ERASMUS UNIVERSITY ROTTERDAM Erasmus School of Economics

Bachelor Thesis [program Finance]

How markets value CSR programs

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Abstract

Corporate social responsibility (CSR) is being adopted by an increasing amount of companies. However, such programs remain topic of debate. Do companies implement a CSR program to generate shareholder value, or is it implemented through stakeholder demand to solve a societal problem? This research sheds light on how markets value CSR programs and more importantly what motivations can be deducted from implementation of CSR programs. In this research seven different domains of CSR (Community, Corporate governance, Diversity, Employee Relations, Environment, Human rights and Product) are modeled from a perspective of strengths and concerns. This paper proves that markets value CSR programs positively. However, different relations are found for different firm characteristics (in size, EBITDA or revenue). In addition, there is no single CSR domain with the largest impact on firm value when differentiating between firms with different characteristics. On an aggregate level both US and non-US firms show that the CSR domain employee relations has the biggest impact on firm value. Differentiating between country/world-wide and industry/firm specific CSR variables showed that markets value country/world-wide CSR programs. Whereas industry/firm specific CSR programs are mostly not valued by markets. This indicates that firms are not only implementing CSR programs to create shareholder value but are also implementing CSR programs based on the desires of other stakeholders.

KEYWORDS: corporate social responsibility, ESG-indicators, financial performance, firm-value, Tobin's q

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Part I: Introduction

There is an increasing call from society that companies must take more social responsibility. In the recent emerging debate in the Netherlands about how to reduce CO_2 emissions more focus is placed on the role of companies. The latest development in that debate is a possible CO_2 tax for companies in the Netherlands to incentivize companies to reduce their emissions (NOS, 2019a). The underlying reason is that society feels that companies do not take enough initiative on their own to reduce their emissions. This way of reasoning is in line with the strategic stakeholder synthesis as defined by Goodpaster (1991). This synthesis entails that when making decisions companies only have a fiduciary[1] relationship with their shareholders and thereby only act in the best interest (mostly profit maximization) of the shareholders. This would explain why governments need to introduce such tax incentives to force companies to reduce their emissions.

However, Goodpaster also defines another synthesis namely, the multi-fiduciary stakeholder synthesis (1991). This synthesis differs from the strategic stakeholder synthesis in that companies not only have a fiduciary relationship with shareholders but also with other stakeholders[2]. This means that the company has the same level of fiduciary relationship with each stakeholder. If this synthesis would hold to be true in practice, there would be a paradox. When each stakeholder has the same fiduciary relationship with the company it weakens the most important relationship between shareholders and companies. Whereby "Ethics seem both to forbid and to demand a strategic, profit-maximizing mindset" (Goodpaster, 1991, p.63). If companies would choose to adopt the multi-fiduciary stakeholder synthesis, there would not be a need for taxes for things like CO_2 emissions but shareholders would also not be happy since it would reduce their maximum profit interest. The solution, as always, is a balance between both syntheses: "Conceptually, then, we can make room for a moral posture toward stakeholders that is both partial (respecting the fiduciary relationship between managers and stockholders) and impartial (respecting the equally important non-fiduciary relationships between management and other stakeholders" (Goodpaster, 1991, p.69).

Shell is a perfect example of a company going through these different ideas about stakeholder synthesis. Shell has always been a company that mainly focused on drilling and selling fossil fuels in a variety of products. This business strategy was mainly focused on generating maximum profits for their shareholder, but as of around 1991 that changed. Shell looked to have adopted more of the multi-fiduciary stakeholder synthesis, they themselves initiated an investigation into what their influence as a company was on climate change (Mommers, 2017). They thereafter invested a lot in sustainable renewable energy solutions (SRES), thereby reducing their short-term profits and acting more in the interest of all the stakeholders. The interesting thing is that in 2009 Shell announced to disinvest in

[1] An ethical relationship of trust between two parties.
[2] Every party directly or indirectly involved.

SRES (Bergin, 2009). Shell first argued that there was no money to be made with SRES (Collins, 2016), later they stated that they will only consider investing in SRES when the demand for such solutions would increase and the demand for fossil fuels would decrease (Nieuwsuur, 2016). These announcements and actions signal that Shell opted to go back to the strategic stakeholder synthesis.

Although Shell opted to focus more on the interest of their shareholders, stakeholders did not give up on trying to change the decisions made by Shell. For instance, Millieudefensie wrote a formal letter to Shell that they need to stop polluting the world or otherwise they will start a lawsuit against them (2018). Another initiative by stakeholders is to buy out shareholders and force Shell with voting rights to withhold the Paris agreement (Follow This, 2018). It became clear for Shell that they could no longer ignore these calls for change by stakeholders. That is why they recently announced to start a new corporate social responsibility (CSR) program. In their announced CSR program, a customer could pay extra to compensate for the CO_2 emissions connected with the bought product (NOS, 2019b). These CSR programs are in response to the stakeholder paradox described earlier, with these programs' companies can act upon calls from stakeholders without neglecting the essential fiduciary relationship with shareholders. CSR programs can have a lot of different goals, they could entail acts on behalf of climate change but also gender equality, giving back to communities, noise pollution, etc. This raises the question if CSR programs are not a temporary application and that after a period companies opt to go back to the strategic stakeholder synthesis.

This research will give more insight in how markets value CSR programs and more importantly what motivates companies to implement CSR. Seven different domains of CSR (Community, Corporate governance, Diversity, Employee Relations, Environment, Human rights and Product) are modeled, from a perspective of strengths and concerns, on the market value of a firm (proxied by the Tobin's q). On an aggregate level markets value CSR programs positively. However, different relations are found for firms with different characteristics (in size, EBITDA or revenue). In addition, there is no single CSR domain with the biggest impact on firm value, when differentiating between firms with different characteristics. On an aggregate level both US and non-US firms show that the employee relations domain has the biggest impact on firm value. Differentiating between country/world-wide and industry/firm specific CSR variables shows that markets value country/world-wide CSR programs. Whereas industry/firm specific variables are mostly not valued by markets. This indicates that firms are not only implementing CSR programs to create shareholder value but are also implementing CSR programs based on the desires of other stakeholders.

This research is structured as follows, firstly, different visions on CSR will be discussed to get an idea why companies implement CSR programs. This is followed by an extensive literature review, which will cover a strong diversity of previous researches. After that data and methodology will be discussed followed by the results. These results will go more in-depth than previous researches to understand the nuances in the valuation of CSR.

Chapter II: Literature review

2.1 CSR visions

Bénabou and Tirole (2010) define three visions on why companies portray CSR programs. They describe the first vision: "*Win-Win (doing well by doing good)"* (p. 9). The central idea in this vision is that companies focus too much on short-term profits instead of on long-term profits. They argue that short-termism implies an intertemporal loss of profits and externalities for stakeholders. Meaning that by trying to increase your profits in the short-term will decrease your potential profits in the long run. Moreover, this strategy could create negative effects for other stakeholders, which also reduces shareholder value. So, implementing a CSR strategy that focusses on reversing these effects could increase shareholder value.

The second vision they describe is that of "*Delegated philanthropy (the firm as a channel for the expression of citizen values)"* (p.10). This vision is more from the perspective of stakeholders rather than from shareholders to have a benefit from CSR programs. Stakeholders want companies to engage in philanthropy on their behalf. One of the reasons why stakeholders ask this from companies is that, stakeholders would need to be optimally informed to efficiently offset the negative externality they caused by buying a product. Moreover, their financial transactions would involve enormous transaction costs (Bénabou and Tirole, 2010). Other reasons are more related with image concerns, some individuals do not want to brag on how good they are, or how they are better than others. On the other side individuals tend to care more about the heavily visible or memorable targets, e.g. donating to Harvard, Yale or Princeton instead of lesser known primary and secondary schools, thereby showing more image-seeking than true altruism (Bénabou and Tirole, 2010). The recently announced CSR program by Shell (as discussed before) is a perfect example for this vision of CSR. All customers of Shell could buy and plant trees themselves to compensate for CO_2 emissions. However, Shell could do this way more efficiently. Other examples include slave free chocolate from Tony Chocolonely, buying office equipment from social workshops or recycling every waste stream a company produces.

Their third vision on CSR programs describes that of *Insider-initiated corporate philanthropy* (Bénabou and Tirole, 2010, p.11). This vision sheds more light on the (more negative) motivations from management or board of directors to engage in philanthropy instead of the motivation coming from stakeholders or the willingness to withhold from maximum profits on the short-term. Bénabou and Tirole (2010) argue that some CSR programs are in place due to conflicts of interests from management or the board of directors. They observe that some companies give more to institutions or causes where those people also sit in high functions, thereby acting more in their self-interest instead of the interest of stakeholders, or shareholders for that matter (e.g. maximum profit). Which is ultimately the reason why this type of philanthropy is under attack. Among others Friedman (1970) advocates that it is not the task of companies to pertain in any type of charity. Companies should just focus on doing what is best for the company and that management should donate their own private wealth to institutions or causes.

2.2 Previous research

All in all, these three visions on CSR are not exclusive to each other. In practice a lot of CSR programs combine two or all visions. However, these visions on CSR can help explain how and why certain companies use different types of CSR programs. Bénabou and Tirole (2010) point out that testing one of the three visions on CSR is merely impossible since they are so connected with each other. So, conclusions based on partial effects of one of the visions is highly likely to be inaccurate. Furthermore, they also note that at their time of research investors still had to learn more about the true importance of SRB. They therefore expect that environmental, human rights and other factors will become more important for investors in the future (Bénabou and Tirole, 2010).

Konar and Cohen (2001) researched the effect of environmental performance on the Tobin's q of a company. They use the Tobin's q to capture the future expectations of the market. The argumentation is that a valuation consists of two parts: tangible and intangible value. Where tangible value is measured as the replacement costs of tangible assets. Intangible value comes from intangible assets but also concepts like consumer trust. The concept of CSR is closely related with consumer trust as Luo and Bhattacharya (2006) advocate. The Tobin's q is defined as the market value (which incorporates both tangible and intangible value) divided by the replacement costs of the assets. The Tobin's q is therefore perfect to measure the intangible value of CSR. Konar and Cohen find that a poor environmental performance has a negative effect on the Tobin's q (2001). This means that firms with a better environmental performance have a higher Tobin's q.

McWilliams and Siegel (2000) found that there is a neutral relation between CSR and financial performance, over the period of 1991 to 1996. Most previous research showed a positive relation, however; McWilliams and Siegel argue that this is due to a misspecification of the used models. They prove the importance of using R&D and industry control variables. When these control variables are not included, they also find a positive relation between CSR and financial performance. They explain this with the high correlation that is present between CSR and R&D expenses. Meaning that when R&D is not in the model the effects of CSR will be highly over-estimated (McWilliams and Siegel, 2000).

Waddock and Graves (1997) find that CSR has a positive relation with financial performance and that financial performance also has a positive relation with CSR. They argue that firms with available resources spend those on 'doing good by doing well'. However, they also find that financial performance depends on good social performance, thereby 'doing well by doing good'. Waddock and Graves (1997) further argue that their research supports the notion that it pays to give attention to social dimensions (environment, employee relations, minorities, etc.) besides the normal dimensions (financial, productivity, etc.).

