

Risk is an important factor to control for when determining the effect of a variable such as executive compensation on corporate social performance. The study by McGuire, Sundgren and Schneeweis (1988) supports this by substantiating the idea that firms which are highly leveraged would be under greater pressure from both lending institutions and institutional investors to insure adequate financial performance, and would therefore be less likely to dedicate resources to social activities, which is followed by Simerly, Bass and Li (2000). Highly leveraged firms may therefore pose problems for our research as the expected effect may fail to appear when the pressure from creditors is greater than the incentive created by long-term compensation. Additionally, executives
of riskier firms are more likely to prefer short-term (cash) compensation in stead of payouts over the long-term or stock options. In summary we would expect results similar to those of Orlitzky and Benjamin (2011), namely that firm risk is negatively correlated to corporate social performance. They hypothesize that this relationship may be caused by the fact that lower firm risk poses less uncertainty on future events. When more reliable estimates can be made executives are more likely to dedicate capital to social activities and they will be more likely to accept long-term compensation packages.

2.4 Development of research question

In our study we will try to provide an answer to the question of incentive compensation is indeed related to corporate social performance. Specifically, we will adress two research questions of which one directly flows from the other, namely the question whether (1) long-term compensation is positively related to good corporate social performance and (2) whether short-term compensation is positively related to poor corporate social performance. In our analysis we will try to capture the effect of an exogenous shock, namely the financial crisis to which many companies were exposed as of 2008, and are still affected at this very moment.

Now that we have established our theoretical framework in this section of the thesis, we will outline our expectations and hypotheses in further detail in the next section.
Section 3: Hypothesis Development

There are two papers in which a similar research question is investigated. In our introduction we have explained to what extent these studies differ from our research. In this section we will first outline these studies and determine whether its results may provide us with valuable insights with regard to ours, and second develop relevant hypotheses with regard to our study.

3.1 Outcomes of prior research

A study performed by McGuire et al. (2003), has found a negative relationship between strong social performance and long-term incentives. The sample used in this study consisted of 347 firms with ratings related to 1999. Social rankings were also derived from the KLD database. The authors conclude that strong social performance is more likely dependent on managerial beliefs than on incentives. As they did not find evidence for their hypothesis, they provide the explanation that long-term compensation consists of stock option plans for the greatest part. Stock option plans tend to stimulate ‘riskier’ projects, as the manager only incurs opportunity costs if the options are ‘under the water’. Therefore the manager may be inclined to participate in risky investments that undermine socially responsible practices.

Although the argument of McGuire et al. is a logical one, we feel that there are some limitations to their research. First of all, their data reflects the year 1999. After that period, CSR has rapidly become a more important aspect of doing business and the argument that corporate social performance is dependent on managerial beliefs instead of incentives may be superseded. The Global Reporting Initiative (GRI) sustainability report statistics (GRI Report Services, 2011), we find that firms who publish sustainability reports are growing every year. The period which will be investigated in this study is 2003 to 2010. According to the GRI statistical report, these are years in which sustainability reporting was booming, therefore the likelihood of our research yielding other results is legitimate. The assumption that this trend is due to sudden changes in managerial beliefs, seems rather farfetched given the relatively short period of time. There must be other reasons why sustainability reporting, and inherently the role of CSR, has become that much more important.

Another drawback of the McGuire study is that they assume that CSR practices are potentially risky. In the current regulatory environment, where we can state with reasonable assurance that taxes on waste, emissions and unsustainable products are increasing by the year, it may be less risky to invest in sustainability since it would be considered as anticipation on costs to come. Moreover, the oil price is still increasing, making it more attractive for firms to enhance their
clean and sustainable production processes. The demand for clean energy is growing fast. And, it would seem more risky to not invest in safe and sound products, taking into account lawsuits, claims and such if people get hurt due to faulty products.

To summarize the above, we believe that the research of McGuire et al. has insufficient explanatory power (adjusted $R^2$-squared of 0.07 and 0.25 for both models) and we question if we should use their results as a foundation for our study, taking into account the changing environment of corporate social responsibility in the last decade. We therefore expect our study to find evidence for a positive relationship between long-term incentives and strong corporate social responsibility; and a negative relationship between short-term incentives and the latter.

Another study which has investigated the effect of long-term compensation on corporate social performance is conducted by Mahony & Thorne (2005) by use of panel data analysis. Their sample comprised the 100 largest Canadian firms from 1995 to 1999. The authors have distinguished between the different dimensions of CSR instead of only focusing on strong or poor social performance like McGuire et al. (2003).

The results of Mahony and Thorne indicate that long-term compensation is positively related to the CSP product dimension. There is also a negative relationship between long-term compensation and CSP weaknesses. A relationship between CSP strengths and long-term compensation could not be verified, although we may conclude that firms with lesser long-term compensation perform poorer socially. Their results are consistent with those of Johnson & Greening (1999).

Especially from a regulatory point of view it makes sense that long-term compensation has a larger effect on the product dimension of CSR (product quality, environmental impact, service) than on the people dimension of CSR (women, minorities, employees), since taxes, grants, fines and penalties are usually aimed at the product dimension as these aspects can be measured in a more objective manner. This also makes it easier for stakeholders to recognize the social performance of a firm.

In conclusion Mahony and Thorne suggest that the use of long-term compensation may discourage executives from making decisions that are risky to the firm and their own compensation, which in turn may benefit society. In other words, rather than serving to be more socially responsible, long-term compensation may serve as a deterrent to potentially damaging actions. This
contradicts the statement mentioned earlier of McGuire et al. (2003), but is in line with the results found by Frooman (1997).

Based on the more extensive and richer study of Mahony and Thorne we expect our research to yield similar results, predominantly because our research design and sample have a notable number of points of resemblance.

