

# Corporate Social Responsibility across Industries: When can who do well by doing good?

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This version (3.0): March, 2010

First version (1.0): October, 2008

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## Abstract:

While much of the previous literature considers whether corporate social responsibility (CSR) pays, we take a more nuanced perspective, theoretically and empirically, by investigating when CSR pays and for whom? Theoretically, we develop two contingency perspectives. First, we extend previous work to argue that CSR's impacts on corporate financial performance (CFP) are moderated by five factors: CSR form, firm characteristics, time, national framework and industrial characteristics. Focusing on industrial characteristics, we theorise that differences in industries' dependency on certain stakeholder groups, their proximity to the end consumer, their potential for social and environmental damages and their level of product / service differentiation moderate CSR's value relevance. Our second contingency perspective considers for whom CSR might pay. While previous research has almost exclusively viewed CSR's value from a corporate perspective, we argue that stakeholders, government, and investor perspective are also relevant. Empirically, we analyse CSR's value across ten industry sectors from a corporate and investor aspect, respectively. We find that CSR has substantial value for corporations in the health care, industrials, and consumer discretionary sectors but not elsewhere. Publicly informed investors can exploit this positive CSR effect in the former two industries, which yields significantly abnormal excess returns of more than 6% and 8.5% per annum, respectively. Hence, we consider our results strong evidence to reject the implicit hypothesis which underpins much of the previous work that explores the homogeneous CSR – CFP relationship across industries. Our results suggest to academics that many previous studies on CSR value, which controlled for the industrial drivers of CFP but not for the industrial drivers of the CSR – CFP link, might need to be re-estimated. Furthermore, for practitioners, our study implies that CSR value should be assessed in the context of the industrial business processes.

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Acknowledgements: We would like to thank Toby Heaps, Matthew Kiernan, John Wilson and seminar participants at the Universities of Dundee, the University of St. Andrews and the Corporate Responsibility Research conference in Belfast for their comments. We are indebted to Robert Schwob of Style Research Limited for data provision. Any remaining errors or omissions are our sole responsibility.

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“Whether corporations are “owned” by their shareholders or by society and whether they have any obligations [or ability] beyond becoming increasingly efficient at shareholder wealth production are topics that have long been fiercely debated. This debate ... shows no signs of resolution and will surely remain a contentious topic for the foreseeable future. ... As long as we desire capitalism with a safety net, this is a dialectic tension that our society must continuously manage, not resolve.” *Michael L. Barnett (2007: 812)*

## 1 Introduction

Doing well by doing good? Is doing good good for you? Does it pay to be good? Many papers that investigate the relationship between corporate social performance (CSP) and corporate financial performance (CFP) start with such questions. Drawing on prior research which emphasizes a contingency based approach (Barnett, 2007; Rowley and Berman, 2000), we rephrase the question and ask: *when* can *who* do well by doing good?

We investigate into our question based on a theoretical elaboration of two contingency perspectives and a subsequent empirical investigation of the current implicit assumption that the CSP – CFP link across industries is homogeneous from the corporate and the investor perspective. First, we extend Barnett’s (2007) contingency perspective on CSR value relevance to include national framework and industrial characteristics as drivers in addition to CSR form, firm characteristics and time. Focusing on the industrial characteristics, we theorize based on a mosaic of previous suggestions and empirical observations that the CSP – CFP link is likely to be heterogeneous across industries due to industrial differences in four concepts: their dependence on individual stakeholder groups, their proximity to the end consumers, their potential for social and environmental damage and their level of product / service differentiation.

Second, beyond theorizing a contingency perspective on when CSR might pay, we develop a second contingency perspective asking for whom CSR might pay? Even though previous research almost exclusively views CSR value from the perspective of corporations, CSR might (or might not) pay for various stakeholder groups, governments or investors.

While we consider various perspectives on CSR's financial impact relevant, we acknowledge that only a few perspectives can be investigated in any single empirical setting.

For a unique dataset, our empirical investigation allows us to investigate the CSP – CFP link across ten industries from at least two perspectives: the corporate and the (publicly informed) investor perspective. We find that CSP has a significant positive effect on CFP of industries overall. However, at the industry level, we observe that CSP has at best a neutral relationship to CFP in five out of our ten industries, while it significantly improves CFP in the industrials, health care and consumer discretionary sector. Moreover, we find that publicly informed investors can trade upon the positive CSR effect in the former two industries and realize significant abnormal excess return of above 6% and above 8.5% per annum. In the third industry, however, the market appears to react to the publication of the CSP and thereby prevents investors from exploiting any positive effect. Hence, we consider our results a strong reason to reject the previously implicitly made hypothesis that the CSP – CFP link is homogeneous across industries.

Our results imply that many previous studies of the CSP – CFP link might need to be re-interpreted, as they controlled for industrial drivers of CFP but not for industry effects on the CSP – CFP relationship. In this sense, our results open up a potential research agenda that would control for industrial heterogeneity in CSR's financial performance. Future research could also build on our study by analyzing the potential heterogeneity of CSR sub-concepts (e.g. employee relations, environment) across industries, exploring specific heterogeneity drivers of industrial differences in CSR value, or analyzing the CSP – CFP link from new (stakeholder or government) perspectives.

We structure our paper in eight sections: The second section discusses conceptualizations of corporate social responsibility (CSR), whereby we focus on its predominantly contextual and intangible nature. In the third section, we develop our contingency perspective on when CSR pays with a specific focus on industrial characteristics as a driver. In the fourth section,

we develop our second contingency perspective to ask for whom CSR pays. Section five commences our empirical analysis by describing our data sets and methods. The sixth section discusses our empirical results. Section seven reports on robustness tests before the eighth section concludes.

## **2 Corporate Social Responsibility (CSR): a contextual, intangible concept<sup>1</sup>**

An agreement within a group of academics on a single precise, general definition of corporate social responsibility (CSR) is a very challenging and often unsuccessful task given that a wide range of views have been expressed on questions concerning the scope and priority ascribed to CSR. If one replaced the group of academics by groups of investors, corporate managers or corporate stakeholders, differences in national and industrial context would likely lead to similarly distinct views on the scope and priority of social responsibilities (Jaworski, 2007; Matten and Moon, 2008; Siegel and Vitaliano, 2007).

This contextuality of CSR has been recognized in a number of different ways. On the one extreme, writers like van Marrewijk (2003: 95) conclude that the search for “a ‘one solution fits all’-definition for CSR should be abandoned”. On the other, Dahlsrud (2008: 6), who studies 37 definitions of CSR, argues that a context specific definition of CSR would be “less useful”. Between these two extreme view, for instance, lies the approach of the Global Reporting Initiative (GRI), the *quasi* standard for CSR reporting worldwide. The GRI develops not only core guidelines for CSR reporting in any circumstance, but it also provides additional, complementing guidance for specific sectors and nations. Many researchers follow this intermediate position, as their definition of CSR explicitly or implicitly recognizes its contextual nature (e.g. Matten and Moon, 2008; Siegel and Vitaliano, 2007).

We also advocate a definition of corporate social responsibility, which recognizes the contextuality of the concept. Inspired by Siegel and Vitaliano (2007), we define a corporation as displaying social responsibility, when it engages itself in processes that appear to advance a general or contextual social or environmental agenda beyond legal requirements. Examples of processes advancing a general social agenda are work-life-balance arrangements, supporting employee relations practices or Corporate Codes of Ethics. These processes can be used by companies from any industry. By contrast, only automobile manufacturers have the context specific opportunity to signal social responsibility through the production of hybrid vehicles. Similarly, only financial institutions have the resources to communicate social responsibility by engaging in microfinance activities.