Hillman and Keim (2001) & Luo and Bhattacharya (2006) further support the results of Waddock and Graves. Hillman and Keim (2001) find that investing in CSR closely related with the company (primary stakeholders) results in increased shareholder value. This would result in a form of comparative advantage obtained through different important resources and capabilities (Hillman and

Keim, 2001). Whereas investing in social CSR (here defined as issues beyond primary stakeholders) will at best not increase shareholder value. They argue that the latter is easy for competitors to copy, meaning that it does not yield a comparative advantage. Luo and Bhattacharya (2006) find a positive relation between CSR and a firms Tobin's q. However, they explain it through customer satisfaction. They find that increasing CSR increases customer satisfaction. That in turn increases the Tobin's q via an increase in profits. They do note that there are also some potential pitfalls when interpreting their results. When firms are not innovative, increasing CSR decreases market returns. The conclusion therefore is that less innovative firms might be better off with no CSR implementation. Luo and Bhattacharya (2006) recommend management to first evaluate if their company fits the needs abilities and if not, implement those first before investing in CSR. Otherwise market value could decrease as a result of this.

Ba et al (2012) found that markets react positively to the announcements of firms to invest in green innovations. Their sample consists of large car manufactures over a period of 14 years. They note that the market for green innovations was rather small (only two percent in sales of the whole market for vehicles) and thereby implying that the demand for such vehicles was also small. They advocate that this is a sign that investors value solutions to societal problem positively. They further find that the market seems to react more positively to these kinds of announcements when firms are less profitable. They argue that this is due to the expectations of the market for well performing firms to keep doing what they do. Whereas for less profitable firms the investments in green innovations are a mean to get a competitive edge.

Cellier & Chollet (2012) also note that there is increasing demand from investors for CSR ratings. This is due to an increase in socially responsible investment assets amounting to 5 trillion in 2009 which represented 10% of assets under management in Europe. They note that the original demand for such ratings came mostly from socially responsible investors but due to the increase in assets also comes from a broader scope of investors. This demand for such ratings is further supported by the increasing amount of rating agencies. The most prominent once are: MSCI (formerly KLD and GMI), Vigeo, EIRIS (Ethical Investment Research Services), SAM (Sustainable Asset Management), Inrate, Oekom Research and Sustainalytics (Cellier & Chollet, 2012). Cellier & Chollet (2012) furthermore discuss the integration of CSR (and socially responsible behavior: SRB) in the investment decisions for all kinds of investors (including private, funds and institutional) which further supports their conclusion that investors care about CSR programs. They advocate that CSR announcements not only cause price change and trading volumes, but that CSR should be included in pricing models as well as in various risk measures (Cellier & Chollet, 2012).

Cavaco & Crifo (2014) studied how different types of CSR influence each other. They found that for their sample from 2002 to 2007 combining CSR programs in environmental and business behavior results in conflicts between stakeholders or in over-investment. However, synergies are possible when firms combine CSR programs focused on human resources and the supply chain. Cavaco

and Crifo (2014) therefore argue that firms should either invest in CSR programs that are complementary or invest in just one CSR program. Complementary CSR programs also boost financial performance, whereas substitutable CSR programs hurt financial performance.

Bird et al (2007) researched the relation between CSR and financial performance (stock returns) over 1991 to 2003 with help of the former KLD database (now MSCI). This database gives multiple variables for each CSR domain. The variables that KLD produces are binary, either a firm meets the criteria, or it does not. Bird et al (2007) then determined which variables are strengths and which are concerns. Thereby forming maximum scores per CSR domain. They conclude that failing to meet environmental or employee standards results in a negative influence on the valuation of the company. This also applies to the diversity domain, where there is a positive relation between diversity strengths and excess returns. However, the most surprising result is in the environmental domain. Whereas meeting a standard is positively valued, companies with a high environment score appear to be punished. It seems as if the market is not supportive of companies doing more than the standards require (Bird et al, 2007). Their results further support the results of Cavaco & Crifo (2014) that it pays off to pursue more CSR programs at once. Bird et al (2007) note that it appears that there are reputational benefits that are greater than just looking at the individual CSR domains. This would mean that there is still a big role for governments to act on behalf of the concerned stakeholders. However, as Bird et al (2007) note, the attitude of the market towards CSR appears to change along time progresses. At their time of research (1991 to 2003) most interest was in diversity, environment and employment domain.

Marsat and Williams (2011) conclude that there is a negative relationship between CSR performance and firm value (from 2005 to 2009). In their study they used two proxies for firm value, the Tobin's q and the book-to-market ratio. And included multiple control variables: financial performance, R&D expenses, industry, region and sales growth. Their results are robust for all years and control variables. Their explanation for this discrepancy with most previous researches is that investors seem to value the cost of CSR higher than the extra proceeds. Marsat and Williams (2011) also consider that investors might not account for positive externalities in their equity asset valuation or that investors undervalue the true value of CSR.

Crisóstomo et al (2011) noted that most research on the relationship between CSR and financial performance was conducted in developed countries. That mostly showed a positive relation between CSR and financial performance. They argue that the results from those researches could be different for developing countries. The reason for such a difference is due to different interest of investors, that are more focused on rapid growth of the entire market. Crisóstomo et al (2011) used Brazil as their country of interest with a time span from 2001 to 2006. They indeed found an opposite result, namely a negative relationship between CSR and financial performance (Tobin's q). They also found that the effects of CSR in the domains of employee and environmental concerns are stronger than for other factors.

Wahba (2008) notes that upon 2008 most research was performed in Anglo-American settings and that the literature is indecisive about the relation between CSR (in the environmental domain) and

market value. Wahba proves that CSR positively influences market values (defined as Tobin's q) in Egypt. Instead of using a database to define CSR, Wahba used actual certificates issued by the government. These certificates are issued when a firm has met certain standards. This makes the research more credible and less subjective, but it also limits the conclusions. The certificates were relatively new in 2003-2005 implying that not all companies were able to meet those standards. If all companies met the standard of the certificate it is expected that the value increase from having the certificate disappears. Another implication is that by issuing certificates companies are only incentivized to innovate to the standard mandated by the certificate but not any further (Wahba, 2008).

2.3 Tobin's q

As discussed before, the Tobin's q is widely used as a proxy for market value and financial performance (Konar and Cohen, 2001; Marsat and Williams, 2011; Wahba, 2008; Luo and Bhattacharya, 2006; Cavaco and Crifo, 2014). The reason is that the Tobin's q is seen as a variable that also incorporates future growth options as perceived by the market. Tobin and Brainard (1976) (re-)introduced the ratio later known as the Tobin's q. That ratio was first defined as the market capitalization divided by the replacement costs of assets. This, however, possess a problem since it is complicated, or even impossible, to assess the replacement costs of assets in place. It would mean that for all assets a current replacement price must be determined. For tangible assets, like cars, this would be easier than for intangible assets. Therefore, Chung and Pruitt (1994) defined a new formula to derive the Tobin's q that is easier to implement. They simplify the formula to: (MVE + PS + DEBT)/ Total assets. MVE is the market value of common stock, PS is the liquidating value of the preferred stock and DEBT is long- and short-term debt – short term assets. They found that this simplified formula explains 96,6% of the Tobin's q derived with the far more complicated formula.

In practice however, the definition of the Tobin's q still differs. In the selection of discussed papers three different variants of the above-mentioned formula are used. This paper will follow the practice of Marsat and Williams (2011); Drobetz et al (2004); Kaplan and Zingales (1997); Connolly and Hirschey (2005). This leads to the following formula:

(1) $$\frac{MV\ of\ Assets}{BV\ of\ assets}$$

Where MV of assets is the Book Value of assets + Market Value of common stock – Book Value of common stock. Fortunately, there is a consensus on what variables influence the Tobin's q. The most used variables are profitability, company size, industry and R&D. Connolly and Hirschey (2005) specifically researched the effect of R&D on the Tobin's q. They prove the significant effect of R&D, although this effect does change with how big the firm is (size). They note that for larger firms the effect of extra R&D is bigger than for smaller firms.

2.4 Hypothesis

This research will combine the past researches on CSR with more recent data (2016) to ultimately find an answer to whether companies use the solution to the stakeholder synthesis paradox as described by Goodpaster (1991). This will be researched by looking at how markets react to SRB via CSR programs. Since there is no clear consensus on the sign of the relation between CSR and financial performance/ market valuation, the expectation is that if the market reacts in a negative way to CSR programs the solution to the stakeholder synthesis paradox will not hold. Resulting in companies that will ultimately go back to the strategic stakeholder synthesis. Given the recent increase in pressure from society on companies, combined with the trend of a change in perception of CSR as described by Bird et al (2017) the expectation is that markets will react positively to SRB.

H1: There is a positive relation between CSR and financial performance.

However, it seems logical that the value of CSR will differ in line with the operations of the respective company, stakeholders, industries and countries (due to citizens valuing different SRB more important than others). Whaba (2008); Konar and Cohen (2001); Ba et al (2012) all find a clear positive relation between environmental CSR and financial performance. Other CSR domains are: Community, Corporate governance, Diversity, Employee Relations, Human rights and Product. The expectation is that when societal pressure increases, the impact of CSR related to that problem also increases. Combining this with the recent emerging call by society for actions on climate change, as well as the increasing interest of pension funds for green companies, the expectation is that the environmental domain has the biggest impact on financial performance.

H2: Environmental CSR has the biggest impact on financial performance.

Lastly in order to give a thorough answer to the stakeholder synthesis paradox. The motives for companies to adopt certain CSR programs need to be distinguished. If companies really care about stakeholders than different levels of CSR in each industry will be observed. McWilliams and Siegel (2000) already proved the importance of controlling for industry. If in the same region/country the level is similar, the motivations could also differ. When looking at CSR in the environmental domain, the expectation is that heavier polluting industries have a higher level of CSR. Then the motivation lies more towards what stakeholders want. However, it could also be that those CSR levels differ without a difference in problems faced by companies. For example, when each industry has the same level of pollution but different kind of reduction goals. This could give insight in an alternative motive that firms see CSR as a strategy to exploit maximum consumer satisfaction (and thereby profits) as described by Luo and Bhattacharya (2006). This would imply that the stakeholder synthesis paradox is not yet solved.

H3: The level of CSR differs per industry/firm due to a difference in the challenges faced by industries/firms.

Chapter III: Data & Methodology

There are two main databases that rate companies based on a diversity of CSR factors/programs, one of which is MSCI (Formerly KLD and GMI) and the other Vigeo. The primary focus of MSCI is mainly in American based companies. Recently other countries have been added as well, unfortunately only for a few years. Vigeo is more focused on European countries but not easily accessible for researchers. Therefore, the MSCI database will be used. Furthermore, to compute the necessary market capitalization of the companies in question, as well as for other variables to single out the effects on CSR factors, the databases CRSP and Compustat will be used.