### 3.2 Hypotheses

In the following subparagraphs we defined and formulated our hypotheses which ensue directly from our literature review in section 2. The purpose of this section is to briefly describe the underlying hypotheses in relation to our main research question.

#### 3.2.1 Incentive Compensation

On the basis of our literature discussion in section 2, we will investigate the relationships between corporate social performance and incentive compensation. We have reformulated our research question into two mutually exclusive hypotheses:

- $H_1$: Long-term compensation is positively related to corporate social performance on all dimensions.
- $H_2$: Short-term compensation is negatively related to corporate social performance on all dimensions.

#### 3.2.2 Financial crisis

The financial crisis of 2008 to 2010 provides an exogenous shock to our sample and may impact or even eliminate existing relationships. We have elaborated on this subject in our literature review, from which we have hypothesized the following main effects on the community and corporate governance dimensions mainly:

- $H_3$: The financial crisis has a negative effect on corporate social performance: the community dimension.
- $H_4$: The financial crisis has a positive effect on corporate social performance: the corporate governance dimension.
3.2.3 Control variables

Suggested by prior research we expect the following effects induced by our control variables firm size, firm age, industry sector and risk. We will test our hypotheses in both directions, i.e. we will test the relation with CSP strengths and weaknesses.

H₅: Firm size is positively related to strong corporate social performance

H₆: Firm age is negatively related to strong corporate social performance

H₇: Firms that produce or serve directly to end-customers or individuals have stronger corporate social performance.

H₈: Firm-specific risk is negatively related to strong corporate social performance.

3.2.4 Table

We have summarized all hypotheses, the corresponding variables and the expected relationships below:

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Dependent variable</th>
<th>Independent variable(s)</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₁</td>
<td>CSP (strengths)</td>
<td>Long-term compensation</td>
<td>+</td>
</tr>
<tr>
<td>H₂</td>
<td>CSP (weaknesses)</td>
<td>Short-term compensation</td>
<td>-</td>
</tr>
<tr>
<td>H₃</td>
<td>CSP - Community</td>
<td>Years 2008 to 2010</td>
<td>-</td>
</tr>
<tr>
<td>H₄</td>
<td>CSP - Corporate Governance</td>
<td>Years 2008 to 2010</td>
<td>+</td>
</tr>
<tr>
<td>H₅</td>
<td>CSP – all dimensions</td>
<td>Firm Size</td>
<td>+</td>
</tr>
<tr>
<td>H₆</td>
<td>CSP – all dimensions</td>
<td>Firm Age</td>
<td>-</td>
</tr>
<tr>
<td>H₇</td>
<td>CSP – all dimensions</td>
<td>Industry – Consumer goods</td>
<td>+</td>
</tr>
<tr>
<td>H₈</td>
<td>CSP – all dimensions</td>
<td>Firm risk</td>
<td>-</td>
</tr>
</tbody>
</table>
Section 4: Methodology

4.1 Sample

The sample for this research comprises of 584 U.S. firms. Our research will focus on the period between 2003 and 2010; in which we will control for anomalies and/or the exogenous shock induced by the economic crisis. Firms that are excluded from the sample are those that are not consistently in the KLD index during 2003 to 2010 or with incomplete data. KLD has also indicated if a firm is involved in one of the following industries: alcohol, firearms, gambling, military, nuclear power and tobacco. Firms operating in these industries will be excluded from our sample, as their primary business is inherently not in line with the standard viewpoint on corporate social responsibility. Furthermore, we deviated from Eccles, Ioannou and Serafeim (2012) by not omitting financial institutions such as banks, insurance companies and finance firms, because their business model is fundamentally different and many of the environmental and social policies are not likely to be applicable or material to them. Instead, we have labeled each firm by industry SIC code. Consequently we will observe the results per industry. Eventually this has led to a total of 584 firms in our sample over eight years, totalling 4,672 observations.

4.2 Research method

An empirical, quantitative research is conducted in this study. Our results consist of descriptive statistics first of all, which are followed by a pooled OLS regression analysis in order to determine the extent of the relationships between the variables. Furthermore we will perform a panel data analysis. Panel data usually contains more degrees of freedom and more sample variability than a single cross-sectional or time-series data. In addition it incurs less collinearity and provides a greater capacity for capturing the complexity of human behavior, compared to a single cross-section or time-series data. It also helps us to control the impact of omitted variables (Hsiao, 2003). Especially since the relevant literature up to now has been unable to construct a well-founded, unambiguous answer to our research question, the latter is a very useful characteristic. Finally, panel analysis permits research to study the dynamics of change with short time-series providing a richer and more powerful study (Gujarati, 2003).

4.3 Variables

The data for executive compensation will be retrieved from the Standard & Poor’s Execucomp database. In order to arrive at a relative component of long-term compensation, we will offset the long-term compensation pay-outs against total compensation. Long-term compensation consists of (1) long-term incentive plan payouts, (2) the value of exercised options and (3) the value
of restricted stock on vesting. Short-term compensation consists of (1) salary, (2) bonus and (3) non-equity incentive pay-outs.

We have intentionally chosen the variables that exhibit actual pay-out in that period, given that due to the nature of long-term compensation we suffer from a time-lag. Hypothetically, long-term compensation schemes starting in year 1 will not pay off until year 3. Likewise, corporate social performance will not enhance at the same moment a firm decides to shift towards more sustainable methods and creates incentives to do so. As both the incentive pay-out and the start of sustainable improvements occur in the same period (e.g. after 3 to 5 years), we believe that CSP will increase at the moment the long-term compensation pays off, causing the time-lag to resolve itself.