Besides the contextuality of CSR, we emphasize that the outcomes of CSR processes are predominantly of an intangible nature. In most cases, CSR business processes aim to generate intangible assets like reputational capital, corporate culture, legitimacy or loyalty. Only in a few cases do CSR business processes result in tangible assets, for instance, eco-efficient production technologies (Fombrun, Gardberg and Barnett, 2000; Gardberg and Fombrun, 2006; Godfrey, 2005). Notably, these intangible assets resulting from CSR are in the vast majority of cases not reflected on corporate balance sheets, as contemporary accounting standards tend not to recognize them. (The main exception would be the incorporation of an acquired firm's intangible assets, such as goodwill). As a result, most corporate investments of (cash) resources in CSR are considered expenses by current accounting standards.

Hoepner (2010) argues that this expensing of corporate CSR investment could have created an *accounting illusion* of a positive link between corporate social and financial performance as found in the recent meta analyses (Allouche and Laroche, 2005; Margolis, Elfenbein and Walsh, 2007; Orlitzky, Schmidt and Rynes, 2003). He reasons that the expensing of most corporate CSR investments leads to ad hoc reductions in the book value of

a corporation's equity and total assets. In contrast, the alternatives of not investing the respective corporate resources or investing them in tangible assets instead of CSR lead to no (immediate) expenses and hence these alternatives have no effect on book value of a corporation's equity and total assets (apart from minor depreciation expenses). Consequently, Hoepner argues that, even if a firm's investment in CSR has no effect on its earnings, it will increase its short term Return on Equity (ROE) and Return on Assets (ROA), as it decreases denominators of these ratios. ROE and ROA are the most common accounting measures applied in analyzing of the link between corporate social and corporate financial performance and an equivalent effect appears in the case of other (partially) accounting based measures like Tobin's Q. Therefore, Hoepner (2010) suggests that the found positive link between corporate social performance (CSP) and corporate financial performance (CFP), which is mainly driven by accounting based measures of financial performance, might represent an *accounting illusion*. Specifically, he writes that if a firm had the choice of investing in CSR, investing in tangible assets or not investing at all, the CSR investment would *ceteris paribus*, lead to the highest short term ROE or ROA.

### **3 When does CSR pay?**

Hoepner's (2010) *accounting illusion* explanation is one reason why it appears premature to conclude "that there is a positive association between CSP and CFP across industries and across study contexts" (Orlitzky et al., 2003: 423). There are at least two other reasons.

First, if Orlitzky *et al.*'s (2003: 423) "universally positive relationship" between CSP and CFP were to exist, corporations could maximize their financial performance by investing unlimited resources in any CSR business process. However, it appears impossible that unlimited investments in (most) CSR business processes would increase corporate financial performance. For instance, if a corporation invested multiples of its revenue in charitable

donations or corporate social reporting, contemporary market mechanisms would be virtually unable to sufficiently compensate it financially. Consequently, while the relationship between CSP and CFP might be positive within a certain range of observed CSP value, it seems unlikely that a positive relationship exists for any range of, especially very high, CSP value.

Second, Orlitzky *et al.*'s (2003) attempt to identify one single type of relationship (positive, neutral, or negative) between any CSP indicator and CFP in any industrial context fails to recognize any contextual nature of the CSR concept. It implies, for instance, that eco-efficiency projects in manufacturing industries, microfinance activities of financial institutions, and donations of medicine supply in the healthcare sector are comparable activities with the same type of effect on CFP simply because they are conducted under the flag of CSR. In line with other contingency based perspectives of CSR's impact on CFP (Barnett, 2007; Rowley and Berman, 2000), we see no theoretical reason to justify the *a priori* assumption that there is one type of relationship between CSP and CFP across industries and other analytical contexts. (We understand CSP here as the measured outcomes of CSR business processes.)

### ***3.1 CSR's impact on corporate financial performance (CFP): a contingency perspective***

Drawing on prior conceptualizations (Rowley and Berman, 2000; Ullmann, 1985), Barnett (2007: 813) advocates a contingency perspective on the link between CSP and CFP and calls for future research to determine the contextual circumstances in which CSR pays:

“I advocate ... a contingency perspective that affirms the payoffs to some forms of CSR for some firms at some points in time. CSR cannot financially please all of the corporations all of the time, but it can please some of the corporations some of the time. Researchers should try to figure out which ones and when.”

Barnett's contingency perspective is based on three main conditional dimensions: CSR form, firm characteristics and time. Following previous studies (Matten and Moon, 2008; Rowley

and Berman, 2000), we add national framework and industrial characteristics as the fourth and fifth dimension to our contingency perspective, which we illustrate in figure 1.<sup>2</sup>

CSR form refers to specific CSR activities (e.g. carbon neutrality, charitable donation, human rights policies). Since CSR represents a contextual concept, the relevance of individual CSR activities depends on its application context. For instance, while carbon neutrality is of very high relevance for stakeholders of firms in manufacturing industries or the fossil fuel sector, it is not a top priority of stakeholders of financial institutions. Consequentially, the adoption of different CSR activities across firms is in most cases not significantly correlated (Kempf and Osthoff, 2007). CSR activities also differ in how they affect CFP. Some CSR activities have a direct cost saving effect (e.g. eco-efficiency programs), other CSR activities aim to improve employees' long term performance (e.g. employee relations), again other CSR activities attempt to build reputation capital and so on. Therefore, different forms of CSR can fairly be expected to have non-identical effects on CFP in different application contexts.

Firm characteristics, especially firm size and the level of a firm's intangible assets, are thought of as factors that affect a firm's ability to profit from CSR activities. Stakeholder activism tends to focus on larger firms as these receive more public attention (Clark, Salo and Hebb, 2008). Similarly, CSR rating agencies tend to focus on a pool of largest companies (Schäfer, Beer, Zenker and Fernandes, 2006). Hence, the opportunity of larger, more scrutinized firms to capitalize on CSR is likely to differ from the equivalent of smaller, less publicly watched companies. A firm's level of intangible assets has also been theorized to moderate a firm's ability to generate economic value from CSR processes. For instance, firms with a higher capacity to influence stakeholder, a better culture and working environment or more human capital are considered to experience a greater ability to gain from CSR (Barnett, 2007; Surroca, Tribó and Waddock, 2010).

Time affects numerous variables that moderate the link between CSP and CFP. Examples of these variables include the severity of problems deriving from accumulated



corporate externalities, the speed and scope information diffusion, consumer culture or investor culture. The more severe climate change, the quicker and the more global the information diffusion about corporate irresponsibility scandals, the more value expressive consumer and investor culture, the higher should be the value relevance of CSR. For instance, it is highly unlikely that the effect of some CSR forms on CFP has been the same in the postwar decade of the 1950s as in the internet age decade 2000-2009. Similarly, researchers would be naive to expect that the relationship between (forms of) CSP and CFP has to be constant over future decades.

National frameworks that consist of political, educational, legal and cultural systems are theorized to determine a firm's level of explicitly shown and implicitly practiced CSR activities. The reflection of national frameworks in firms' preferred CSR strategies and business processes implies that firms themselves believe national characteristics to moderate the value relevance of CSR. This belief appears theoretically intuitive, since, for instance, subsidies for CSR business processes differ among political systems, fines for corporate irresponsibility differ among legal systems or consumer and employee culture depends on a nation's cultural and educational system (Chih, Chih and Chen, 2010; Matten and Moon, 2008; Renneboog, ter Horst and Zhang, 2008b).

Industrial characteristics are the fifth condition in our contingency perspective. Since the first research question of our paper asks in which industries CSR pays, we conceptualize the moderating effects of industrial characteristics on the link between CSP and CFP in a separate section.