The database MSCI is an annually updated database containing Environmental, Social and Governance (ESG) performance indicators. In order to determine the assessment criteria's and how companies compare to that criteria, MSCI uses data from the following sources (MSCI, 2015):

- "*Macro data at segment or geographic level from academic, government and NGO datasets.*
- *Company disclosures (10-K, sustainability reports, proxy reports, AGM results, etc.).*
- *Government databases, 1600+ media, NGO's and other stakeholder sources."*

To accurately assess ESG scores, MSCI divides SRB in seven different groups: Community, Corporate governance, Diversity, Employee Relations, Environment, Human rights and Product. Each group is then even further segmented in up to 21 different variables that are either classified as strengths or concerns. There are in total 68 ESG variables and another six controversial business involvement indicators for 2016 (see appendix A for a variable list). These variables are binary, one means that the assessment criteria is met whereas a zero means that it is not met. For the strength variables the criteria are based upon Strategy & Governance, Initiatives and Performance (MSCI, 2015). For the concern variables MSCI uses its own impact monitor. This monitor is in line with international norms and widely accepted conventions (MSCI, 2015). Since their beginning in 1991 MSCI changed factors (discontinued or added new ones or changed their methodology) as well as the number and diversity of companies.

The used data sample from MSCI is from 2016 and contains 2283 companies. However, not all ESG variables are available for all companies whereas others only for a specific group (see appendix B for the descriptive statistics). MSCI evaluates what factors are relevant to an industry or company and only makes ratings for those factors. Thereby only applying some variables to specific companies or industries.

In order to accurately determine the influences of CSR programs on market values, other factors that determine market value need to be controlled for.

- *Country:*

  Stakeholders will demand different kinds of SRB in different societies, also markets in different countries might value different conventional factors as being more or less important.

- *Industry:*

  As discussed before, CSR could differ per industry. For instance, environmental CSR could play a bigger role in heavy pollution industries than low polluting industries. Furthermore, Connolly and Hirschey (2005) proved the importance of industry effects on the Tobin's q.

- *Size:*

  Company size is used as a control variable in most studies including: Wahba (2008); Waddock and Graves (1997); Konar and Cohen (2001). Size is not only correlated with the Tobin's q but more importantly also with CSR (see appendix C for the correlation in this study). Bigger firms are expected to have more CSR, since they have more financial flexibility than smaller firms. Thereby having more extra funds available to exercise CSR programs. Size is defined as the logarithm of assets, following the practice of Crisóstomo et al (2011).

- *Profitability and EBITDA growth:*

  Konar and Cohen (2001) use profitability as one of their control variables. They proxy profitability with return on equity. Lie and Lie (2002) noted however, that profits can be easily manipulated. Alternatively, EBITDA can be used as a proxy for profitability. A reason to use the EBITDA instead of EBIT or net profit is that there are numerous occasions where the market disagrees with the applied depreciation and amortization of assets. In this research the EBITDA growth will also be used as a control variable. The estimation period for the growth rate is two years (2014 – 2016) following the practice of Konar and Cohen (2001). Like size, profitability is positively correlated with CSR. Companies with a higher profitability generally have more financial flexibility than companies with low profitability. Thereby having more extra funds available to implement CSR programs. Another effect is that CSR programs can positively influence profitability, thereby following vision one as mentioned before of CSR: "*Win-Win (doing well by doing good)" (*Bénabou and Tirole, 2010).

- *R&D*

  Connolly and Hirschey (2005) proved the significant effect of R&D on the Tobin's q. Furthermore, McWilliams and Siegel (2000) proved that there is a high correlation between CSR and R&D expenses (see appendix C for the correlation in this study). This is for example due to a consumer appliance company remaking a cleaning product. So, that it is now environmentally friendly. As a result of environmental CSR this company will incur R&D expenses to facilitate the transition. In line with McWilliams and Siegel (2000); Konar and Cohen (2001); Marsat & Williams (2011) R&D expenses is included as a control variable.

This research deviates from previous studies in that here the two-digit SIC code is used instead of the three-digit SIC code. This is partly due to the increased criticism that the SIC codes are not accurate enough anymore. Especially with the newer companies in the technology industry and the diversification of operations, the SIC code fails to accurately map in what specific industry the company operates. Moreover, the data sample is very diverse, meaning that using a three-digit SIC code would result in a lot of small groups, which will bias the results. Therefore, the two-digit SIC code is used to control for industries throughout this study. However, the results are robust with using the three-digit SIC codes.

The controversial business involvement indicators could be viewed as either control variables or CSR variables. Here they are included as control variables. This is due to the methodology behind these variables, both direct and indirect involvement is taken into account. Given that the six (alcohol, gambling, military, nuclear, tobacco and firearms) mentioned business segments are closely monitored by governments, these variables could be proxies for all different kinds of risk. On the other side these variables can be seen as CSR indicators, stakeholders could wish that a company does not get involved with firearms, for instance. However, involvement becomes harder to notice if it is indirect. Making it unlikely that these variables mostly represent stakeholders wishes. So, if these variables were only measuring direct involvement they should be regarded as CSR indicators.

In order to analyze CSR in a general way the practice of Bird et al (2007) is followed. This entails that all variables per domain will be added up to give just two variables per CSR domain: strengths and concerns. Table 1 shows the maximum scores that a company could score. These scores are theoretical scores as becomes apparent from the descriptive statistics in appendix D, the highest scored environment strength is six. this is due to as described before the relevance of each variable with a respective company. Moreover, as the descriptive statistics in appendix B show, five CSR variables (env_con_x, emp_con_x. hum_con_x, env_con_i and cgov_con_l) have no company who gets a one.

Table 1 Maximum score per CSR domain

Activity	Maximum score	
	Strengths	*Concerns*
Environment	14	7
Community	1	1
Corporate Governance	2	4
Diversity	2	2
Employee Relations	9	6
Human Rights	2	3
Product	10	5

There are no further noticeable statistics concerning the CSR variables. Although the average values of the CSR variables do differ a lot, this does not give any specific indications. The correlations of the CSR variables (see appendix C) show no outstanding results and there is therefore no expectation for multi-collinearity.

The control variables show a large standard deviation compared to their average value. This is further illustrated by the large differences between minimum and maximum values. For instance, assets has a minimum value of 0.8 million and a maximum value of 482,154 million (see appendix B for the full descriptive statistics). Therefore, the variable EBITDA growth is winsorized at 0.5%, EBITDA, assets, EBITDA growth and R&D expenses at 1%, whereas the Tobin's q is winsorized at 5% to correct for the large outliers. The Tobin's q is more winsorized than the other variables due to more and bigger outliers in the underlying variables used to calculate the Tobin's q. Likewise, the correlations of the CSR variables, no outstanding results and therefore no expectation for multi-collinearity are found for the control variables.

Chapter IV: Empirical Results

4.1 Control variables

Before the effect of CSR on company value can be assessed, the control variables need to be checked if they are the right ones. As becomes clear from table 2, assets, EBITDA, R&D expenses and size are significant at 5%, with EBITDA growth borderline significant. Furthermore, appendix C shows that there is correlation between R&D expenses and CSR variables. Combined with prior evidence from Connolly and Hirschey (2005) and McWilliams and Siegel (2000) R&D expenses are therefore always included in the models. It is no problem that the variables assets, EBITDA and R&D expenses have a coefficient that is very close to zero. Firstly, the Tobin's q has a small range, this naturally makes coefficients of independent variables small. Secondly, asset, EBITDA and R&D expenses have a large range, which also causes the coefficient to be smaller. The winsorized R&D expense variable for instance, still ranges from -261million to 16389 million. Given that only the military indicator is significant these variables will not be included in following models. The control variables for industries (sic_2) and countries (country) were also included and significant. Throughout the rest of the results those two variables will not be displayed in the results but are always included in the model and presented in the appendices.

Table 2 Influence of control variables on Tobin's q

Tobin's q	Coef.	Robust Std. Err.
Assets	0.000	0.000***
EBITDA	0.000	0.000***
R&D expenses	0.000	0.000**
EBITDA Growth	0.054	0.028*
Size	-0.379	0.030***
alc_con_a	0.224	0.202
gam_con_a	0.048	0.293
mil_con_a	-0.265	0.120**
nuc_con_a	0.259	0.234
tob_con_a	-0.034	0.194
fir_con_a	0.008	0.226
Constant	7.764	0.522***
Adj-R^2	0.295	
N	1126	

The dummy variables for industries (Sic_2) and for countries (Country) are included but not displayed here. Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%. The full results can be found in appendix E

4.2 CSR domains

Now the CSR strength and concern variables can be included to get a general understanding of the influence of CSR. Both environmental variables show a significant relation with the Tobin's q (see table 3). Although improving in environmental strengths is significant the coefficient is relatively low at just 0.084. This indicates a low value to positive environmental factors by the market. Environmental concerns, however, have a high negative coefficient (-0.502) indicating that the market values negative environmental factors.

On the contrary, community factors are not valued by the market. Both variables are insignificant. More interestingly, community concern has a positive coefficient. Indicating that there is probably a positive effect, although it is not significant.

Both corporate governance variables also show insignificant results. The most evidential reason is that both strength and concern consist of variables that indicate an event. For example, the concern indicator incorporates past bribery and fraud misbehaves. When news of such events comes out the market reacts immediately, making these events not an ongoing issue like waste streams. It therefore looks like the market values these governance strengths and concerns as an incidental event.

The diversity domain shows a positive and significant relation between diversity strengths and a company's Tobin's q. Whereas the diversity concern variable is insignificant, and the coefficient is almost zero. Indicating that the market only values the positive image of diversity but is indifferent about a possible diversity concern.

Looking at employee relations both strength and concerns are significant. However, both variables have positive coefficients. For the strength variable this is to be expected, factors like union relations, employee involvement and health & safety can be deemed necessary for healthy companies or generate a positive image. What is contradicting is that employee relation concern is also positive and significant. Especially since the concern variable also incorporates union relation and health & safety but also factors like child labor. This negative relation could be due to other factors that this variable is proxying for. Union relation and child labor could be an indication that management is acting mostly in the interest of shareholders (in the most classical view of maximum profits) and showing strong decision making. In other words, it could be that investors value the costs of CSR dealing with these concerns higher than the benefits the firm would gain.

Lastly both the human rights and product domains show insignificant results. This indicates that on average the market is indifferent about whether companies have these strengths or concerns.

Table 3 Influence of CSR domains on Tobin's q

Tobin's q	Coef.	Robust Std. Err.
Environment_str	0.084	0.042**
Environment_con	-0.502	0.175***
Community_str	0.212	0.262
Community_con	0.533	0.307*
Governance_str	0.14	0.114
Governance_con	-0.265	0.131**
Diversity_str	0.178	0.076**
Diversity_con	0.004	0.086
Employee_str	0.097	0.043**
Employee_con	0.32	0.115***
Human_str	0.246	0.216
Human_con	-0.225	0.219
Product_str	0.085	0.097
Product_con	-0.029	0.095
Assets	0	0.000***
EBITDA	0	0.000***
R&D expenses	0	0.000*
EBITDA Growth	0.042	0.027
Size	-0.43	0.032***
Constant	8.204	0.734***
Adj-R^2	0.313	
N	1126	

The dummy variables for industries (Sic_2) and for countries (Country) are included but not displayed here. Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%. The full results can be found in appendix F

4.3 CSR domains in different companies

As mentioned before CSR variables could be biased. Therefore, the same model as before is applied on groups based on either size, EBITDA or revenues. The dataset is split in three groups namely small, medium and large. The small group consist of the 25% and below percentiles, the medium group of the 25 to 75% percentiles and the large group of the 75% and above percentiles. So, these groups are not small, medium or large in absolute terms but relative to each other. Looking at the three size groups in table 4 gives some deeper insight on where the differences are. There are numerous variables that give omitted standard errors. This is due to the size of the coefficients, these coefficients are not truly zero but are very small. Standard errors are therefore then omitted. In general, all three groups give similar results, although there are some distinct differences.