The variable for corporate social performance will be based on the Kinder, Lydenberg and Domini Social 400 index. Important stakeholders that KLD has determined are the environment, community and society, employees and supply chain, customers, and governance and ethics. KLD determines CSP based on several dimensions (community, corporate governance, diversity, employee relations, environment, human rights, product). Per dimension KLD has a set of strengths and a set of concerns. All 400 companies are rated based on this framework and ratings fall on a nine-point scale. We note that for statistical purposes, we have included an aggregate measure of CSP (Total CSP) which was given a numerical ranking where +1 represents a strength and -1 represents a concern.

Based on the study performed by Andersen and Dejoy (2011), a model predicting the relationship between corporate social performance and financial performance should include control variables for firm size, industry, risk, R&D and advertising expenses. Of these variables, we have chosen to include firm size, industry and risk, as the other variables are not relevant for the relationship we are interested in for this study (note that the other variables are more relevant for testing financial performance).

For industry we have used the SIC code to determine industry sector. Reference is made to table 1 in the appendix in which we have included a general description of the SIC codes. We have used dummy variables indicating the SIC code (ranging from 1 to 8).

We will use the natural logarithm of total assets as a proxy for firm size, and is denominated in millions of U.S. dollars, which is consistent with Waddock and Graves (1997). Furthermore we

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have included the natural logarithm of the control variable asset age as a proxy for age of the firm. Asset age is determined by dividing accumulated depreciation by depreciation for the year.

To establish firm risk we will use total debt divided by total assets as an indicator, which is in line with Simerly, Bass and Li (2000) and Anderson and Dejoy (2011) (who both used a similar measure), and is in general the most common measure used in this respect. To use a control variable for firm risk was recently corroborated by Orlitzky and Benjamin (2011), whose research has shown that higher corporate social performance is negatively related to financial risk. Especially in the light of the recent financial crisis, risk is likely to play an important role.

Finally, we expect that CEO changes in the period under review will influence our results. We have therefore added a dummy variable if the company assigned a new CEO in our period under review. We will perform a robustness test on both our regression and panel data analyses with firms which have changed CEO in the period under review excluded.

All data is derived from the Compustat database. In the context of this paper, incentive compensation is used as an independent variable and corporate social performance as the dependent variable.

4.4 Data collection

As of August 2011, Tilburg University has acquired access the KLD databases for its students. All data needed for this research is therefore retrieved using Wharton Data Research Services (WRDS). As described in paragraph 4.1 we have used the sample of firms which are consistently ranked in the KLD database for the period 2003 until 2010. KLD has ranked the data using a predetermined survey with strengths and concerns. If a company complies with any of the points noted as strength, 1 point is added. Similar to the strengths, the company can score -1 if they tick one of the boxes regarding to the concerns. We have added totals of strenghts and concerns per CSP dimension (being Community, Corporate Governance, Diversity, Employee Relations, Environmental, Human Rights and Product) and we have added one total score which is the sum of the scores per dimension. The score on aggregate CSP ranks from -16 (poor CSP) to +16 (strong CSP) and is therefore an ordinal variable.

For this total of firms we have gathered executive compensation data for only the CEO, for the corresponding period, from the Compustat ExecuComp database. The portion of either short- or
long-term compensation is a relative component of the total of all incentive compensation and is therefore a ratio variable.

We have also added a dummy variable for companies which have changed CEO in the period under review. All CEO's that were appointed as of April 1, 2003, until December 31, 2010, are labelled as a firm that appointed a new CEO during our sample period. We have used a dichotomous variable in our dataset to label this change.

Finally we have added the control variables. We have calculated asset age in years, and used the accumulated depreciation and amortization as presented in the (notes) to the statement of financial position divided by the depreciation and amortization expense for the year as noted in the statement of comprehensive income. Firm-specific risk is calculated as total debt dividend by total assets, derived from the statement of financial position. The outcomes for total assets and age of the firm are continuous in nature, where as the debt-to-assets ratio is a ratio variable.

In addition to the above we have included dummy variables for each company by SIC-code, in order to control for industry effects and in determining if the presence of the predicted relationship differs among industries. The SIC Codes range from nil to 9.999, of which the first number of the SIC code represents the type of industry. In the appendix, table 1, we have included a list of SIC codes per industry.
Section 5: Findings

5.1 Descriptives

Our sample consists of data gathered for 584 firms over eight years, totalling 4,672 observations. We have denoted the descriptives (means and standard deviations) in table 2 in the appendix. With regard to the ranking, we noted that our total of firms has a positive average score on three of the seven dimensions, being Community (average of 0,09), Corporate Governance (average of 0,04) and Diversity (average of 0,46). On the other four dimensions being Employee Relations, Environment, Human Rights and Product the firms score on average respectively -0,17, -0,01, -0,08 and -0,25. Equally weighted, this shows an aggregate average CSP score of 0,08 for our sample. The total CSP scores rank from -16 to +16. We refer to table 2 in the appendix for further reference. Furthermore we found that our sample of firms has average total assets of $ 11,42 million and an average asset age of 6,4 years. The average debt divided by total assets-ratio is 51,55%.

![Graph of Average CSP per year](image)

Figure 1: Average CSP per year

In figure 1 we have displayed the average total strengths, total concerns and aggregate CSP graphically per year. The figures show that both CSP strenghts (concerns) have increased (decreased) gradually during the course of the years, levelling eachother out in the total CSP variable which remains consistenly around nil in the first six years. It also becomes clear that in the crisis years both strengths and concerns have increased. As strenghts have increased more drastically, we see a significant increase in total CSP scores starting in reporting year 2009. In the Total Strengths and Total CSP we see a clear shock effect, whereas the further decline in concerns seems to be in line with the pre-crisis trend. These results therefore do not suggest evidence of a negative causal relationship between the crisis and Total CSP.
Figure 2: Average CSP score per dimension

Figure 2 shows the average CSP scores per dimension. Clearly, the Employee Relations, Environment, Human Rights and Product dimensions are underperformers for the majority of the period. On the Diversity dimension performance is highest, although we find a significant decrease as per 2009, caused by a 156% increase of diversity concerns in 2010. As we have no access to detailed information as to which specific concerns have increased, we are unable to determine an explanation for this decrease. The financial crisis had no effect in the start year 2008, although in 2009 and 2010 nearly all dimensions are showing better performance.