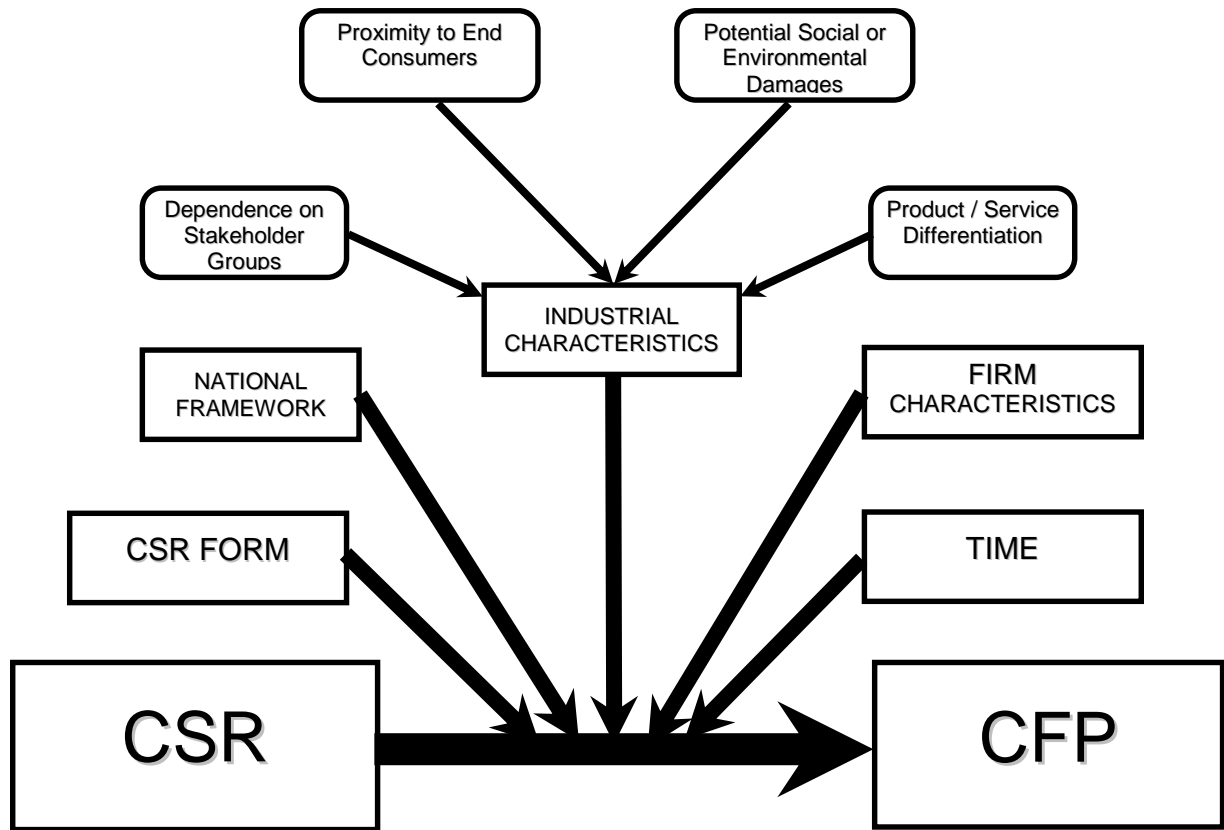


Figure 1: Contingence perspective on the effect of corporate social responsibility (CSR) on corporate financial performance (CFP)

### 3.2 CSR's impact on CFP: Heterogeneity across industries?

Decades ago, Ullmann (1985) suggested that industries moderate the relationship between CSP and CFP. Subsequently, many researchers have reinforced calls for research on the potential heterogeneity of CSR's impact on CFP across industries (e.g. Barnett, 2007; Godfrey and Hatch, 2007; Hart, 1995). However, they seem to have been nearly entirely ignored. To date, several studies into the link between CSP and CFP focus on one specific industry type (e.g. Ogden and Watson, 1999; Simpson and Kohers, 2002) and a few studies investigate the moderating effects of a specific property of industries (e.g. Baron, Harjoto and Jo, 2009; Hull and Rothenberg, 2008).<sup>3</sup> It seems, however, that no single paper that analyzes the effect of CSP on CFP *across* industries exists.

This lack of understanding of the CSP – CFP relationship across industries appears unfortunate for at least two reasons. First, managers, policy makers, and other stakeholders would likely appreciate guidance from academia on how CSR impacts CFP in a specific industry of their interests. Particularly given the increasing public presence of corporations and consequently their occasional irresponsibility scandals, managers appear in a considerable need of knowing which CSR business processes they can implement without compromising CFP. Similarly, the crises caused by accumulated corporate externalities such as global climate change may present the question to policy makers – such as which industries can be expected to voluntarily improve their CSP and which ones would have to be regulated to mitigate the crises.

Second, evidence of heterogeneity of the CSP – CFP relationship across industries would have important implications for the interpretation of past and future academic research on this issue. Many previous studies have used the control variable ‘industry’. In fact, industry is the number 1 control variable in Margolis and Walsh’s (2001) analysis of 95 studies on the CSP – CFP relationship. However, the vast majority of these studies control only for industry drivers of CFP, but do not control for industry drivers of CSP’s effect on CFP. These studies implicitly assume that the CSP –CFP relationship is homogeneous across industries. In case of a cross sectional or panel regression of a CFP measure on a CSP measure and a set of control variables, many studies include stand alone industry dummies to capture industry effects. While industry dummies adjust industry drivers of CFP, they do not control for industry drivers of CSP’s effects on CFP unless they are multiplied by the CSP variables. Therefore, if evidence would be found suggesting a heterogeneous effect of CSP on CFP across industries, the results of many previous empirical studies of multiple industry datasets should be interpreted with slight more caution than is currently assumed. Such evidence would also imply that future research on the topic should control for the heterogeneity of the

CSP-CFP relationship across industries and that re-estimations of some previously influential studies with appropriate control variables could be fruitful.

Indeed, constructing a mosaic from many previously separated theoretical suggestions and empirical findings provides us with at least four reasons to assume that the CSP-CFP relationship is actually heterogeneous across industries. Generally, industries operate on heterogeneous business models. Business models differ in (1) their dependence on individual stakeholder groups, (2) their proximity to the end consumer and (3) their potential social or environmental damage to society or the natural environment, and (4) their levels of product/service differentiation due to their diverse business models and different levels of competition

Since industries differ in their dependence on various stakeholder groups, an individual stakeholder group's power, legitimacy and urgency differ in attempts to shape CSR policies and practices for various industries (Mitchell, Agle and Wood, 1997). In this sense, distinct industrial characteristics are major drivers of the outcomes and costs of CSR for companies that strategically integrate CSR into their business models (Siegel and Vitaliano, 2007). Following Porter and Kramer (2006), for instance, we argue that employee's health care benefits are less expensive and potentially more rewarding in industries with rather small and well compensated workforces, such as software development, than in industries depending on large low-cost workforces like retailing. Similarly, Padgett and Galan (2010) argue that environmental performance affects the CFP of manufacturing industries to a stronger (positive or negative) degree compared with the equivalent of other industries, since manufacturers' environmental responsibility experiences a much greater scrutiny from stakeholders. In line with these arguments, Salo (2008) finds that industries differ substantially in their environmental performance.

Industries' proximity to the end consumers has been identified to moderate the impact of CSR on CFP. The underlying intuition of this moderator is that private end consumers

show more social concerns in their consumption than businesses do in their procurement departments. Two studies seem to have empirically investigated this effect to date. Both find a positive effect of CSR on CFP in industries serving end consumers and a negative effect in industries serving businesses (Baron et al., 2009; Curcio and Wolf, 1996). This result is supported by Lev *et al.* (2010), who find charitable contributions lead to a significant sales growth in consumer industries but not elsewhere. Siegel and Vitaliano's (2007) results imply that the positive effect of CSR on CFP in consumer industries could even be related to the type of consumer goods sold. They find firms that sell durable experience goods (e.g. automobiles) or credence services (e.g. financial services) to display more CSR than firms selling nondurable experience goods, experience services or search goods. This implies that CSR might be most beneficial in the industries that depend heavily on the trust of end consumers.