4.3.1 Size

In general, larger firms have higher R&D expenses and EBITDA. However, the Tobin's q decreases when companies are larger. This is predominantly due to the maturity of bigger firms, that have fewer growth opportunities. Translating in lower intangible value and thereby a lower Tobin's q. This also (partly) explains the higher adjusted R^2 for larger firms. Moreover, Lie and Lie (2002) also noted that more mature firms generally have less intangible value and are more consistent (e.g. earnings) than immature companies and therefore have better estimations.. In comparison to the medium and large firms, small firms show a larger and significant relation (-1.229) between environmental concerns and the value of a firm. Also, Corporate Governance concerns seem to be valued more heavily (-0.532) in small firms than in medium and large firms. On top of that for small firm's product concerns shows a significant positive relation (-0.623) with firm value in comparison with medium and large firms. These results indicate that these variables and the factors that they exist out of are deemed as key factors to the value and quite possibly the future of a firm. Medium firms only differ with small and large firms in the relation between human rights strengths and firm value (1.768). Large firms differ with small and medium firms through a negative and significant relation (0.504) between employee relation concerns and firm value. This is quite a surprising result since this indicates that more concerns yield in a higher value. This again could be due to factors that employee relation concern is proxying for.

4.3.2 EBITDA

In general firms with a higher EBITDA have higher R&D expenses and more assets. However, as before the Tobin's q decrease when companies have a higher EBITDA. This is also the case for the EBITDA growth variable, with the biggest difference between medium and large EBITDA firms. Following small firms, small EBITDA firms also have a positive relation (-0.791) between Corporate Governance concerns and firm value. However small EBITDA firms also have a significant positive (0.314) relation between Diversity strengths and firm value, whereas medium and large EBITDA firms do not. Small EBITDA firms show a surprising significant negative relation (-1.297) with human rights strengths. Especially in comparison with medium and large EBITDA firms which show an insignificant relation. Compared to small and large EBITDA firms, medium firms have a significant relation between community strengths & concerns (0.473 and 0.600) and firm value. Implying that more (positive) community engagement is positively valued and more (negative) community impact is also valued positively. This could be due to investors valuing the costs of CSR dealing with these concerns higher than the benefits the firm would gain. Large EBITDA firms on the other hand have a positive significant relation (-0.522) with environment concerns and with corporate governance strengths (0.372). Also, employee relations concerns are significant for large EBITDA firms (0.380) and borderline insignificant for small EBITDA firms (0.608).

4.3.3 Revenue

In general firms with a higher revenue have higher R&D expenses and more assets. However, as before the Tobin's q decrease when companies have a higher revenue. This is also the case for the EBITDA growth variable, with the biggest difference between small and medium revenue firms. Small revenue firms have a large positive significant relation with environment concerns (-2.048), corporate governance concerns (-0.948) and a negative significant relation with human rights strengths (-1.259). medium revenue firms only have a significant relation with human rights concerns (-0.675). All other variables are insignificant for medium revenue firms. Large revenue firms only have a positive significant relation (-0.505) with environment concerns and a negative significant relation (0.352) with employee relation concerns. This further indicates that employee relation concerns are more important for more mature firms than immature firms.

These results indicate that the influence of CSR on firm value is specific to firm characteristics. Employee relation concerns shows a significant influence in all three large groups, indicating that this type of CSR is of significant influence for more mature firms. Corporate governance concerns on the other hand show a significant relation in all three small groups. This indicates that for young immature firms corporate governance concerns are more important than for older mature firms. Environment concerns are spread out over the three different kind of groups, indicating that this aspect is not more important for a specific kind of firm. Other results show that domains like community, human rights and product only show significant relations in some groups, indicating that firm characteristics are not the predominantly cause of those relationships but rather in what industry or region a firm operates.

Table 4 Differences in influences of CSR on Tobin's q

	Small		Medium		Large	
Measure	Coef.	Robust Std. Err.	Coef.	Robust Std. Err.	Coef.	Robust Std. Err.
Size						
Environment_str	-0.118	0.204	0.067	0.056	0.046	0.081
Environment_con	-1.229	0.562**	-0.136	0.290	-0.232	0.263
Community_str	0.000	(omitted)	0.127	0.189	0.045	0.360
Community_con	0.000	(omitted)	0.480	0.355	-0.186	0.329
Governance_str	0.323	0.380	0.036	0.146	0.277	0.172
Governance_con	-0.532	0.213**	0.012	0.212	-0.185	0.158
Diversity_str	0.192	0.139	0.052	0.119	0.071	0.134
Diversity_con	0.137	0.133	0.030	0.120	0.001	0.199
Employee_str	-0.030	0.158	0.031	0.058	0.044	0.064
Employee_con	1.032	0.665	-0.268	0.153*	0.504	0.136***
Human_str	-0.833	0.693	1.768	0.408***	0.447	0.388
Human_con	-0.317	0.214	-0.281	0.469	-0.182	0.387
Product_str	0.286	0.213	0.056	0.141	-0.086	0.149
Product_con	-0.623	0.251**	0.119	0.198	-0.040	0.118
Adj-R^2		*0.268*		*0.400*		*0.473*
N		*424*		*512*		*190*
EBITDA						
Environment_str	-0.147	0.227	-0.048	0.061	0.061	0.059
Environment_con	0.000	(omitted)	-0.525	0.385	-0.522	0.243**
Community_str	0.000	(omitted)	0.473	0.212**	0.024	0.341
Community_con	0.000	(omitted)	0.600	0.129***	0.128	0.346
Governance_str	0.289	0.302	0.065	0.152	0.372	0.150**
Governance_con	-0.791	0.404**	0.348	0.289	-0.011	0.146
Diversity_str	0.314	0.140**	0.015	0.102	0.026	0.134
Diversity_con	0.170	0.140	0.109	0.118	-0.357	0.209*

Employee_str	0.149	0.158	0.087	0.077	0.034	0.052
Employee_con	0.608	0.351*	-0.014	0.266	0.380	0.141***
Human_str	-1.297	0.413***	-0.528	0.345	0.229	0.293
Human_con	0.000	(omitted)	-0.339	0.454	-0.097	0.316
Product_str	0.215	0.203	0.235	0.159	-0.091	0.124
Product_con	-0.527	0.400	0.184	0.252	-0.041	0.115
Adj-R^2		*0.330*		*0.491*		*0.397*
N		*376*		*483*		*269*
Revenue						
Environment_str	-0.045	0.358	0.060	0.074	0.085	0.060
Environment_con	-2.048	0.407***	0.167	0.134	-0.505	0.226**
Community_str	0.000	(omitted)	0.176	0.291	-0.082	0.297
Community_con	0.000	(omitted)	-0.079	0.658	0.602	0.460
Governance_str	0.375	0.345	0.073	0.156	0.218	0.151
Governance_con	-0.948	0.328***	-0.169	0.234	-0.065	0.155
Diversity_str	0.158	0.146	0.096	0.124	0.024	0.144
Diversity_con	0.224	0.162	-0.023	0.112	-0.056	0.211
Employee_str	0.043	0.178	0.036	0.080	0.025	0.053
Employee_con	0.000	(omitted)	0.069	0.342	0.352	0.141**
Human_str	-1.259	0.466***	-0.047	0.322	0.134	0.252
Human_con	0.000	(omitted)	-0.675	0.246***	-0.330	0.241
Product_str	0.298	0.233	0.261	0.169	-0.036	0.132
Product_con	-0.258	0.295	-0.134	0.192	-0.026	0.119
Adj-R^2		*0.248*		*0.332*		*0.280*
N		*314*		*516*		*296*

The control variables: assets, EBITDA, EBITDA growth, R&D expenses, Size, and the dummy variables for industries (Sic_2) and for countries (Country) are included but not displayed here. Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%. The full results can be found in appendix G

4.4 Firm or industry specific CSR

Although the differentiating in firm characteristics gives some insight in what CSR domains are valued. It also gives some intuitively contradicting relations. Especially the positive signs combined with concern variables gives a need for more in-depth research. It is therefore important to know what type of CSR is valued the most, the firm/industry (specific) or the country/world-wide (general) CSR. In order to gain that insight new CSR groups are made. The process is similar as for the previous strength and concern variables per CSR domain. Only this time factors (individual underlying variables) that are available for every company are included separately into the model. For example, the environment strength group consist of industry/firm specific variables as well as a country/world-wide variable (env_str_d). In this new method these country/world-wide variables (like env_str_d) will be taken out of previous groups and included separately in the model. This results in two different kind of variables that are of interest. Namely the specific grouped variables (still listed in either strengths or concerns) and the general (country/ world-wide) variables.

Table 5 shows some interesting insights. Surprisingly, environment strength factors are not significant anymore. This is due to excluding carbon emissions (env_str_d) from the strength group and including this variable separately. Although the carbon emission variable is not significant at 5% (it is significant at 10%), it does point in the direction that this factor is valued most important by the market. Applying the same model to companies that have a missing value for R&D expenses gives a borderline significant relation between carbon emissions and firm value. Moreover, these results also imply that firms with more than one environment strength are valued higher than those who do not, since earlier results (the groups containing all variables per domain) did find a significant relation. This therefore indicates that a mix of CSR strategies that are complementary to each other generate value. This is in line with the earlier presented conclusions of Cavaco & Crifo (2014). Furthermore, toxic emissions & waste (env_con_d) and supply chain management (env_con_j) both show a significant positive relation with firm value. Energy & climate change (env_con_f) and biodiversity & land use (env_con_h) both have an insignificant relation with firm value. This indicates that the significant relation found earlier with environment concerns was mainly due to toxic emissions & waste and supply chain management.

As found before community strengths and concerns still have an insignificant relation with firm value on average. Also, corporate governance strengths remain insignificant. Governance structure concerns (cgov_con_k) shows a large positive significant relation with firm value. Bribery & fraud (cgov_con_m) and other concerns (cgov_con_x) both show insignificant relations. This again indicates that the previous found significant relation with corporate governance concerns is mainly driven by governance structure concerns. This special interest in governance structures by the market could be due to other factors that this variable is proxying for. Bad governance structures could be proxying for indecisiveness or inefficiency by management. Thereby not acting in the interest of shareholders (again in the most classical view of interest: maximum profits). This would also explain the insignificance of

governance strengths. Shareholders expect those strengths to be present and are therefore not valuing those strengths separately.