Figure 3: Average compensation components (in '000 US$)

With regard to compensation we denoted the averages per compensation component per year in figure 3. Please note that short-term components are coloured blue and long-term
components are coloured orange. Based on the averages we see that base salary is the most consistent factor. There is a gradual increase over the years. In contrast, stock option exercises seem the most volatile factor with a major peak in 2007. Furthermore we see that as of 2006, non-equity incentive plans and the vesting of restricted stock seem to replace bonus and long-term incentive plan payouts respectively. With regard to the effects of the crisis we see a decline as of 2008. In 2010 almost all components increase gradually.

![Figure 4: Average relative compensation per year](image)

Figure 4 follows from figure 3 and represents the composition of incentive compensation relatively. We see that in general short-term compensation keeps the upper hand, although there seems to be a trend in the use of long-term compensation packages, as the two lines are closing nearer in the course of the years, peaking in 2007. The crisis seems to have a shock effect on this trend, although in 2010 we see some signs of recovery.

![Figure 5: Total average CSP per industry sector per year](image)
Figure 5 shows the average CSP score per industry sector over the years. We refer to table 2 in the appendix for the means and standard deviations. Again, we see a clear increase in CSP scores in nearly all industries (save the services industry). Furthermore we find several distinct under- and overperformers. The mining and natural resources industry has a consistent negative score over the years. This could be attributed to the fact that in this industry we find oil, gas and extraction companies which may find it difficult to score high on the CSP scale due to their very nature, which may often go against the ideas of corporate social responsibility. For example an oil giant like Shell will most likely perform poorly on the environmental dimension. On top of that it operates in tumultuous areas like Nigeria and the Middle-East, which may negatively affect the community and human rights dimensions. Furthermore, diversity may also be a problem due to the fact that fewer women are skilled in the exact and technological studies. KLD does not control for such effects in their ranking, therefore we cannot draw the conclusion that some industries are simply better performers. As we did not apply a weighting of CSP we are unable to form an opinion regarding this subject.

Other consistent underperformers are the transport, wholesale & retail, and health & other services sectors. We see that in the year 2010, scores have increased above nil for these sectors, showing that CSP has improved during the crisis. Whether the crisis is the cause of this increase cannot be substantiated based on this evidence.

5.2 Correlations

We have performed the Kolmogorov-Smirnov test for independent samples to test for normality of the sample. The test indicated that our dependent variables CPS strengths, CSP concerns and Total CSP are not normally distributed. Consequently we used the Spearman correlation to determine relationships between our variables, as this statistic is more appropriate for non-parametric samples.

Table 3 in the appendix shows Spearman’s $\rho$ to reveal relationships between the independent and dependent variables in our total sample. We have time-demeaned the variables as the observations within-subjects are not independent. The control for the firm-fixed effect we have subtracted the means per variable, based on the eight years in our sample, from the actual value.

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7 As the Spearman correlation is also not ideal in all situations, we have performed a sensitivity analysis to determine whether results between the Spearman and Pearson correlation differ. We noted no large differences in the relationships; in both cases all correlations were significant at (at least) the 5% level.
We noted that all correlations for CSP strengths and CSP concerns are highly significant (at the 1% level), whereas the effects on Total CSP are insignificant for all variables. With regard to the relationship between CSP and compensation the correlations show results that are partially in line with our expectations. There is a positive relationship between relative long-term compensation and CSP strengths (significant at 1% level), although the relationship is not very strong. Our hypothesis that long-term compensation is negatively related to CSP concerns does not hold, as the results suggest a positive relationship. The effects of short-term compensation show negative relationships between CSP strengths and concerns. The final effects on total CSP are in line with what we predicted, but as these correlations are insignificant we are unable to conclude on these results.

The correlations relating to our control variables and CSP are also in line with the majority of our expectations. There seems to be a strong positive relationship between firm size and CSP strengths, but firm size also seems positively correlated to CSP concerns (although the relationship is less strong). Furthermore, asset age seems positively correlated to both CSP strengths and concerns. Finally, we noted a negative relationship between firm-specific risk (debt/total assets ratio) and CSP strengths and concerns.

5.3 Regression models

For our first regressions we have pooled the data and applied an OLS regression. The variables were time-demeaned in order to control for firm-fixed effects. We have run three different models. The first model measures the effect of long-term compensation on the total CSP score. The second model estimates the effect of long-term compensation on CSP strengths and the third model estimates the effect of short-term compensation on CSP concerns.

In table 4 in the appendix we have shown the results for all three models. We have included all control variables, including the dummy for crisis year. All models have in common that their explanatory power is relatively low (varying from 0.009 to 0.101), though the F-statistics suggest that the models are significant. In the first two models we find a positive relationship between long-term compensation and total CSP and CSP strengths. In the third model we find some support for a positive relationship between CSP concerns and short-term compensation, although for all models the compensation variables are insignificant.
The first model displays an unexpected deviation from our hypothesis that size of the firm, denoted by total assets, is negatively related to total CSP. We did find positive relationships between total assets and CSP strengths and CSP concerns (significant at the 1% level).

The hypothesis with regard to asset age is supported by the results of the first and the third model, showing that asset age is negatively related to total CSP and positively to CSP concerns. The second model found a weak positive relationship between asset age and CSP strengths, though as this is insignificant we have discarded this result.