Industries' potential for social or environmental damage has also been suggested as a cause to heterogeneous CSP-CFP relationships across industries. On the environmental side, Derwall *et al.* (2005) and Semenova and Hassel (2008) find positive effects of CSR on CFP are substantially less pronounced in environmentally problematic industries than elsewhere. Both studies explain their results with the higher cost of environmental performance in environmentally sensitive industries. Indeed, the recent results of Semenova and Hassel (2008) and Ziegler *et al.* (2007) suggest that the effect of an industry's environmental performance on the financial performance of a certain company might be stronger than the effect of the respective company's environmental performance itself. On the social side, a mirror effect seems to take place, since Herremanns *et al.* (1993) and Lee and Faff (2009) find a positive effect of CSR on CFP is more pronounced in socially problematic industries. Ziegler *et al.* (2007) again observe industry level CSR to dominate firm level CSR in driving CFP. However, while they find environmentally problematic industries significantly underperform financially, they observe the opposite for socially problematic industries. All

these empirical results strongly suggest that the effect of CSR on CFP could be heterogeneous across industries.

Industrial level of product/service differentiation can be thought of as a factor that moderates the CSP-CFP link, as CSR can be viewed as a product/service differentiation strategy (McWilliams and Siegel, 2001). Indeed, empirical evidence suggests that CSR is employed to differentiate products or services (Chih et al., 2010; Fernández-Kranz and Santaló, 2007). However, evidence also implies that this strategy is financially more successful in industries with low levels of product/service differentiation than in highly differentiated industries (Hull and Rothenberg, 2008).

## **4 For whom does CSR pay?**

A vast majority of previous research on the question whether CSR pays has taken the perspective of the corporation (Margolis *et al.*, 2007; Orlitzky *et al.*, 2003). While the corporate view on this question is certainly important, it is not the only perspective that matters. Beyond the corporate perspective, researchers could analyze the financial performance impacts of CSR from the perspectives of various types of stakeholders, policy makers or investors. We illustrate our contingency perspective subject, for whom CSR might pay, in figure 2.

Even though many forms of CSR are meant to pay for the targeted stakeholder groups, they might be measured imprecisely, conducted inefficiently or be subject to agency problems and eventually only or predominantly benefit CSR consultants. Empirical research on the question to what degree various measures of corporate social performance actually translate into well-being for the targeted stakeholder seems relatively scarce in the CSR literature. For instance, Chatterjee *et al.* (2009) were recently the first to investigate if KLD's corporate environmental ratings have a significantly positive impact on the subsequent wellbeing of

the natural environment. While they find emissions ratings could predict future emissions, pollution prevention ratings have no significant relationship to subsequent pollution. Other interesting projects on the general question whether CSR actually pays for certain stakeholder groups might include analyses of the degrees to which CSR budgets are spent on consultants or charitable donations arrive at the target groups.

Since CSR in many cases represents a private provision of a public good (Siegel and Vitaliano, 2007), many forms of CSR should pay from a governmental perspective. Indeed, many governments offer legislative support for social responsibility in markets (Renneboog *et al.*, 2008b; Riess and Welzel, 2006). However, we are not aware of any research that investigates the relationship between the degree of governmental CSR support, which is absorbed by corporations, and the degree to which policy supported CSR pays back for governments by improving national welfare levels. For instance, a promising research project could be an investigation of the relationship between employment legislation, corporate employee relations policies and national birth rates.

If CSR pays from a corporate perspective, it supposedly pays for the respective corporation's shareholders as well. However, this does not mean that CSR generally pays for investors, as the time gap between many CSR business processes and investors' awareness of these processes can be considerable. Therefore, only investors with a perfect ability to forecast CSR business processes could actually profit from each case of CSR that pays for respective corporations. As (nearly) all investors practically lack such a perfect ability for the vast majority of CSR processes, investors need to wait until specialized information providers recognize CSR business processes before they can act upon them.

Most investors acting upon CSR information are so called responsible investors who consider the environmental or social criteria in their investment decision-making. The number and assets of these responsible investors appear important for CSR itself, since firms' CSR strategies are shown to be potentially reactive to the CSR demand from responsible investors

(Mackey, Mackey and Barney, 2007), and hence a self-reinforcing process exists between responsible investment and CSR. The more responsible investors can benefit from investing in CSR, the more demand of CSR there will be. The number of responsible investors who can benefit from investing in CSR depends *inter alia* on the length of time, during which a positive CSR effect allows investors to generate abnormally high returns. We differentiate among three different durations of positive CSR effects:

First, some forms of CSR might in a certain context improve CFP but the positive effect vanishes before specialized CSR information provides can inform certain investors privately for a fee. This type of CSR effect is consistent with the strong form market efficiency hypothesis, as it implies that investors would not be able to outperform the market. Second, other contextually positive impacts of certain forms of CSR on CFP might be exploitable for investors based on private data provided by CSR information agencies. This type of CSR effect would imply temporary strong form market inefficiency, as investors could outperform the market based on private information. Third, some positive CSR effects might be so persistent that investors can still exploit them once the underlying CSR business processes are publicly announced. Such effects would imply temporary semi-strong form market inefficiency, as investors could outsmart the market based on publicly available information. Consequently, the occurrence of this third type of CSR effect is unlikely from a financial theory perspective. However, if the third type CSR effect appears, it can be expected to result in a considerable demand for CSR from investors in the respective context.



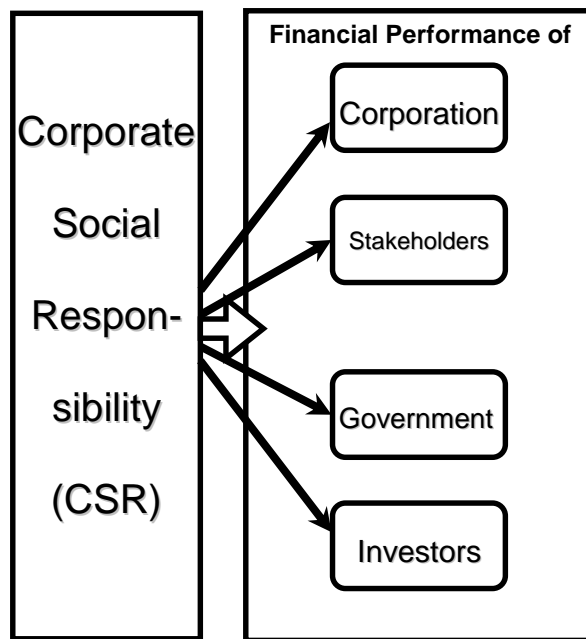


Figure 2: Contingence Perspective on the subject, for whom CSR might pay

To conclude our theoretical elaborations, we advocate two contingency perspectives concerning the financial effects of CSR. First, building on previous lines of reasoning (Barnett, 2007; Rowley and Berman, 2000), we develop a contingency perspective related to when CSR pays. Our contingency perspective maintains that the form of CSR, firm characteristics, time, national framework and industrial characteristics are the five main contextual variables moderating CSR value relevance. Our particular focus is the industrial characteristics. We argue that if the CSP – CFP relationship is heterogeneous across industries as a mosaic composed of previous evidence on related questions indicates, the majority of previous studies of the CSP – CFP link might need to be reinterpreted, as they did not control for this heterogeneity.

Second, we propose a separate contingency perspective for research on the financial effect of CSR by asking for whom CSR pays? We very broadly distinguish among four potential beneficiaries of CSR (corporations, stakeholders, governments, investors) and briefly discuss ways in which CSR might pay for them. However, we acknowledge that it is highly unlikely, if not impossible, to find an empirical setting in which one single piece of

empirical research can inform the perspectives of all four potential beneficiaries of CSR. Therefore, we encourage researchers to simply be aware of other potential beneficiaries of CSR other than the corporation itself and suggest empirical research to focus on as many perspectives as possible if their empirical setting allows them. In this sense, our subsequent empirical analyses of *when* can *who* do well while doing good through CSR engage in the corporate and the investor perspective.