These results also indicate that industry/firm specific factors (div_sp_str) are predominantly the reason behind the earlier found significant relation with diversity strengths. Since adding board of directors' gender diversity strengths (div_str_c) separately to the model gives an insignificant result. The significant result found earlier is therefore either due to industry/firm specific factors or due to complementary CSR programs. Diversity concerns on the other hand remain insignificant.

Employee relations also shows a significant relation with firm value due to industry/firm specific factors. Earlier results found a positive significant relation with employee relation concerns. Surprisingly, no variable is now significant, although labor management relations (emp_con_h) is almost significant. This could be the result of the effect of having more than one employee relation concern. This further indicates the importance of complementary CSR strategies, as is also the case with environment strengths. Applying the same model to companies with a missing value for R&D expenses results in a significant relation with child labor (emp_con_g) and labor management relations (emp_con_h). This indicates that in general both factors are valued by the market. Moreover, these results therefore also indicate that having more than one employee relations concern (like environment strengths) is the reason behind those earlier results.

Like before Human rights, both strengths and concerns, still have an insignificant relation with firm value. Neither industry/firms specific nor country/world-wide factors have a different influence.

Lastly, earlier results showed that product strengths and concerns have on average an insignificant relation. Although it already showed a significant relation with product concerns for small firms. This seems to be due to marketing & advertising concerns (pro_con_d) which shows a significant relation. Other factors like workforce diversity (pro_con_a), anticompetitive practices (pro_con_e) and customer relations (pro_con_f) have an insignificant relation with firm value.

Table 5 Detailed influence of CSR domains on Tobin's q

Tobin's q	Coef.	Robust Std. Err.
Environment_sp_str	0.042	0.055
env_str_d	0.211	0.125*
env_con_d	-0.545	0.197***
env_con_f	-0.535	0.636
env_con_h	-0.484	0.495
env_con_j	-0.847	0.397**
Community_sp_str	0.382	0.234
com_con_b	0.399	0.412
governance_sp_str	0.157	0.119
cgov_con_k	-1.614	0.697**
cgov_con_m	-0.267	0.136*
cgov_con_x	-0.136	0.325
Diversity_sp_str	0.242	0.102**
div_str_c	0.02	0.116
div_con_a	0.436	0.444
div_con_c	-0.02	0.09
employee_sp_str	0.101	0.044**
emp_con_a	0.158	0.268
emp_con_b	-0.137	0.204
emp_con_f	0.333	0.263
emp_con_g	0.498	0.465
emp_con_h	0.494	0.255*
Human_sp_str	0.333	0.289**
hum_con_j	-0.385	0.402
hum_con_k	-0.136	0.249
Product_sp_str	0.103	0.098
pro_con_a	0.111	0.174
pro_con_d	-0.641	0.228***
pro_con_e	0.341	0.258
pro_con_f	-0.327	0.315
pro_con_x	0.538	0.558
Constant	7.827	0.611***
Adj-R^2	0.312	
N	1120	

The control variables: assets, EBITDA, EBITDA growth, R&D expenses, Size, and the dummy variables for industries (Sic_2) and for countries (Country) are included but not displayed here. Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%. The full results can be found in appendix H

4.5 CSR in the US vs. Non-US countries

Next, country/regional differences will be considered. What is viewed as a societal problem in the Netherlands is not necessarily a societal problem in the US. As advocated before CSR is there to help solve those societal problems. Since MSCI mainly covers US companies (in the model 96.2% is from the US) there is only an ability to distinguish between US and Non-US companies. Therefore, the same model as in table 5 is used but is now also including interaction effects between the US variable and CSR variables (see table 6).

As before toxic emissions & waste (env_con_d) and supply chain management (env_con_j) remain significant. However, biodiversity & land use (env_con_h) now also shows a significant positive relation with firm value. The environment interaction effects further indicate that there is no difference in value of environment CSR between US and non-US firms.

In comparison with the previous model community impact concerns (com_con_b) is now significant. Moreover, the interaction effect of community specific strengths is also positively significant. This means that US firms with a strength in community have on average a higher Tobin's q by 1.338 than non-US companies. The interaction effect of community impact concerns, however, is insignificant. It therefore seems as is community impact concerns is also proxying for something else. Especially the positive coefficient leads to intuitively contradicting implications.

In the corporate governance domain, the most important differences are the insignificance of governance structure (cgov_con_k) and the significance of other governance concerns (cgov_con_x) as compared with the previous model. The corporate governance interaction effects further indicate that there is no difference in value of corporate governance CSR between US and non-US firms.

Diversity variables did not change in significance. The diversity interaction effects further indicate that there is no difference in value of diversity CSR between US and non-US firms.

The employee relations variables show similar relations as before. There are however some interesting nuances noticeable. Firstly, labor management relations (emp_con_g) now shows a significant relation with firm value. What did not change is the significant relation between industry/firm specific employee relation strengths (employee_sp_str) and firm value. However, there is a large sign change, from +0.101 to -3.040. The reason for this major difference is due to interaction effects. For non-US firms value increases progressively when a firm has more employee relation strengths. US companies on the other hand are punished for not having any employee strengths (about -26). However, this negative influence diminishes with every strength they gain. This is shown by the interaction effect that slowly goes from -22.540 towards -5.454. This indicates that in non-US countries strengths are viewed as something extra to distinguish yourself. In the US having employee relation strengths is viewed as almost a necessity where firms are punished for not having enough strengths.

Table 6 Detailed influence of CSR domains including interaction effects on Tobin's q

CSR variables			Interaction effects		
Tobin's q	Coef.	Robust Std. Err.		Coef.	Robust Std. Err.
Environment_sp_str	-0.306	0.585	US#environment_sp_str		
env_str_d	0.219	0.128*	0 1	0.960	0.677
env_con_d	-0.627	0.224***	0 2	1.193	1.230
env_con_f	-1.178	0.746	0 3	1.540	1.914
env_con_h	-0.765	0.399**	1 0	-1.662	2.403
env_con_j	-1.081	0.354***	1 1	-1.263	1.827
			1 2	-1.036	1.241
			1 3	-0.658	0.710
			US#env_str_d		
			0 1	-0.396	0.619
			US#env_con_d		
			0 1	1.113	1.474
Community_sp_str	0.398	0.265	US#community_sp_str		
com_con_b	0.749	0.383**	0 1	1.338	0.432***
			US#com_con_b		
governance_sp_str	0.164	0.128	0 1	0.180	0.693
cgov_con_k	-0.611	0.396	US#governance_sp_str		
cgov_con_m	-0.250	0.142*	0 1	0.419	0.464
cgov_con_x	-0.877	0.415**	US#cgov_con_m		
			0 1	0.068	0.514
Diversity_sp_str	0.278	0.105***	US#diversity_sp_str		
div_str_c	-0.010	0.117	0 1	0.480	0.477
div_con_a	0.657	0.529	US#div_str_c		
div_con_c	-0.012	0.093	0 1	0.840	0.567
			US#div_con_a		
			0 1	-1.545	0.932*

			US#div_con_c			
				0 1	-0.477	0.524
employee_sp_str	-3.040	1.146***	US#employee_sp_str			
emp_con_a	0.132	0.269		0 1	3.599	1.229***
emp_con_b	-0.178	0.236		0 2	5.769	2.382**
emp_con_f	0.286	0.254		0 3	8.745	3.461***
emp_con_g	0.836	0.368**		0 5	16.526	5.846***
emp_con_h	0.490	0.268*		1 0	-22.540	8.840***
				1 1	-19.344	7.698**
				1 2	-15.932	6.558**
				1 3	-13.038	5.421**
				1 4	-10.087	4.297**
				1 5	-7.090	3.170**
				1 6	-5.454	2.068***
			US#emp_con_h			
				0 1	-0.565	0.630
Human_sp_str	1.281	0.777*	US#Human_sp_str			
hum_con_j	-0.568	0.590		1 0	1.132	0.898
hum_con_k	-0.025	0.274	US#product_sp_str			
				0 1	-0.353	0.417
Product_sp_str	-0.402	0.353		1 0	-0.588	0.389
pro_con_a	0.179	0.177	US#pro_con_a			
pro_con_d	-0.609	0.242**		0 1	0.070	0.649
pro_con_e	0.608	0.287**	US#pro_con_d			
pro_con_f	-0.465	0.372		0 1	0.971	0.576*
pro_con_x	0.182	0.460	US#pro_con_e			
				0 1	-2.582	0.851***
Adj-R^2	0.314					
N	1120					

Variables that include: _sp_ are the grouped firm/industry specific CSR variables. The control variables: assets, EBITDA, EBITDA growth, R&D expenses, Size and the dummy variables for industries (Sic_2) and for countries (Country) are included but not displayed here. This also applies to omitted interaction effects. Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%. The full results can be found in appendix I

The human rights domain remains insignificant and the interaction affects are also not significant. Although these variables are not significant, they still give important information. Freedom of expression & censorship (hum_con_j) and human right violations (hum_con_k) concerns as well as indigenous people's relations strength (hum_str_d) are for example not significantly valued by the market. This could be due to not enough firms that have those concerns (which is predominantly the case for both concern variables), or investors that value the costs of CSR dealing with these concerns higher than the benefits the firm would gain. However, this relation could also be due to cultural patterns (relating to the indigenous people's relations strength). There are enough observations for the indigenous people's relations strength variable. This result therefore indicates that markets are indifferent in whether a company has good relations with indigenous people. This could indicate that investors assign limited/no value to the relations of indigenous people. Unfortunately, the dataset is not diversified enough to see if this relation between indigenous people's relations and firm value changes by country/region. Therefore, no interaction effect is available for this factor.

In comparison to the previous model the anticompetitive practices variable (pro_con_e) now also shows a significant relation with firm value. There is a significant interaction effect for anticompetitive practices (pro_con_e). This interaction effect shows that non-US firms having this concern are valued far less than their US counterparts, -2.582 for anticompetitive practices. This indicates that this concern is valued more seriously in non-US countries as compared to US companies.

Chapter V: Conclusion

The results indicate that the relation between CSR and financial performance depends on firm specific characteristics (in size, EBTIDA and revenue), what other CSR programs a firm has (complementary strategies) and in what country the firm operates (in the US or non-US). The first hypothesis, *there is a positive relation between CSR and financial performance*, cannot be accepted as each CSR domain gives at least one positive but also a negative or neutral relation with financial performance, either on an aggregate level or depending on firm characteristics. This research further supports earlier studies by Konar and Cohen (2001), Waddock and Graves (1997), and Cellier & Chollet (2012) who found that there is a positive relation between CSR and firm value. However, for some firms these relations turn into neutral or negative relations, again either on an aggregate level or depending on firm characteristics. These results are more in line with earlier relations found by McWilliams and Siegel (2000), and Marsat and Williams (2011). These results therefore indicate that firms with different characteristics require different CSR strategies.