Risk, denoted by debt divided by total assets, is only significant in the third model and shows evidence for our hypothesis that riskier firms indeed have more CSP concerns. In the first model we do find a negative relationship between risk and total CSP score although the result is insignificant and therefore inconclusive.

The crisis year dummy does not seem to have a positive effect on CSP in all models. In line with the results found in our descriptives, we also find support for the fact that both CSP strengths and concerns rise during the financial crisis, though as growth rate of the strengths is higher than the concerns, we find a net positive effect on total CSP.

As our sample included firms which have changed CEO during the period under investigation, we have also conducted a robustness test to determine whether these regressions yield different outcomes than when we use our total sample. In our sample, we find 244 firms which have changed their CEO in the period April 2003 until December 2010.

The analysis did not reveal additional insights. We did find that when these firms are excluded, model 2 shows a significant positive relationship between CSP strengths and long-term compensation of 0.237 (significant at 1% level). We also find a slightly increased R-squared. For the first model we found an increased effect for long-term compensation on total CSP of 0.175, although the relationship is still insignificant.

In addition we have performed a robustness test in which we excluded the financial services sector (total of 43 firms) as done by Eccles et al. (2012), though this had no notable effects on the regression results compared to our total sample.
5.4 Panel data analysis

Our study consists of both cross-sectional and time-series data. This requests a type of data analysis which makes use of the entire sample, in order to identify trends and to control for repeated measures. This type of analysis is becoming more widely used in social and behavioural sciences, as it is able to capture the dynamics for several subjects over a given time-span. The results are therefore more powerful and rich than when using a regular pooled OLS regression as we have done in paragraph 5.3.

In table 5a we have displayed the results for our three models, which are in essence identical to the models noted in paragraph 5.3, although we did not use the demeaned data for the analysis. After all, the model we applied already takes into account the repeated measures and therefore there is no need to control for firm-fixed effects. Additionally we have included dummy variables for industry sectors.

Unlike our regression models, we find a positive and significant relationship between total CSP and long-term compensation (significant at the 10% level) in both model 1 and 2. Short-term compensation has no significant relationship with CSP concerns according to model 3.

In all models, firm size is positively and significantly related to CSP (significant at the 1% level). The relationship between firm size and CSP strengths is stronger than that of firm size and CSP concerns, indicating that larger firms indeed have stronger CSP scores in general. In the first model, the results show that firms with older assets have lower CSP scores (significant at the 5% level). The third model corroborates this by showing a significant positive relationship between CSP concerns and asset age (significant at the 5% level).

The predicted signs for firm risk are supported by all three models, but these results are insignificant and therefore inconclusive. The crisis is in all cases positively related to the CSP variables, showing that during the crisis both CSP strengths and concerns have increased (significant at 1% level). Similar to our regression models, we find that during the crisis CSP strengths have increased more dramatically, causing a positive result between the crisis and total CSP scores (significant at the 10% level). This is in line with our interpretation of the descriptive statistics in paragraph 5.1.

In addition to our ‘regular’ panel data analysis, we have performed a robustness test in which we excluded all firms in which the CEO’s have changed during the period under review. Reference is made to table 5b in the appendix, in which these results are noted. We remark that with these firms excluded, the sample resulted in a total of 304 firms giving 2.432 observations.
The results first of all clearly show that the model has a better fit than the models derived from the total sample. Furthermore, we find significant evidence that supports our hypothesis that long-term compensation indeed predicts total CSP and CSP strengths (significant at the 5% level). The relationship between the CSP measures and the control variables did not change tremendously, although in the first model, we now found a significant negative relationship between Total CSP and firm risk (significant at the 10% level). The strengths of the relationships did not alter greatly from our original model.

We have performed an additional robustness in which we excluded firms operating in the financial services industry. This has led to a total of 4,328 observations which represented 541 firms. The analysis showed neither distinct differences nor a significantly better goodness of fit, compared to our original model, upon which we decided to not include these results.
Section 6: Conclusions

In the following section we will conclude on our statistical results described in section 5. We have conducted several analyses on the data sample which consists of cross-sectional and time-series data for 584 firms over eight years. To commence, we have interpreted the descriptives (means, its developments over the years and the effect of the financial crisis) and we have interpreted the correlations between the variables.

Additionally we have used a pooled OLS regression to reveal any existent relationships between the variables using three models, which regresses (1) the effect of long-term compensation on total CSP scores, (2) the effect of long-term compensation on CSP strengths and (3) the effect of short-term compensation on CSP concerns. We have applied the same model structure for our panel data analysis, in which we have included variables for the industry sectors.

We will conclude on our results by comparing these to our hypotheses. Furthermore we will name the limitations of our research, the possible impact for businessess and pose ideas for future research.

6.1 Main conclusions

We hypothesized that the sectors which produce or deliver directly to consumers may embrace CSR rather sooner than later due to reputational effects which affect firms which sell to individuals in a greater manner. Based on the means of the scores per industry we have found support for this hypothesis as the industries which produce consumer goods and the (financial) services sectors have the highest rankings, whereas heavy, intensive manufacturing industries seem to be constant underperformers. On the other hand, we must place this into perspective due to external factors which impact the nature of a particular sector, and are not controlled for by the KLD in their rating. Therefore, the issues that affect some industries may be completely irrelevant to another. Likewise, the cost of CSR improvements can differ tremendously across industries. If the investments in CSR are less costly, the threshold to actually invest is - of course - lower. We have found support for our seventh hypothesis based on these results.