## **5 Research design, data and method**

### **5.1 Research design requirements**

Based on our two research questions – (1) When does CSR pay? (2) For whom does CSR pay? - and our theoretical elaborations, we specify four requirements for our empirical setting. First, we aim to test the previously implicit hypothesis that the impact of CSR on financial performance is homogeneous across industries and hence we require a dataset of CSR performance across various industries. Second, CSR represents a contextual concept. While some forms of CSR have a similar relevance to all industries (e.g. codes of ethics), other forms are of high priority only for certain industries (e.g. microfinance). Thus, if we adopt an unconditional measure of CSR that weights its sub-indicators identically in any industrial context, we would likely find differences in the CSP – CFP relationship among industries simply because some indicators matter more to certain industries. A robust research design, by contrast, would test the hypothesis of homogeneous CSP – CSP relationships in a setting, which is least likely falsified. To generate such a setting, we need a conditional measure of CSR, which weights its sub-indicators conditionally on their relevance to each industry.

Third, we aim to investigate the impact of CSR on financial performance for different industries from the corporate and the investor perspective. Therefore, our results should be

able to display all three types of positive CSR effects discussed in the previous section, if in addition to a certain corporation, privately informed investors and perhaps even publicly informed investors would be able to benefit from CSR business processes. To enable us to examine all three types of positive CSR effects, we require an empirical setting in which CSR business processes are publicly announced at certain point after they are known to privately informed investors. Fourth, as we want to engage in the investor perspective and as Hoepner (2010) has shown that the common accounting based measures of CFP are substantially biased upwardly when related to the predominantly intangible concept CSR, we aim to use financial market based measures of financial performance.

## **5.2 CSR data**

To the best of our knowledge, only one unique Innovest based data sample fulfils our first three requirements when we commenced this study. Innovest Strategic Value Advisors is one of the few CSR rating institutions that employ a conditional definition of CSR and weight their CSR sub-indicators conditionally on their relevance in an industrial setting. In contrast to the few other CSR rating agencies with conditional CSR definitions (e.g. SAM, Sarasin), a specific part of Innovest's data is disclosed about one month after its availability to privately informed investors at a very high profile event: the World Economic Forum end of January each year in Davos (Schäfer et al., 2006).

This annual publication is done since 2005 by Corporate Knights, a Canadian CSR focused media company, which signed Innovest to provide the CSR rating underlying its announcement of its annual list of the 'Global 100 Most Sustainable Companies in the World'. The hundred companies in this annual list are selected from the MSCI World universe based on Innovest's rating of their social performance at the end of each year. Despite the list is labeled most sustainable by Corporate Knights, it effectively displays the

MSCI listed companies with the highest CSR scores in Innovest's database, whose four main criteria represent a relatively balanced set of CSR sub areas (Environment, Human Capital, Stakeholder Capital and Strategic Governance). The Global 100 list almost ideally meets our research design requirements, as it represents an annual rating of CSR leaders per industry, which is known to privately informed investors about one month before publicly informed investors could utilize this information. As a result, we can investigate the effect of CSR on the financial returns of corporations' privately informed investors and publicly informed investors . We analyze the effect of CSR on CFP during the year in which a firm's CSR business processes have resulted in its exceptional Innovest rating. In case Innovest's CSR rating have a significant positive effect on CFP, we can further study whether privately informed investors could exploit this in January and if publicly informed investors could gain in the remaining months of the year.

Innovest's substantial commitment to industry specific CSR assessments is manifested in its four-step rating process underlying the Global 100 list. First, Innovest generates a short list of all MSCI World listed stocks in its large rating universe that includes 1,800 companies whose overall CSR rating is AAA on December 31<sup>st</sup>. AAA is the highest of Innovest's seven letter grades (AAA, AA, A, BBB, BB, B, C) and signals that a company is leading in its industry. Second, as Innovest is convinced that firms from different industries cannot fairly be compared in their CSR performance, it does not compare CSR performance across industries but only within industries. In line with this philosophy, Innovest calculates the Global 100 list's industry weights based on the MSCI World's industry weights in respective years. Third, Innovest analysts fill each industry's available places on the Global 100 list with those AAA rated stocks from the short list, which they consider very best in the industry worldwide. Fourth, the first draft of the Global 100 list is reviewed by Innovest's Director of Research to ensure consistency. Following Innovest's philosophy of industry specific CSR assessments, the companies on the Global 100 list are not ranked. Instead, the Global 100 list companies

are presented in alphabetical order, whereby each corporation's country of jurisdiction and two digit Global Industry Classification Standard (GICS) are displayed (Corporate Knights, 2009; Schäfer et al., 2006)

Following the original list, we also structure our sample according to nationality and two digit GICS code. As ten different two digit GICS codes exist, we are hence investigating ten industrial sectors: Energy (GICS Sector Code: 10), Materials (15), Industrials (20), Consumer Discretionary (25), Consumer Staples (30), Health Care (35), Financials (40), Information Technology (45), Telecommunication Services (50), Utilities (55).

### **5.3 Financial data**

To assess the shareholder value and investor value of CSR, we employ financial market based measures of financial performance (Hoepner, 2010; Mackey *et al.*, 2007; Margolis *et al.*, 2007). More specifically, we aim to compare the performance of portfolios of CSR leaders in an industry with the average industrial performance while controlling for common share price drivers. At the economy-wide level, the cutting edge measure for assessing the relative stock performance is the Carhart (1997) model (e.g. Edmans, 2009; Hong and Kacperczyk, 2009).

Like its origin, the Capital Asset Pricing Model (Lintner, 1965; Mossin, 1966; Sharpe, 1964), and virtually all other common financial market performance measures (e.g. Information ratio, Sharpe ratio), the applicability of Carhart model is restricted to normal markets that offer a return premium for risk (Israelsen, 2005; Jobson and Korkie, 1981). During irregular market conditions, which exist when the equity market offers on average less return than the risk free alternatives, the Carhart model could, for instance, display a positive financial performance for an insolvent fund. Unfortunately, the recent credit crisis lead to such irregular market conditions, which forces us to end our sample period in May 2008.<sup>4</sup> Therefore, we investigate the effect of CSR on CFP during the year in which a firm's CSR

business processes have resulted in its exceptional Innovest rating from January 2004 to May 2008. We analyze if informed investors can benefit from potentially positive CSR effects from January 2005 to May 2008.

After cleaning our total sample from sixteen companies which were acquired, merged or split during our sample period, our sample reaches 196 companies, which are from 16 countries and all 10 GICS industry sectors and any of which has been listed at least once on the Global 100 list announced at the World Economic Forum between 2005 and 2009.<sup>5</sup> Our descriptive sample statistics are displayed in Table 1. They show that Consumer Discretionary, Financial, and Industrials are the dominant industries in the MSCI World and consequentially in our sample. The remaining industries have a similar presence with only Telecommunication Services lagging somewhat behind. The most common countries in our sample are UK, US, Japan and Germany. Our 196 sample companies aggregate jointly 478 data points (individual year selection in the Global 100 list).

For all 196 companies, we download monthly share prices inclusive of distributions and denoted in U.S. dollar from Datastream. After we calculated simple return for each company, we construct two equal-weighted portfolios for each industry, which we update on December 31<sup>st</sup> every year. The first portfolio is constructed with hindsight to analyze from the corporate perspective that if CSR business processes have a positive effect on CFP while they are conducted. This *corporate perspective portfolio* includes the companies which Innovest rates as top 100 CSR companies at the end of any respective year. The second portfolio takes the investor perspective. This *investor perspective portfolio* comprises in any year the companies which Innovest rated on December 31<sup>st</sup> of the previous year as top 100 CSR firms. After we constructed all industrial CSR leader portfolios, we calculated their continuously compounded returns.