This is further supported by what type of CSR is of greatest influence on firm value. Whaba (2008); Konar and Cohen (2001); Ba et al (2012) all found a positive relation with environmental CSR. Combining this with increasing pressure from society to revert global warming led to the second hypothesis: *Environmental CSR has the biggest impact on financial performance.* On an aggregate level (all companies) environmental CSR has indeed the biggest impact on financial performance. However, differentiating between firms already gives different results. Environmental CSR only has the biggest impact in small (size) and large EBITDA & revenue firms. Human rights has the biggest impact for medium (size), and small EBITDA & revenue firms. Employee relations has the biggest impact for large (size) firms and community has the biggest impact for medium EBITDA firms. Both US and non-US firms show the biggest impact with employee relations. This is due to complementary CSR strategies in this domain. Having more than one strength is progressively valued for non-US companies. Whereas having no strengths for US companies results in a huge drop in value. This means that on an aggregate level and the type of firms mentioned before hypothesis two is accepted. For the other types of firms and differences in country hypothesis two is rejected.

However, these results do not explain the reason why these different relations exist. The third hypothesis therefore tries to give an answer to that: *the level of CSR differs per industry/firm due to a difference in the challenges faced by industries/firms.* The expectation was that levels of CSR programs by firms are dependent on the specific social problems they face. In this sample that indeed proved to be the case. In the environment, community, corporate governance, human rights and product domain no significant relation was found between industry/firm specific variables and financial performance. However, general (country/world-wide) variables did show significant relations in most categories. The diversity and employee relations domains, on the other hand, do show a significant relation between industry/firm specific variables and financial performance. In every domain (except human relations)

general variables show significant results. This further proves that markets mostly value country/world-wide societal problems. So, why are firms implementing CSR strategies that are not valued by the market? The insignificant relations show that implementing CSR strategies in those domains results in no extra value. Therefore, creating value cannot be the reason to implement these strategies. A potential explanation could be that firms are acting on behalf of stakeholders who lobby for different CSR programs per industry/firm.

More importantly these results indicate that firms are indeed finding a solution to the stakeholders' paradox as mentioned earlier. Firms are trying to find a way to both act in the interest of shareholders and in the interest of other stakeholders. Now that shareholders also value CSR programs, firms have no incentive to go back to the strategic stakeholder synthesis (that states that firms only act in the interest of shareholders, mostly profit maximization). The CSR programs that are valued by the market seem to follow the first vision of CSR (*"Win-Win")* as described by Bénabou and Tirole (2010). Markets seem to value the potential that certain CSR programs offer with respect to long term profits. The CSR programs that are not valued by the market are seemingly following the second vision of CSR *(*"*Delegated Philanthropy*") that Bénabou and Tirole (2010) describe. As advocated before firms that implement CSR strategies that are not valued by markets are not doing them to create value. They implement those strategies since stakeholders' care for them. However, whether markets value CSR or not, these two visions on CSR are not exclusive to each other as advocated Bénabou and Tirole (2010). These found results merely indicate that valued CSR is more in line with the first vision and not valued CSR is more in line with the second vision. Therefore, this found mix of the two CSR visions further highlights that firms are finding a way to deal with the stakeholder paradox.

Chapter VI: Discussion

This research gives a more recent look at how markets valued CSR in 2016 but it does not give an idea how this concept is evolving. It would therefore be even more interesting to see how it changed over time. Often heard criticism is that, since methodologies of CSR variables are changing, an unbiased multi-year comparison is impossible. However, CSR in itself is ever changing; societal problems of today are not necessarily those of tomorrow. Moreover, as noted before markets are asking for ratings. Ratings in itself are always relative to each other. A change in methodology behind those CSR variables is therefore not a problem.

Another interesting topic for further research is to look more into individual countries. The MSCI data is not diversified enough (both in countries and companies within a country) to go beyond a comparison between US and non-US firms. It would, however, be interesting to see if CSR really changes in each country or if CSR changes along with continents.

Although relations in this research give a general understanding how markets value CSR, they do not give an explanation what exactly markets value. The environmental effect for example still leaves the question open why market give it a positive value. Do investors value it from a personal perspective (e.g. wanting less global warming) or is it from a business perspective (e.g. higher long-term profits)? This is also the case for results that were less expected. Such as the positive relation between employee relation concerns and firm value (which included factors like child labor). It is intuitively contradicting that investors value firms higher that use child labor than firms who do not. Is this relation then caused by uninformed investors about such concerns, or is this variable proxying for something else? These and many more questions are essential to know. In the end this is what CSR is really about, taking all sides of the story into account and finding the optimal path.

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Appendix A

Table 1 CSR variables descriptions

	Strengths		Concerns	
		description		*description*
Environment	env_str_a	environmental opportunities: clean tech	env_con_d	toxic emission and waste
	env_str_b	waste managment: toxic emissions and waste	env_con_f	energy and climate change
	env_str_c	waste managment: packaging material & waste	env_con_h	biodiversity and land use
	env_str_d	climate change: carbon emissions	env_con_i	operational waste
	env_str_g	environmental managment system: certified by iso 14001	env_con_j	supply chain managment
	env_str_h	natural resource use: water stress	env_con_k	water stress
	env_str_i	natural resource use: biodiversity & land use	env_con_x	environment: other concerns
	env_str_j	natural resource use: raw material sourcing		
	env_str_k	natural resource use: financing environmental impact		
	env_str_l	environmental opportunities: green buildings		
	env_str_m	environmental opportunities: renewable energy		
	env_str_n	waste managment: electronic waste		
	env_str_p	climate change: product carbon footprint		
	env_str_q	climate change: insuring climate change risk		
Community	com_str_h	community engagement	com_con_b	community impact
Human rights	hum_str_d	indigenous people's relations strength	hum_con_j	freedom of expression & censorship
	hum_str_x	human right policies & initiatives	hum_con_k	human right violations
			hum_con_x	human rights other concerns
employee relations	emp_str_a	union relations	emp_con_a	union relation concerns
	emp_str_c	cash profit sharing	emp_con_b	health & safety
	emp_str_d	employee involvement	emp_con_f	supply chain
	emp_str_g	employee health & safety	emp_con_g	child labor

	emp_str_h	supply chain labor standards	emp_con_h	labor management relations
	emp_str_l	human capital development	emp_con_x	labor rights & supply chain other concerns
	emp_str_m	labor management		
	emp_str_n	controversial sourcing		
	emp_str_x	human capital other strengths		
diversity	div_str_b	promotion	div_con_a	workforce diversity
	div_str_c	board of directors' gender diversity	div_con_c	board of directors' gender diversity
product	pro_str_a	product safety and quality	pro_con_a	product quality and safety
	pro_str_c	social opportunities access to healthcare	pro_con_d	marketing & advertising
	pro_str_d	social opportunities access to finance	pro_con_e	anticompetitive practices
	pro_str_e	social opportunities access to communication	pro_con_f	customer relations
	pro_str_f	Social Opportunities: Opportunities in Nutrition and Health		
	pro_str_g	Product Safety - Chemical Safety		
	pro_str_h	Product Safety - Financial Product		
	pro_str_i	Product Safety - Privacy and Data Security		
	pro_str_j	Product Safety - Responsible Investment		
	pro_str_k	Product Safety - Insuring Health and Demographic Risk		
corporate governance	cgov_str_g	corruption & political instability	cgov_con_k	governance structures
	cgov_str_h	financial system instability	cgov_con_l	controversial investments
			cgov_con_m	bribery & fraud
			cgov_con_x	governance other concerns
				direct or indirect connection with:
Controversial business involvement			alc_con_a	alcohol
			gam_con_a	gambling
			mil_con_a	military
			nuc_con_a	nuclear power
			tob_con_a	tobacco
			fir_con_a	firearms

Appendix B

Table 2 Descriptive statistics of untransformed variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
env_str_a	642	0.117	0.321	0	1
env_str_b	1,875	0.050	0.217	0	1
env_str_c	34	0.353	0.485	0	1
env_str_d	2,265	0.107	0.309	0	1
env_con_d	2,283	0.012	0.108	0	1
env_con_x	2,283	0.000	0.000	0	0
com_con_b	2,283	0.013	0.112	0	1
emp_str_a	614	0.129	0.335	0	1
emp_str_c	742	0.398	0.490	0	1
emp_str_d	1,608	0.142	0.350	0	1
emp_str_x	465	0.473	0.500	0	1
emp_con_a	2,283	0.009	0.093	0	1
emp_con_b	2,283	0.010	0.098	0	1
emp_con_x	2,283	0.000	0.000	0	0
div_str_b	462	0.807	0.395	0	1
div_str_c	2,282	0.085	0.278	0	1
div_con_a	2,283	0.005	0.069	0	1
pro_str_a	672	0.196	0.398	0	1
pro_str_c	222	0.059	0.235	0	1
pro_con_a	2,283	0.035	0.185	0	1
pro_con_d	2,283	0.009	0.093	0	1
pro_con_e	2,283	0.022	0.148	0	1
pro_con_x	2,283	0.001	0.030	0	1
alc_con_a	2,283	0.053	0.225	0	1
gam_con_a	2,283	0.015	0.121	0	1
mil_con_a	2,283	0.034	0.182	0	1
nuc_con_a	2,283	0.014	0.119	0	1
tob_con_a	2,283	0.023	0.151	0	1
cgov_con_x	2,283	0.000	0.021	0	1
hum_str_x	257	0.121	0.326	0	1
hum_con_x	2,283	0.000	0.000	0	0
fir_con_a	2,283	0.004	0.063	0	1
env_con_f	2,283	0.001	0.030	0	1
hum_str_d	164	0.335	0.474	0	1
emp_str_g	1,804	0.046	0.210	0	1
env_str_g	1,006	0.333	0.472	0	1
env_con_h	2,283	0.003	0.051	0	1
env_con_i	2,283	0.000	0.000	0	0
com_str_h	197	0.274	0.447	0	1
emp_str_h	175	0.246	0.432	0	1
emp_con_f	2,283	0.014	0.119	0	1
div_con_c	2,283	0.207	0.405	0	1
pro_str_d	266	0.026	0.160	0	1
cgov_con_k	2,283	0.002	0.047	0	1

env_str_h	1,804	0.043	0.203	0	1
env_str_i	173	0.075	0.264	0	1
env_str_j	244	0.287	0.453	0	1
env_con_j	2,283	0.006	0.075	0	1
env_con_k	2,283	0.000	0.021	0	1
hum_con_j	2,283	0.001	0.036	0	1
hum_con_k	2,283	0.004	0.059	0	1
emp_str_l	1,196	0.113	0.317	0	1
emp_con_g	2,283	0.007	0.083	0	1
pro_con_f	2,283	0.018	0.131	0	1
cgov_str_g	699	0.200	0.401	0	1
cgov_str_h	250	0.452	0.499	0	1
cgov_con_l	2,283	0.000	0.000	0	0
cgov_con_m	2,283	0.044	0.206	0	1
env_str_k	239	0.025	0.157	0	1
env_str_l	192	0.188	0.391	0	1
env_str_m	52	0.288	0.457	0	1
env_str_n	45	0.067	0.252	0	1
env_str_p	228	0.092	0.290	0	1
env_str_q	84	0.440	0.499	0	1
emp_str_m	1,418	0.161	0.368	0	1
emp_str_n	157	0.369	0.484	0	1
emp_con_h	2,283	0.017	0.130	0	1
pro_str_e	32	0.094	0.296	0	1
pro_str_f	120	0.192	0.395	0	1
pro_str_g	279	0.061	0.240	0	1
pro_str_h	222	0.477	0.501	0	1
pro_str_i	791	0.107	0.310	0	1
pro_str_j	158	0.082	0.276	0	1
pro_str_k	45	0.044	0.208	0	1
R&D expenses	1,281	262.043	1,130.463	0	16,085
EBITDA 2014	2,113	1,153.89	3,884.947	-8,218.5	60,449
EBITDA 2015	2,127	1,087.945	4,051.647	-21,913	81,730
EBITDA 2016	2,115	1,142.037	3,827.384	-2,349	69,276
EBITDA growth	2,089	-0.181	7.023	-233.879	51.389
Total Revenue	2,264	5,899.839	19,435.37	0	482,154
Assets	2,265	17,475.42	101,367.2	0.8	2,490,972
Common Stock BV	2,256	175.496	1,083.827	0	22,614
Common Stock MV	2,103	10,555.49	34,620.64	54.532	603,253.6
Tobin’s q	2,096	2.793	13.635	0.020	622.495