Furthermore we have found support for hypothesis four, which predicted a positive effect of the crisis on the development of the corporate governance dimension, although we found that the financial crisis increased all CSP dimensions (albeit diversity). Based on this, hypothesis three - predicting a negative effect of the crisis on the community dimension - is rejected. A possible explanation for this unexpected effect has to do with behaviour in times of crisis (i.e. loss-making).
Matejka, Merchant and Van der Stede (2009) found that loss-making entities rely more on subjective measures in performance evaluations, as opposed to financial, formula-based measures. This effect may explain why managers seem to invest more in corporate social responsibility in times of recession. This is corroborated by Lang and Maffett (2011), whose research indicated a ‘flight to quality’ during crisis periods, in the sense that liquidity providers avoid assets with high levels of uncertainty regarding fundamental value. In other words, as investors prefer ‘safe’ investments in times of crisis, firms in response tend to avoid riskier investments and are more inclined to invest funds in long-term growth. Furthermore, Ernst & Young have found in their Global Fraud Survey 2011 (Ernst & Young, 2012) that employees and managers are more willingly to make cash payments (in order to win new business) and misstate financial performance in times of crisis, in order to survive economic downturn. Assuming that the board of directors is aware of this knowledge, they might want to increase ethical awareness to prevent such fraudulent events from happening. This might explain why CSP, and mainly corporate governance, has increased during the financial crisis. Hypothesis four, in which we predicted a positive effect on corporate governance due to the crisis, is confirmed by our results.

Our regression analyses did not indicate a relationship between compensation and CSP scores. However, the panel data analysis revealed that there were significant positive relationships between long-term compensation and corporate social performance in general and between long-term compensation and CSP strengths. When firms that changed CEO in the period under investigation were excluded, we found even stronger and more significant relationships. The latter is especially important as the compensation schemes will most likely change when a new CEO is appointed, which may distress our results. Furthermore the model omitting CEO changed-firms showed a better fit, resulting in a more reliable model. Based on the above hypothesis one is supported.

The second hypothesis stated that short-term compensation is negatively related to total CSP. As we have used the relative portion of long- and short-term compensation, we have also found support for hypothesis two, stating that short-term compensation is negatively related to corporate social performance in total and corporate social performance strengths. Our models did not find a significant relationship between compensation type and corporate social performance concerns. This may be caused by the fact that we have included salary in short-term compensation. Although this is a form of cash compensation and therefore proven to stimulate short-term decision-making, salary is also a form of long-term commitment to the firm. It could be theorized that as the CEO wants to retain its base salary in the future, he is also incentivized to increase the long-term
profitability of the firm and ensure the firms’ overall ‘right to exist’. Perhaps our research would have yielded other results if we excluded base salary.

Furthermore we found mixed evidence for hypotheses five, six and eight. Hypothesis five stated that firm size is positively related to corporate social performance. We found support for positive relationships between firm size and corporate social performance in total, corporate social performance strengths and concerns. Larger firms do indeed perform better socially, although they simultaneously perform worse. In general, we find that the effect of firm size on CSP strengths is higher, resulting in a total positive relationship find in our panel data model which uses Total CSP as a dependent variable.

Hypothesis six stated that firm age is predicted to be negatively related to corporate social performance. We have also found evidence of this hypothesis, mainly in our models in which corporate social performance concerns are the dependent variable (model 3). In the models in which we have used total corporate social performance, we can conclude that mainly our panel data model which excluded CEO changed firms’ showed a significant negative relationship between the degree of social performance and asset age. We have therefore found support for this hypothesis.

Finally, the eighth hypothesis predicted that firm-specific risk is negatively related to corporate social performance strengths and in turn, positively to corporate social performance concerns. Our regression results only found some evidence of the latter relationship. Our panel data model on the total sample also found support for this relationship, although our robustness model could not identify any significant relationships. Therefore we have found some support of our hypothesis, although the mixed and sometimes contradictory results, could did not lead us to formulate a definitive conclusion.

6.2 Limitations

There are several imitations to our research and the results. First of all, our compensation determinants have led to some ambiguity. We have included for example exercised stock options, although we were unable to determine whether these stock options had a short- or long-term character. This also goes for vested restricted stock and non-equity incentive plans. Our results would have been more valuable if we would have been better able to distinct between de different types of compensation and their time span.

The preferred tool for panel data analysis is the statistical package Stata. Due to inexperience with this package we used the more common package SPSS for our panel data analysis.
If Stata had been used we might have found more or better results, as SPSS does not have the features to conduct a panel data analysis as extensive as Stata.

Furthermore, we did not incorporate a time-lag for long-term compensation and corporate social performance, as we used long-term payouts (i.e. the endpoint of the incentive contract) and compared these to the CSP score in that particular year. As compensation schemes are usually not that straightforward our research was too limited in this respect.

Finally, our research was limited to CEO compensation, which consequently excluded CFO’s, COO’s and other executives which can also have a tremendous impact on CSP. These functions are not included in our research.

6.3 Implications for business

As we speak, many firms are already moving towards a more responsible and sustainable image, making the results of this research very useful for businesses that are interested in enhancing their social performance. For example, multinational Unilever sold its brand Mora (known for deep-fried snacks) in 2006. According to Unilever, Mora has insufficient international marketpotential and lacks benefits arising from synergy from a group perspective. Although the statement makes sense, it may come as no surprise that Unilever is focusing increasingly on achieving a vital and healthy image, making it more probably that the company is reluctant to be associated with Mora’s unhealthy and greasy snacks. The trend continues as Unilever declared recently to adapt several of its brands (mainly detergents) in order to comply with the Cleaner Planet Plan, which is a global initiative to reduce the environmental impact of these products. Firms like Unilever or firms which are at the starting point of shifting to a ‘greener’ image, can benefit from the results of this research.