Table 1: Descriptive sample statistics

Country	Industry (GICS 2 digit code)										All industries
	Consumer Discret. (25)	Consumer Staples (30)	Energy (10)	Financials (40)	Health Care (35)	Industrials (20)	IT (45)	Materials (15)	Telecom-Services (50)	Utilities (55)	
Australia				6				3			9
Austria			1					1			2
Belgium				1							1
Canada			4	4					1	1	10
China						1					1
Denmark					1	1		1			3
Finland	1	1	1			1	2	1		1	8
France	3	2		2		2		1			10
Germany	2	1		3	1	4	1	1	1		14
Italy			1			1					2
Japan	6	1		3		6	3	1	1		21
Netherlands	2			2		1					5
Norway			1	1		1					3
Spain	1					3	1			1	6
Sweden	2			2		4	1	2			11
Switzerland	1	1		1	2	2	1				8
UK	8	5	4	12	2	5		2	3	3	44
US	6	2	1	6	4	6	6	3	1	3	38
<b>All Countries</b>	<b>32</b>	<b>13</b>	<b>13</b>	<b>43</b>	<b>10</b>	<b>38</b>	<b>15</b>	<b>16</b>	<b>7</b>	<b>9</b>	<b>196</b>
<b>Year of List</b>											
2005 List	16	8	5	16	6	14	9	7	4	6	91
2006 List	15	9	3	15	7	14	9	9	4	7	92
2007 List	19	7	5	18	6	14	9	9	3	6	96
2008 List	18	7	6	21	6	17	8	8	3	5	99
2009 List	16	9	7	16	7	18	9	10	3	5	100
<b>Total List Memberships</b>	<b>84</b>	<b>40</b>	<b>26</b>	<b>86</b>	<b>32</b>	<b>77</b>	<b>44</b>	<b>43</b>	<b>17</b>	<b>29</b>	<b>478</b>

Explanation: This Table displays descriptive statistics of our sample of all companies with at least a one time listing in the Global 100 list between 2005 and 2009. The columns display all ten GICS industries with a 2 digit code. The rows show, how many companies in our sample from a respective country or from a respective annual list can be assigned to the respective industries. The total number of all list memberships is 478 and not 500, since companies that merged, have been acquired or split are excluded from our sample.

## 5.4 Estimation Models

Despite the Carhart (1997) model appears it has previously only been employed at country, region or global level, it is not limited in its applicability to geographical areas. Thus, we employ a Carhart model at the industry level, which is shown in equation (1).

$$r_{xp,t} = \alpha_p + \beta_p r_{xind,t} + \gamma_p SMB_{ind,t} + \delta_p HML_{ind,t} + \lambda_p MOM_{ind,t} + \varepsilon_{p,t} \quad (1)$$

$r_{xp,t}$  and  $r_{xind,t}$  denote the continuously compounded return of portfolio  $p$  and industry  $ind$  in excess of the continuously compounded return of the risk-free asset at time  $t$ , respectively.<sup>6</sup>

$SMB_{ind,t}$ ,  $HML_{ind,t}$  and  $MOM_{ind,t}$  are independent variables controlling for a firm's size, degree of intangible assets and recent share price momentum, respectively. The construction is described in appendix 1.  $\alpha_p$  represents systematic return difference between the portfolio and its benchmark factors. Alpha's significance and magnitude determine if and how much a industrial CSR leader portfolio out-/underperforms respectively.  $\beta_p$ ,  $\gamma_p$ ,  $\delta_p$ , and  $\lambda_p$  are coefficients to the respective independent variables and  $\varepsilon_{p,t}$  is a random disturbance terms.<sup>7</sup>

We use this industry level Carhart model as our baseline model for our corporate perspective portfolio.

To assess our investor perspective portfolio from the privately and publicly informed investor perspective, we add a dummy variable ( $PRIV_t$ ) to our baseline model, which is set to 1 in January and to 0 otherwise. In the resulting model displayed in equation (2), alpha informs us if and how strong publicly informed investors benefit from a potentially positive CSR effect, while the coefficient of the dummy variable ( $\varphi_p$ ) determines if and how strong privately informed investors can exploit a potentially positive CSR effect better than publicly informed investors.

$$r_{xp,t} = \alpha_p + \varphi_p PRIV_t + \beta_p r_{xind,t} + \gamma_p SMB_{ind,t} + \delta_p HML_{ind,t} + \lambda_p MOM_{ind,t} + \varepsilon_{p,t} \quad (2)$$



While our two baseline models control for all firm specific characteristics within a national economy, which are commonly known to influence stock returns, they do not control for portfolio exposure to national economies. This means, if a national equity market has performed particularly well (bad) during our sample period, an industrial CSR leader portfolio that are overexposed to this equity market will have upwards (downwards) biased financial performance estimations and vice versa. To control for the potential impact of strong or weak performing national equity markets, we add an independent variable ( $R_{ortmat}$ ) to both baseline models. It represents a column vector of all national MSCI equity market indices in our sample, which significantly out- or underperformed the MSCI World during the respective sample period. To avoid multicollinearity problems, each national equity market control variable has been orthogonalized from the MSCI World using Elton *et al.*'s (1993) orthogonalization procedure. The resulting two models are displayed in equation (3) and (4), where  $\theta_p'$  is a row vector of coefficients attached to the national control variables.

$$r_{xp,t} = \alpha_p + \beta_p r_{xind,t} + \gamma_p SMB_{ind,t} + \delta_p HML_{ind,t} + \lambda_p MOM_{ind,t} + \theta_p' R_{ortmat} + \varepsilon_{p,t} \quad (3)$$

$$r_{xp,t} = \alpha_p + \varphi_p PRIV_t + \beta_p r_{xind,t} + \gamma_p SMB_{ind,t} + \delta_p HML_{ind,t} + \lambda_p MOM_{ind,t} + \theta_p' R_{ortmat} + \varepsilon_{p,t} \quad (4)$$

## 6 Discussion of results

### 6.1 In which industry does CSR pay for corporations?

Our results displayed in Table 2 clearly signal that the effect of CSR on CFP is heterogeneous across industries. Our all industry portfolio results in a Carhart model alpha of 0.26% per month, which is significant at the 5% level. If we had ignored the potential heterogeneity of CSR across industries, we could have concluded based on this all industry estimation that our results are substantial support of Orlitzky *et al.*'s (2003: 423) “universally positive relationship” between CSP and CFP. However, as we theoretically conceptualize the

heterogeneity of the CSP – CFP relationship across industries and empirically disaggregate our estimations to an industry level, we can see beyond Orlitzky *et al.*'s general relationship between CSP and CFP.

Indeed, our results support our and other contingency perspective on the CSP – CFP relationship (Barnett, 2007; Rowley and Berman, 2000), which suggest that no general relationship between CSP and CFP exists. Despite our all industry portfolio convincingly outperforms the MSCI World, seven (eight) out of our ten industrial CSR leader portfolios do not outperform their industry benchmarks (when we control for country effects). Even if we consider that the energy portfolio and perhaps also the consumer staples portfolio more likely out- than underperform their benchmarks, we still find that CSR clearly does not have a positive effect on CFP in five industries, despite it clearly shows positive effects in two other industries. We interpret this discrepancy as a strong sign of the heterogeneity of the CSP – CFP relationship across industries.

The two industries with a significantly positive CSR effect on CFP are Consumer Discretionary and Health Care. Both fit our theoretical elaborations, as they have a relatively high proximity to the end consumer. Furthermore, both industries comprise many firms that sell durable experience goods and credence services, which Siegel and Vitaliano (2007) find to display substantially more CSR than other companies in consumer industries. This implies that dependence on consumer trust might be a highly relevant moderator of the CSP –CFP relationship across industries.