Appendix C

Table 3 Correlation table of used variables

	Tobin's q	Environment_str	Environment_con	Community_str	Community_con	Governance_str	Governance_con	Diversity_str	Diversity_con	Employee_str	Employee_con	Human_str	Human_con	Product_str	Product_con	Assets	EBITDA	R&D expenses	EBITDA Growth	Size	Country	Sic_2	US
Tobin's q	1																						
Environment_str	-0.005	1																					
Environment_con	-0.044**	0.277***	1																				
Community_str	-0.041*	0.175***	0.195***	1																			
Community_con	-0.036	0.150***	0.333***	0.204***	1																		
Governance_str	-0.122***	0.116***	0.016	0.075***	0.028	1																	
Governance_con	-0.054**	0.301***	0.160***	0.108***	0.109***	0.172***	1																
Diversity_str	0.155***	0.102***	0.070***	-0.004	0.020	0.017	0.111***	1															
Diversity_con	0.046**	-0.169***	-0.048**	-0.051**	-0.049**	-0.057***	-0.061***	-0.113***	1														
Employee_str	-0.005	0.502***	0.182***	0.111***	0.079***	0.116***	0.279***	0.243***	-0.141***	1													
Employee_con	0.011	0.305***	0.349***	0.092***	0.088***	0.020	0.155***	0.037*	-0.055**	0.170***	1												
Human_str	-0.053**	0.087***	0.110***	0.406***	0.150***	0.205***	0.059***	-0.049**	-0.024	0.026	0.098***	1											
Human_con	-0.026	0.063***	0.073***	0.075***	0.050**	0.059***	0.074***	0.032	0.010	0.074***	0.094***	0.165***	1										
Product_str	-0.020	0.163***	0.035**	0.004	-0.028	0.117***	0.161***	0.114***	-0.109***	0.249***	0.079***	-0.053**	0.002	1									
Product_con	-0.026	0.272***	0.178***	0.005	0.128***	0.108***	0.338***	0.058***	-0.097***	0.254***	0.177***	-0.001	0.038*	0.158***	1								
Assets	-0.178***	0.411***	0.257***	0.132***	0.188***	0.280***	0.457***	0.177***	-0.142***	0.448***	0.257***	0.110***	0.116***	0.250***	0.405***	1							
EBITDA	-0.058***	0.550***	0.288***	0.134***	0.205***	0.178***	0.491***	0.148***	-0.157***	0.541***	0.341***	0.083***	0.110***	0.256***	0.493***	0.826***	1						
R&D expenses	0.031	0.424***	0.144***	0.055*	0.113***	0.227***	0.456***	0.148***	-0.115***	0.547***	0.168***	0.142***	0.115***	0.327***	0.447***	0.721***	0.784***	1					
EBITDA Growth	0.042*	-0.002	0.017	0.050**	-0.037	-0.044*	-0.038*	0.030	-0.026	0.015	0.026	0.061***	0.024	0.020	-0.003	0.004	-0.002	-0.002	1				
Size	-0.455***	0.452***	0.222***	0.191***	0.173***	0.281***	0.333***	0.039*	-0.254***	0.462***	0.232***	0.129***	0.073***	0.261***	0.327***	0.668***	0.644***	0.478***	-0.018	1			
Country	0.035	-0.056**	0.011	0.012	-0.002	-0.031	-0.033	-0.023	0.000	-0.013	0.015	-0.043*	-0.035	0.032	-0.070***	-0.011	-0.004	-0.034	0.029	-0.071***	1		
Sic_2	-0.107***	-0.207***	-0.095***	-0.172***	-0.053**	-0.032	0.022	0.017	-0.037*	0.042*	-0.061***	-0.215***	-0.015	0.079***	-0.062***	0.045**	0.001	-0.039	-0.028	0.077***	0.056**	1	
US	0.040	-0.048**	0.012	0.013	-0.001	-0.023	-0.039*	-0.018	0.001	-0.011	0.022	-0.047**	-0.022	0.011	-0.076***	-0.010	-0.005	-0.043	0.035	-0.068***	0.917***	0.055**	1

All listed variables are winsorized if needed or transformed. *. Pearson correlation is significant at the 0.05 level, **. Pearson correlation is significant at the 0.01 level, ***. Pearson correlation is significant at the 0.001 level

Appendix D

Table 4 Descriptive statistics of CSR groups

Variable	Obs.	Mean	Std. Dev.	Min	Max
Environment_str	2,283	0.454	0.933	0	6
Environment_con	2,283	0.021	0.151	0	2
Community_str	2,283	0.024	0.152	0	1
Community_con	2,283	0.013	0.112	0	1
Governance_str	2,283	0.111	0.315	0	2
Governance_con	2,283	0.047	0.218	0	2
Diversity_str	2,283	0.248	0.463	0	2
Diversity_con	2,283	0.212	0.409	0	1
Employee_str	2,283	0.601	1.049	0	8
Employee_con	2,283	0.057	0.294	0	3
Human_str	2,283	0.038	0.218	0	2
Human_con	2,283	0.005	0.069	0	1
Product_str	2,283	0.176	0.406	0	3
Product_con	2,283	0.085	0.345	0	4

Appendix E

Table 5 Influence of control variables on Tobin's q

Tobin's q	Coef.	Robust Std. Err.
Assets	0.000	0.000***
EBITDA	0.000	0.000***
R&D expenses	0.000	0.000**
EBITDA Growth	0.054	0.028*
Size	-0.379	0.030***
alc_con_a	0.224	0.202
gam_con_a	0.048	0.293
mil_con_a	-0.265	0.120***
nuc_con_a	0.259	0.234
tob_con_a	-0.034	0.194
fir_con_a	0.008	0.226
Country dummies	YES	
Industry dummies	YES	
Constant	7.764	0.522***
Adj-R^2	0.295	
N	1126	

Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%.

Appendix F

Table 6 Influence of CSR domains on Tobin's q

Tobin's q	Coef.	Robust Std. Err.
Environment_str	0.084	0.042**
Environment_con	-0.502	0.175***
Community_str	0.212	0.262
Community_con	0.533	0.307*
Governance_str	0.14	0.114
Governance_con	-0.265	0.131**
Diversity_str	0.178	0.076**
Diversity_con	0.004	0.086
Employee_str	0.097	0.043**
Employee_con	0.32	0.115***
Human_str	0.246	0.216
Human_con	-0.225	0.219
Product_str	0.085	0.097
Product_con	-0.029	0.095
Assets	0	0.000***
EBITDA	0	0.000***
R&D expenses	0	0.000*
EBITDA Growth	0.042	0.027
Size	-0.43	0.032***
Country dummies	YES	
Industry dummies	YES	
Constant	8.204	0.734***
Adj-R^2	0.313	
N	1126	

Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%.

Appendix G

Table 7 Differences in influences of CSR on Tobin's q

Size	**Small**			**Medium**			**Large**	
Measure	Coef.	Robust Std. Err.		Coef.	Robust Std. Err.		Coef.	Robust Std. Err.
Environment_str	-0.118	0.204	Environment_str	0.067	0.056	Environment_str	0.046	0.081
Environment_con	-1.229	0.562**	Environment_con	-0.136	0.290	Environment_con	-0.232	0.263
Community_str	0.000	(omitted)	Community_str	0.127	0.189	Community_str	0.045	0.360
Community_con	0.000	(omitted)	Community_con	0.480	0.355	Community_con	-0.186	0.329
Governance_str	0.323	0.380	Governance_str	0.036	0.146	Governance_str	0.277	0.172
Governance_con	-0.532	0.213**	Governance_con	0.012	0.212	Governance_con	-0.185	0.158
Diversity_str	0.192	0.139	Diversity_str	0.052	0.119	Diversity_str	0.071	0.134
Diversity_con	0.137	0.133	Diversity_con	0.030	0.120	Diversity_con	0.001	0.199
Employee_str	-0.030	0.158	Employee_str	0.031	0.058	Employee_str	0.044	0.064
Employee_con	1.032	0.665	Employee_con	-0.268	0.153*	Employee_con	0.504	0.136***
Human_str	-0.833	0.693	Human_str	1.768	0.408***	Human_str	0.447	0.388
Human_con	-0.317	0.214	Human_con	-0.281	0.469	Human_con	-0.182	0.387
Product_str	0.286	0.213	Product_str	0.056	0.141	Product_str	-0.086	0.149
Product_con	-0.623	0.251**	Product_con	0.119	0.198	Product_con	-0.040	0.118
Assets	0.001	0.001	Assets	0.000	0.000***	Assets	0.000	0.000***
EBITDA	0.003	0.001**	EBITDA	0.002	0.000***	EBITDA	0.000	0.000***
EBITDA Growth	0.009	0.042	EBITDA Growth	0.095	0.026***	EBITDA Growth	0.541	0.248**
R&D expenses	0.008	0.002***	R&D expenses	0.002	0.000***	R&D expenses	0.000	0.000**
Size	-1.064	0.216***	Size	-0.043	0.269	Size	-0.341	0.171**
Country dummies	YES		Country dummies	YES		Country dummies	YES	
Industry dummies	YES		Industry dummies	YES		Industry dummies	YES	
Constant	9.333	1.134***	Constant	5.256	1.896***	Constant	6.654	1.643***
Adj-R^2		*0.268*	*Adj-R^2*		*0.400*	*Adj-R^2*		*0.473*
N		*424*	*N*		*512*	*N*		*190*

Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%.