An article in the Financial Times by Rod Newing (2011) dated June 7, 2011, indicated that the Responsibility Index by Business in the Community showed that board members and senior managers are incentivised to carry forward the sustainability commitments made by the business. Apparently, people want to see rewards tied to the long-term sustainable success of a business. CR seems to be no longer a ‘useful but dispensable’ add-on to real business activities, but is being integrated in the organizations’ daily processes. Currently, Charles Cotton⁸ explains that he believes that currently there is too much of a ‘disconnect’ between a company’s responsibility values and reward systems. He noted that “if an organisation values corporate responsibility, then it should be reflected in how it rewards and recognises people. If not, it may just be something that the public

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⁸ Charles Cotton is the reward advisor at the Chartered Institute of Personnel and Development in the U.S.
affairs department has come up with.” Clearly, mr. Cotton also sees the importance of sustainable strategy changes and the subsequent embedding of strategic goals into an incentive reward system.

Finally we find usefullness of our research for governments and regulatory bodies. As we have been able to identify one of the predictors of better corporate social performance, regulators who wish to stimulate business to ‘do good’, can benefit from the results.

6.4 Future research

The ideas for future research are endless, first of all because of the rapidly growing popularity of corporate social responsibility. More and more firms are becoming interested in how to behave more responsible and sustainable. At the first Global Forum for Responsible Management Education, held at the United Nations headquarters in New York in 2010, 260 business school leaders from 43 countries discussed how academic institutions can instill a sense of social responsibility in future business leaders who can then bring those ethics into the corporate world. This shows great promise for our future CEO’s and consequently, future business. In addition, the UN Global Compact-Accenture CEO study in 2010 found that “chief executives believe overwhelmingly that sustainability has become critical to their success, and could be fully embedded into core business within ten years”. Despite what opponents of CSR may believe, the awareness of behaving socially and environmentally responible while being profitable is becoming more wide-spread by the year.

An interesting idea for future research specifically would be the effect of the financial crisis on corporate social performance. We found that corporate social performance increased during the financial crisis, but our research was not extensive enough to determine whether this effect was actually caused by the crisis, or whether it would have happened even if there was no recession.

In some way, the crisis caused the public to rebel against the ‘old boys’ way of doing business and made a clear point that enormous short-term bonuses and the unethical behaviour of bankers which presumably caused the crisis in the first place. This behaviour seems to have become untolerable by the public. When the world will eventually leave the recession behind, it might be interesting to revisit this study and look at the before-and-after results of the financial crisis on CSP.

Other areas of research could include investigating which component of long-term compensation have the greatest effect on CSP. Is the mere presence of long-term compensation enough to become more sustainable, or do specific performance measures need to be distinguished? A study of this type could increase the utilization of the outcomes of this research in businesses all over the world.
Epilogue

Dear reader,

I remember writing my bachelor thesis a few years ago. Thinking back of that period I can only recall feeling as if it was a huge obstacle which I thought I would never finish. Eventually, I finished before the deadline with satisfactory results. Honestly, I don’t remember what all the fuss was about.

During the writing of my master thesis I revisited that period more than once. The writing of my bachelors’ thesis and my masters’ thesis are worlds apart. The difference in the amount work I had to do then, compared to know, is huge, not to mention the standards set by the thesis coordinators. When I recently read my bachelor thesis, I could clearly see the enormous steps forward I have made.

Now that I have finished, I am pretty proud of the end result and of the growth process I went through. Writing this thesis has provided me with experience that I will use the rest of my life. As of September 2012, I will start the post-master Accountancy to become a CPA in the Netherlands and will continue working at Deloitte’s international audit department in Rotterdam.

Special thanks go out to my parents, friends and colleagues at Deloitte, who have helped and supported me all the way. I would also like to thank my partner, who did not complain even once when I dedicated my personal time (especially this summer) to this thesis. And last but not least I would like to thank my supervisor prof. Bouwens, who has guided me through the whole process and who has provided me with counsel and support.

I would like to end this thesis the same way I started, with a quote by Victor Hugo which is not only in style with my research, but is also meaningful for myself and fellow students: “The future has many names: For the weak, it means the unattainable. For the fearful, it means the unknown. For the courageous, it means opportunity.”

Anneke Vromen
August 30th, 2012
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http://www.westga.edu/~bquest/2000/ceo.html


Appendix

Table 1

SIC Codes

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<th>SIC Code</th>
<th>Description</th>
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<th>Relatively in sample</th>
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<td>Manufacturing Consumer Goods</td>
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<td>Manufacturing Industrial Goods</td>
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### Table 2

**Descriptive Statistics**

In the table below the means per dimension are noted. The standard deviations are noted between brackets.

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<th>CSP Dimension / Industry</th>
<th>Mining and construction</th>
<th>Manufacturing consumer goods⁹</th>
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<th>Transport</th>
<th>Wholesale /Retail</th>
<th>Financial services</th>
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<td>(2,405)</td>
<td>(1,964)</td>
<td>(2,826)</td>
</tr>
</tbody>
</table>

⁹ We note that in this industry, the worst (-16) and best (+16) performer were found (based on total CSP score)
### Table 3
Spearman Correlations

<table>
<thead>
<tr>
<th></th>
<th>Relative Long-term compensation</th>
<th>Relative Short-term compensation</th>
<th>Assets</th>
<th>Asset Age</th>
<th>Debt/Total Assets ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \rho )</td>
<td>( \text{Sig.} )</td>
<td>( \rho )</td>
<td>( \text{Sig.} )</td>
<td>( \rho )</td>
</tr>
<tr>
<td><strong>Total CSP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strengths</td>
<td>0.046 **</td>
<td>0.002</td>
<td>-0.043 **</td>
<td>0.003</td>
<td>0.229 **</td>
</tr>
<tr>
<td>Concerns</td>
<td>0.056 **</td>
<td>0.000</td>
<td>-0.054 **</td>
<td>0.000</td>
<td>0.218 **</td>
</tr>
<tr>
<td>Total CSP</td>
<td>0.002</td>
<td>0.871</td>
<td>-0.002</td>
<td>0.876</td>
<td>0.013</td>
</tr>
<tr>
<td>(strengths – concerns)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at the 1% level**