The characteristics of the firms in our sample of the 100 best CSR rated companies per year become a further indicator of the CSP – CFP link heterogeneity across industries. While top CSR firms in the health care and utilities industry have substantially more intangible assets than their industry peers (as signaled by the significant negative exposure to the HML factor), IT firms leading in CSR have significantly under-proportional intangible assets. This

implies that the suggested effect of intangible assets on the CSP – CFP link might itself be heterogeneous across industries (Barnett, 2007).

In summary, our results provide strong supports for a rejection on the implicit hypothesis that the CSP – CFP relationship is homogeneous across industries. This implies that future research on this issue might consider controlling for this heterogeneity as past research has usually controlled for the difference in industrial CFP. Furthermore, future research might find interesting research questions in a deeper exploration of the drivers of the heterogeneity of CSR impacts on CFP across industries.

Table 2: Financial performance estimations (corporate perspective portfolios)

Industry	Alpha (in %)	Beta	$\gamma$ (SMB)	$\delta$ (HML)	$\lambda$ (MOM)	Country Controls	Adj. R <sup>2</sup>
All industries	0.26**	1.02***	-0.03	0.01	-0.01	No	0.92
Consumer	0.60***	0.96***	-0.05	-0.06	0.08	No	0.80
Discretionary	0.41**	0.95***	0.00	-0.31*	-0.11	Yes	0.85
Consumer	0.29	1.40***	-0.26	0.05	0.05	No	0.74
Staples	0.29	1.33***	-0.42**	0.07	0.10	Yes	0.76
Energy	0.60	0.71***	-0.46***	0.07	-0.21	No	0.71
	0.58	0.71***	-0.46***	0.14	-0.22	Yes	0.70
Financials	-0.06	1.02***	-0.20	0.38*	0.29***	No	0.85
	-0.17	1.03***	-0.22	0.31	0.24**	Yes	0.86
Health Care	0.75***	0.80***	-0.34**	-0.44***	-0.23	No	0.47
	0.56**	0.75***	-0.38**	-0.36**	-0.22	Yes	0.46
Industrials	0.63**	1.00***	-0.20	-0.26	0.13	No	0.83
	0.41	0.99***	-0.23	-0.23	0.17	Yes	0.77
IT	0.03	1.09***	-0.09	0.28***	-0.08	No	0.78
	-0.03	1.10***	-0.03	0.27**	-0.11	Yes	0.83
Materials	-0.29	0.88***	-0.28	-0.02	-0.02	No	0.76
	-0.34	0.87***	-0.31*	-0.03	0.03	Yes	0.75
Telecom.	-0.18	0.83***	0.06	-0.12	-0.11	No	0.36
Services	-0.30	0.89***	0.14	-0.12	-0.13	Yes	0.36
Utilities	0.03	0.99***	-0.08	-0.39*	-0.40**	No	0.64
	-0.05	0.96***	-0.14	-0.45**	-0.39*	Yes	0.64

Explanation: This table reports the financial performance of an equal weighted all industry portfolio and our ten corporate perspective industry CSR leader portfolios, which are displayed in the respective rows. The first estimation displayed in each row is based on equation (1), the second estimation uses equation (3). The second column displays the alpha of a portfolio. If it is positive and significant, the respective portfolio significantly outperformed its benchmarks and vice versa. A portfolio's exposure to the respective benchmarks is displayed in columns three to six. The seventh column indicates, if country controls were employed in the regression model and the eighth column displays the Adjusted R-squared. \*, \*\*, and \*\*\* attached to a coefficient indicate significance at the 10%, 5% and 1% level, respectively. Standard errors and coefficient covariances are made heteroscedasticity and autocorrelation consistent based on the approach of Newey and West (1987).

## **6.2 In which industry does CSR pay, for what kind of investors?**

Our results from the investor perspective portfolios displayed in Table 3 show that the heterogeneity of CSP – CFP relationship across industries also holds from the investor perspective during our sample period. These results are striking, as they imply at least temporary semi-strong form market inefficiency.

While investors cannot benefit from the positive CSR effect on CFP in our all industries portfolio and in the industrial CSR leader portfolio in the consumer discretionary industry, they can exploit the positive CSR effects in the health care and industrials sectors. In the industrials sector, investors can achieve a significant abnormal excess return of more than 6% per annum by trading on CSR leaders. In the health care industry, they can even realize a significant abnormal return of above 8.5% per year. Interestingly, privately informed investors cannot exploit this effect any better in our sample than publicly informed investors can in both industries.

However, this result is most likely to derive more likely from the fact that privately informed investors have only 1 month per year to use their information advantages in our empirical setting instead of from a general uselessness of private information. Much to the contrary, if the top 100 CSR companies would not had been announced end of January but end of June, private investors would probably have substantially benefited from their information advantage, since the market does not appear to react to the announcements of the top CSR companies in the health care and industrials sector. In contrast, the market seems to react somewhat to the announcement of the top CSR companies in general and strongly to the announcement of the top CSR companies in the consumer discretionary sector, in which the positive CSR effect vanishes shortly after Innovest's rating. This implies that while financial markets recognize the value of CSR in some industries like consumer discretionary, which analysts might link to high profile CSR advertisement, financial markets do not recognize

positive CSR effects in other industries like health care or industrials. Hence, our results do not only support the heterogeneity of the CSP – CFP link across industries, but also imply a perceived heterogeneity of CSR value by financial market participants.

Table 3: Financial performance estimations (investor perspective portfolios)

Industry	Alpha (in %)	$\varphi$ (PRIV)	$\beta$	$\gamma$ (SMB)	$\delta$ (HML)	$\lambda$ (MOM)	Country Controls	Adj. R <sup>2</sup>
All industries	0.17		1.01***	-0.04	0.23**	0.03	No	0.90
Consumer Discretionary	0.34		1.09***	-0.30	0.17	0.18*	No	0.81
	0.41	-0.007	1.09***	-0.33*	0.18	0.16	No	0.81
	0.22	-0.003	1.05***	-0.12	-0.21	-0.09	Yes	0.84
Consumer Staples	-0.07		1.29***	-0.19	0.27	0.18**	No	0.69
	-0.21	0.01	1.34***	-0.21	0.24	0.16*	No	0.69
	-0.28	0.008	1.10***	-0.35***	0.26**	0.28***	Yes	0.76
Energy	0.15		0.84***	-0.24***	-0.22*	-0.28***	No	0.90
	0.20	-0.005	0.84***	-0.25**	-0.24*	-0.28***	No	0.89
	-0.03	-0.003	0.85***	-0.29***	-0.15	-0.26**	Yes	0.89
Financials	0.08		0.97***	0.17	0.07	0.17**	No	0.78
	0.07	0.002	0.97***	0.18	0.06	0.17**	No	0.78
	-0.20	0.004	1.01***	0.10	-0.03	0.04	Yes	0.80
Health Care	0.90**		0.73***	-0.45***	-0.47***	-0.57***	No	0.48
	0.90***	-0.001	0.73***	-0.46***	-0.47***	-0.57***	No	0.47
	0.74*	0.00	0.74***	-0.47***	-0.41**	-0.54***	Yes	0.50
Industrials	0.54**		1.17***	-0.47***	-0.09	-0.03	No	0.83
	0.66***	-0.01***	1.14***	-0.54***	-0.02	-0.03	No	0.83
	0.63**	-0.012**	1.10***	-0.59***	-0.25	-0.04	Yes	0.84
IT	0.26		0.95***	0.01	0.18*	0.10	No	0.78
	0.59	-0.03***	0.89***	-0.08	0.12	0.02	No	0.80
	0.42	-0.02***	0.94***	-0.04	0.16	0.00	Yes	0.79
Materials	0.32		0.78***	-0.75***	-0.01	-0.06	No	0.63
	0.58	-0.02	0.76***	-0.78***	-0.01	-0.05	No	0.65
	-0.06	-0.01	0.74***	-0.73***	-0.05	-0.02	Yes	0.76
Telecom. Services	-0.32		0.87***	-0.12	0.15	-0.04	No	0.50
	-0.18	-0.01	0.83***	-0.13	0.15	-0.03	No	0.49
	-0.40	-0.01	0.85***	-0.14	0.06	0.01	Yes	0.50
Utilities	-0.06		1.04***	0.11	0.03	-0.14	No	0.78
	0.05	-0.008	1.03***	0.09	0.01	-0.17	No	0.78
	0.01	-0.01***	0.97***	0.24	-0.06	-0.14	Yes	0.85