Table 8 Difference in influences of CSR on Tobin's q

EBITDA	**Small**			**Medium**			**Large**	
Measure	Coef.	Robust Std. Err.		Coef.	Robust Std. Err.		Coef.	Robust Std. Err.
Environment_str	-0.147	0.227	Environment_str	-0.048	0.061	Environment_str	0.061	0.059
Environment_con	0.000	(omitted)	Environment_con	-0.525	0.385	Environment_con	-0.522	0.243**
Community_str	0.000	(omitted)	Community_str	0.473	0.212**	Community_str	0.024	0.341
Community_con	0.000	(omitted)	Community_con	0.600	0.129***	Community_con	0.128	0.346
Governance_str	0.289	0.302	Governance_str	0.065	0.152	Governance_str	0.372	0.150**
Governance_con	-0.791	0.404**	Governance_con	0.348	0.289	Governance_con	-0.011	0.146
Diversity_str	0.314	0.140**	Diversity_str	0.015	0.102	Diversity_str	0.026	0.134
Diversity_con	0.170	0.140	Diversity_con	0.109	0.118	Diversity_con	-0.357	0.209*
Employee_str	0.149	0.158	Employee_str	0.087	0.077	Employee_str	0.034	0.052
Employee_con	0.608	0.351*	Employee_con	-0.014	0.266	Employee_con	0.380	0.141***
Human_str	-1.297	0.413***	Human_str	-0.528	0.345	Human_str	0.229	0.293
Human_con	0.000	(omitted)	Human_con	-0.339	0.454	Human_con	-0.097	0.316
Product_str	0.215	0.203	Product_str	0.235	0.159	Product_str	-0.091	0.124
Product_con	-0.527	0.400	Product_con	0.184	0.252	Product_con	-0.041	0.115
Assets	0.000	0.000	Assets	0.000	0.000	Assets	0.000	0.000***
EBITDA	-0.001	0.001	EBITDA	0.004	0.000***	EBITDA	0.000	0.000***
EBITDA Growth	0.012	0.032	EBITDA Growth	0.053	0.067	EBITDA Growth	0.281	0.313
R&D expenses	0.004	0.001***	R&D expenses	0.002	0.001***	R&D expenses	0.000	0.000*
Size	-0.811	0.129***	Size	-1.551	0.117***	Size	-0.752	0.118***
Country dummies	YES		Country dummies	YES		Country dummies	YES	
Industry dummies	YES		Industry dummies	YES		Industry dummies	YES	
Constant	11.738	1.098***	Constant	15.091	0.821***	Constant	10.325	1.175***
Adj-R^2		*0.330*	*Adj-R^2*		*0.491*	*Adj-R^2*		*0.397*
N		*376*	*N*		*483*	*N*		*269*

Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%.

Table 9 Difference in influences of CSR on Tobin's q

Revenue	**Small**			**Medium**			**Large**	
Measure	Coef.	Robust Std. Err.		Coef.	Robust Std. Err.		Coef.	Robust Std. Err.
Environment_str	-0.045	0.358	Environment_str	0.060	0.074	Environment_str	0.085	0.060
Environment_con	-2.048	0.407***	Environment_con	0.167	0.134	Environment_con	-0.505	0.226**
Community_str	0.000	(omitted)	Community_str	0.176	0.291	Community_str	-0.082	0.297
Community_con	0.000	(omitted)	Community_con	-0.079	0.658	Community_con	0.602	0.460
Governance_str	0.375	0.345	Governance_str	0.073	0.156	Governance_str	0.218	0.151
Governance_con	-0.948	0.328***	Governance_con	-0.169	0.234	Governance_con	-0.065	0.155
Diversity_str	0.158	0.146	Diversity_str	0.096	0.124	Diversity_str	0.024	0.144
Diversity_con	0.224	0.162	Diversity_con	-0.023	0.112	Diversity_con	-0.056	0.211
Employee_str	0.043	0.178	Employee_str	0.036	0.080	Employee_str	0.025	0.053
Employee_con	0.000	(omitted)	Employee_con	0.069	0.342	Employee_con	0.352	0.141**
Human_str	-1.259	0.466***	Human_str	-0.047	0.322	Human_str	0.134	0.252
Human_con	0.000	(omitted)	Human_con	-0.675	0.246***	Human_con	-0.330	0.241
Product_str	0.298	0.233	Product_str	0.261	0.169	Product_str	-0.036	0.132
Product_con	-0.258	0.295	Product_con	-0.134	0.192	Product_con	-0.026	0.119
Assets	0.000	0.000	Assets	0.000	0.000**	Assets	0.000	0.000***
EBITDA	0.001	0.001	EBITDA	0.002	0.000***	EBITDA	0.000	0.000***
EBITDA Growth	0.010	0.038	EBITDA Growth	0.061	0.028**	EBITDA Growth	0.220	0.330
R&D expenses	0.007	0.002***	R&D expenses	0.003	0.000***	R&D expenses	0.000	0.000**
Size	-0.835	0.112***	Size	-0.823	0.100***	Size	-0.304	0.103***
Country dummies	YES		Country dummies	YES		Country dummies	YES	
Industry dummies	YES		Industry dummies	YES		Industry dummies	YES	
Constant	9.377	0.689***	Constant	9.846	0.707***	Constant	4.672	1.223***
Adj-R^2		*0.248*	*Adj-R^2*		*0.332*	*Adj-R^2*		*0.280*
N		*314*	*N*		*516*	*N*		*296*

Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%.

Appendix H

Table 10 Detailed influence of CSR domains on Tobin's q

Tobin's q	Coef.	Robust Std. Err.
Environment_sp_str	0.042	0.055
env_str_d	0.211	0.125*
env_con_d	-0.545	0.197***
env_con_f	-0.535	0.636
env_con_h	-0.484	0.495
env_con_j	-0.847	0.397**
Community_sp_str	0.382	0.234
com_con_b	0.399	0.412
governance_sp_str	0.157	0.119
cgov_con_k	-1.614	0.697**
cgov_con_m	-0.267	0.136*
cgov_con_x	-0.136	0.325
Diversity_sp_str	0.242	0.102**
div_str_c	0.02	0.116
div_con_a	0.436	0.444
div_con_c	-0.02	0.09
employee_sp_str	0.101	0.044**
emp_con_a	0.158	0.268
emp_con_b	-0.137	0.204
emp_con_f	0.333	0.263
emp_con_g	0.498	0.465
emp_con_h	0.494	0.255*
Human_sp_str	0.333	0.289**
hum_con_j	-0.385	0.402
hum_con_k	-0.136	0.249
Product_sp_str	0.103	0.098
pro_con_a	0.111	0.174
pro_con_d	-0.641	0.228***
pro_con_e	0.341	0.258
pro_con_f	-0.327	0.315
pro_con_x	0.538	0.558
Assets	0	0***
EBITDA	0	0***
R&D expenses	0	0*
EBITDA Growth	0.042	0.031
Size	-0.428	0.033***
Country dummies	YES	
Industry dummies	YES	
Constant	7.827	0.611***
Adj-R^2	0.312	
N	1120	

variables that include: _sp_ are the grouped firm/industry specific CSR variables. Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%.

Appendix I

Table 11 Detailed influence of CSR domains including interaction effects on Tobin's q

Tobin's q	Coef.	Robust Std. Err.
Environment_sp_str	-0.306	0.585
env_str_d	0.219	0.128*
env_con_d	-0.627	0.224***
env_con_f	-1.178	0.746
env_con_h	-0.765	0.399**
env_con_j	-1.081	0.354***
Community_sp_str	0.398	0.265
com_con_b	0.749	0.383**
governance_sp_str	0.164	0.128
cgov_con_k	-0.611	0.396
cgov_con_m	-0.250	0.142*
cgov_con_x	-0.877	0.415**
Diversity_sp_str	0.278	0.105***
div_str_c	-0.010	0.117
div_con_a	0.657	0.529
div_con_c	-0.012	0.093
employee_sp_str	-3.040	1.146***
emp_con_a	0.132	0.269
emp_con_b	-0.178	0.236
emp_con_f	0.286	0.254
emp_con_g	0.836	0.368**
emp_con_h	0.490	0.268*
Human_sp_str	1.281	0.777*
hum_con_j	-0.568	0.590
hum_con_k	-0.025	0.274
Product_sp_str	-0.402	0.353
pro_con_a	0.179	0.177
pro_con_d	-0.609	0.242**
pro_con_e	0.608	0.287**
pro_con_f	-0.465	0.372
pro_con_x	0.182	0.460
Assets	0.000	0.000***
EBITDA	0.000	0.000***
EBITDA Growth	0.040	0.032
R&D expenses	0.000	0.000**

Size	-0.439	0.034***
US	23.957	9.571**
Industry dummies	YES	
US#environment_sp_str		
0 1	0.960	0.677
0 2	1.193	1.230
0 3	1.540	1.914
0 4	0.000	(empty)
0 5	0.000	(empty)
1 0	-1.662	2.403
1 1	-1.263	1.827
1 2	-1.036	1.241
1 3	-0.658	0.710
1 4	0.000	(omitted)
1 5	0.000	(omitted)
US#env_str_d		
0 1	-0.396	0.619
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#env_con_d		
0 1	1.113	1.474
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#env_con_f		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#env_con_h		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#env_con_j		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#community_sp_str		
0 1	1.338	0.432***
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#com_con_b		
0 1	0.180	0.693
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#governance_sp_str		
0 1	0.419	0.464
1 0	0.000	(omitted)

1 1	0.000	(omitted)
US#cgov_con_k		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#cgov_con_m		
0 1	0.068	0.514
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#cgov_con_x		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#diversity_sp_str		
0 1	0.480	0.477
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#div_str_c		
0 1	0.840	0.567
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#div_con_a		
0 1	-1.545	0.932*
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#div_con_c		
0 1	-0.477	0.524
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#employee_sp_str		
0 1	3.599	1.229***
0 2	5.769	2.382**
0 3	8.745	3.461***
0 4	0.000	(empty)
0 5	16.526	5.846***
0 6	0.000	(empty)
0 7	0.000	(empty)
0 8	0.000	(empty)
1 0	-22.540	8.840***
1 1	-19.344	7.698**
1 2	-15.932	6.558**
1 3	-13.038	5.421**
1 4	-10.087	4.297**
1 5	-7.090	3.170**
1 6	-5.454	2.068***
1 7	0.000	(omitted)
1 8	0.000	(omitted)

US#emp_con_a		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#emp_con_b		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#emp_con_f		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#emp_con_g		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#emp_con_h		
0 1	-0.565	0.630
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#Human_sp_str		
0 1	0.000	(empty)
0 2	0.000	(empty)
1 0	1.132	0.898
1 1	0.000	(omitted)
1 2	0.000	(omitted)
US#hum_con_j		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#hum_con_k		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#product_sp_str		
0 1	-0.353	0.417
0 2	0.000	(empty)
1 0	-0.588	0.389
1 1	0.000	(omitted)
1 2	0.000	(omitted)
US#pro_con_a		
0 1	0.070	0.649
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#pro_con_d		
0 1	0.971	0.576*
1 0	0.000	(omitted)
1 1	0.000	(omitted)

US#pro_con_e		
0 1	-2.582	0.851***
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#pro_con_f		
0 1	0.000	(omitted)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
US#pro_con_x		
0 1	0.000	(empty)
1 0	0.000	(omitted)
1 1	0.000	(omitted)
Constant	5.238	0.573***
Adj-R^2	0.314	
N	1120	

variables that include: _sp_ are the grouped firm/industry specific CSR variables. Levels of statistical significance are indicated by *, ** and *** for respectively 10%, 5% and 1%. The used significance level is 5%.