* Significant at the 10% level
Table 4

Regression Models

Pooled OLS Regression models, controlled for firm-fixed effects by demeaning of the data. Respective t-value is noted between brackets.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td>Total CSP</td>
<td>Strengths</td>
<td>Concerns</td>
</tr>
<tr>
<td>Intercept</td>
<td>Prediction</td>
<td>-0.099 ***</td>
<td>Prediction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-3.624)</td>
<td></td>
</tr>
<tr>
<td>Relative LT compensation</td>
<td>+</td>
<td>0.041</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.502)</td>
<td></td>
</tr>
<tr>
<td>Relative ST compensation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assets (ln)</td>
<td>+</td>
<td>-0.027</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-0.353)</td>
<td></td>
</tr>
<tr>
<td>Asset Age (ln)</td>
<td>-</td>
<td>-0.213 ***</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.869)</td>
<td></td>
</tr>
<tr>
<td>Risk (Debt/Total Assets ratio)</td>
<td>-</td>
<td>-0.265</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-1.064)</td>
<td></td>
</tr>
<tr>
<td>Crisis year</td>
<td></td>
<td>0.264 ***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5.536)</td>
<td></td>
</tr>
<tr>
<td>Number of observations</td>
<td>4,672</td>
<td>4,672</td>
<td>4,672</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.009</td>
<td>0.101</td>
<td>0.086</td>
</tr>
<tr>
<td>F-statistic</td>
<td>8,256 ***</td>
<td>105,091 ***</td>
<td>76,141 ***</td>
</tr>
</tbody>
</table>

* Significant at the 10% level  
** Significant at the 5% level  
*** Significant at the 1% level
Table 5a
Panel Data Models

Panel Data Models. Industry dummies included to control for industry effects. Wald Chi-Square value is noted between brackets.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>Predict</td>
<td>-4,656***</td>
<td>-8,101***</td>
</tr>
<tr>
<td></td>
<td>(54,583)</td>
<td>(192,576)</td>
<td>(34,351)</td>
</tr>
<tr>
<td>Relative LT compensation</td>
<td>+</td>
<td>0,132*</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>(3,374)</td>
<td>(3,273)</td>
<td></td>
</tr>
<tr>
<td>Relative ST compensation</td>
<td>+</td>
<td>0,032</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>(0,654)</td>
<td>(134,118)</td>
<td></td>
</tr>
<tr>
<td>Assets (ln)</td>
<td>+</td>
<td>0,424***</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>(31,967)</td>
<td>(279,298)</td>
<td></td>
</tr>
<tr>
<td>Asset Age (ln)</td>
<td>-</td>
<td>-0,151**</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(4,850)</td>
<td>(0,431)</td>
<td></td>
</tr>
<tr>
<td>Risk (Debt/Total Assets ratio)</td>
<td>-</td>
<td>-0,360**</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(2,481)</td>
<td>(2,113)</td>
<td></td>
</tr>
<tr>
<td>Crisis year</td>
<td>0,079*</td>
<td>0,276***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2,931)</td>
<td>(69,788)</td>
<td></td>
</tr>
<tr>
<td>Industry dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of observations</td>
<td>4,672</td>
<td>4,672</td>
<td>4,672</td>
</tr>
<tr>
<td>Number of subjects</td>
<td>584</td>
<td>584</td>
<td>584</td>
</tr>
<tr>
<td>Goodness of Fit</td>
<td>34,206,931</td>
<td>22,740,553</td>
<td>16,042,106</td>
</tr>
</tbody>
</table>

* Significant at the 10% level
** Significant at the 5% level
*** Significant at the 1% level
### Table 5b

**Panel data analysis – CEO Changed firms excluded**

Panel Data Models. Industry dummies included to control for industry effects. Wald Chi-Square value is noted between brackets.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable</strong></td>
<td>Total CSP</td>
<td>Strengths</td>
<td>Concerns</td>
</tr>
<tr>
<td><strong>Intercept</strong></td>
<td>Prediction</td>
<td>-4,744 ***</td>
<td>Prediction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(31,689)</td>
<td></td>
</tr>
<tr>
<td><strong>Relative LT compensation</strong></td>
<td>+</td>
<td>0,157 **</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4,033)</td>
<td></td>
</tr>
<tr>
<td><strong>Relative ST compensation</strong></td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Assets (ln)</strong></td>
<td>+</td>
<td>0,452 ***</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(20,316)</td>
<td></td>
</tr>
<tr>
<td><strong>Asset Age (ln)</strong></td>
<td>-</td>
<td>-0,082</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2,690)</td>
<td></td>
</tr>
<tr>
<td><strong>Risk (Debt/Total Assets ratio)</strong></td>
<td>-</td>
<td>-0,467 *</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2,894)</td>
<td></td>
</tr>
<tr>
<td><strong>Crisis year</strong></td>
<td>0,042</td>
<td>0,251 ***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0,436)</td>
<td>(34,086)</td>
<td></td>
</tr>
<tr>
<td><strong>Industry dummies</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Number of observations</strong></td>
<td>2,432</td>
<td>2,432</td>
<td>2,432</td>
</tr>
<tr>
<td><strong>Number of subjects</strong></td>
<td>304</td>
<td>304</td>
<td>304</td>
</tr>
<tr>
<td><strong>Goodness of Fit</strong></td>
<td>13,912,199</td>
<td>9,881,023</td>
<td>5,998,186</td>
</tr>
</tbody>
</table>

*Significant at the 10% level  
**Significant at the 5% level  
***Significant at the 1% level