Explanation: This table reports the financial performance of an equal weighted all industry portfolio and our ten investor perspective industry CSR leader portfolios, which are displayed in the respective rows. The first estimation displayed in each row is based on equation (1), the second on equation (2) and the third estimation on equation (4). The second and third column displays the public investor alpha and the private investor alpha of a portfolio. If the public investor alpha is significant and positive, publicly informed investors can exploit a positive CSR effect, which implies temporary semi-strong form market inefficiency. If the private investor alpha is positive and significant, then privately informed investors can utilize a positive CSR effect in the respective industry significantly better than publicly informed investors. A portfolio's exposure to the respective benchmarks is displayed in columns four to seven. The eighth column indicates, if country controls were employed in the regression model and the ninth column displays the Adjusted R-squared. \*, \*\*, and \*\*\* attached to a coefficient indicate significance at the 10%, 5%, and 1% level, respectively. Standard errors and coefficient covariances are made heteroscedasticity and autocorrelation consistent based on the approach of Newey and West (1987).

## 7 Robustness tests<sup>8</sup>

We pursue two robustness tests. First, we estimate our portfolios value-weighted instead of equal-weighted. We select equal weighted for our main models, as we aim to investigate the effect of CSR on CFP per company, not mainly in the largest companies. Moreover, some of our industrial CSR leader portfolios comprise only a few companies. Therefore, value weighting could result in some cases in us virtually estimating the value of CSR for one or two large companies instead of the average CSR leaders in an industry. Consequently, we consider the results of our value-weighted portfolios more erratic and less relevant than the results of our equal-weighted portfolios. However, when we estimate the value-weighted portfolios, we find the results consistent with our equal weighted portfolios with the exception that the outperformance of the industrials portfolio vanishes.

Second, it could be that the CSP – CFP relationship is not only heterogeneous across industries but also within industries. In such a case, a few specific companies within the consumer discretionary, industrials and health care sector might drive the positive CSR effect and a few specific companies in other industries might hinder a positive CSR effect. To investigate this possibility, we estimate a variation of each of our four models for each of our 196 companies. The variation of each model includes an additional dummy variable that is set to 0 for years during which a company was on the Global 100 list, and set to 1 otherwise. This dummy variable ensures that our financial performance estimations are not systematically biased by the performance of companies during periods for which they did not received a top 100 CSR rating. The results of this robustness tests show distributions of CSR leader performance within an industry, which does not indicate that the CSP – CFP relationship is heterogeneous within industries.

## 8 Conclusion

Based on previous contingency perspectives (Barnett, 2007; Rowley and Berman, 2000), we presume the effect of CSR on CFP to be heterogeneous across industries. We consider the main reasons for this heterogeneity to stem from differences among industries' dependency on certain stakeholder groups, their proximity to the end consumer, their potential for social and environmental damage and their degree of product/service differentiation. We advocate a second contingency perspective beyond the question concerning for when does CSR pay, as we also ask, for whom does CSR pay? Despite previous research nearly exclusively takes the perspective of the corporations, CSR might also pay or not for stakeholders, governments or investors.

A unique empirical setting allows us to analyze the question, in which industries CSR pays from the corporate and the investor perspective, whereby we can distinguish between privately informed and publicly informed investors. Our results strongly reject previously implicitly made hypothesis that the CSP – CFP link is homogeneous across industries. Of the 10 GICS sectors with a 2 digit code, we find five sectors clearly display an at best neutral relationship between CSP and CFP, while the health care, industrials and consumer discretionary sector display a significantly positive relationship. Moreover, investors could exploit CSR value in the former two industries, which implies at least a temporary semi-strong form inefficiency of capital markets.

Our results signal to professionals that CSR is a contextual concept, whose value has to be assessed in relation to industrial business processes. For future research, our results have at least four implications. First, while past studies of the CSP – CFP relationship usually control for industry specific drivers of CFP, they rarely control for a potential heterogeneity of the CSP – CFP relationship across industries. This implies that previous results might have to be re-interpreted and future interesting research projects might be found in re-estimating a few

relevant questions. Second, while we theoretically conceptualize drivers of the heterogeneity CSR value across industries, it is beyond the scope of this paper to empirically test these drivers. Therefore, it might be interesting for future research to explore the sources of industrial heterogeneity. Third, our unique empirical setting provides us with the opportunity to assess the CSP – CFP link from the corporation and investor perspectives. However, this opportunity comes at the cost of only having a conditional aggregate measure of CSR. Future research might want to investigate industrial differences using conditional measures of CSR sub constructs (e.g. employee relations, environment) or even individual indicators (e.g. carbon emissions, female on board). Fourth, some future research might want to challenge our and other contingency perspectives and continue the quest for one general relationship between CSP and CFP. Such future research might consider controlling for a potential heterogeneity of CSR value at industry level to sharpen estimations and avoid bias. In this sense, we hope that our paper can bring the potential heterogeneity of CSR impacts on CFP into the attention span of researchers in this field.



## Appendix 1

We construct our control factors  $SMB_{ind,t}$ ,  $HML_{ind,t}$  and  $MOM_{ind,t}$  for each of our ten GICS sectors with the online research tool of Style Research Limited, which is based on the Worldscope database. Our factor construction follows previous studies (Bauer, Koedijk and Otten, 2005; Renneboog, Ter Horst and Zhang, 2008a) that constructed the same factors using Style Research Limited at the national level.

The size factor SMB (Small minus Big) is constructed as the return difference between the stocks in the lower half of a market capitalization ranked industry stock universe and the stocks in the upper half of the same universe. The intangible assets factor HML (High minus Low) is based on a industry stock universe ranked according to book value to market value ratio, which can be viewed as the inverse of a company's intangible assets (Lev, 2003). HML represents the return of the Top 30% minus that of the Bottom 30% of this universe ranked according to book to market value ratios. The momentum factor MOM is based on an industry stock universe ranked according each stock's return over the previous twelve months. It represents the return difference between the Top 30% (previous winners) and the Bottom 30% (previous losers). The MOM factor is updated monthly, while the SMB and HML factor are updated annually at the end of June in line with Fama and French (1993). All portfolios are value-weighted and based on one month lagged information.<sup>9</sup>

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## Endnotes

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<sup>1</sup> Some professionals and academics have begun in recent years to rename the concept of corporate social responsibility with the maybe slightly more precise term corporate sustainability. We recognize this development and understand both terms as synonyms. We use the traditional term – corporate social responsibility – in our writing, as it is still more common than corporate sustainability (Salzmann, Ionescu-Somers and Steger, 2005; van Marrewijk, 2003).

<sup>2</sup> We consider our fourth and fifth condition (national framework and industry characteristics) to jointly comprise Rowley and Berman's (2000) institutional environment and stakeholder environment concept.

<sup>3</sup> In addition to these two types of studies relating industries to the CSP – CFP link, Heinze et al. (1999) analyze the effect of Fortune's financial soundness and long term investment value rating on its CSR rating using of the largest eight to ten companies in each of 22 manufacturing industries. As their findings are neither based on more than a single year of perceptual Fortune ratings nor controlled for potential multicollinearity of the two independent CFP variables, their information value regarding CFP's effect on CSP appears inconsequential.

<sup>4</sup> Unfortunately, we cannot extend our sample period substantially beyond the credit crisis, since Innovest and Corporate Knights abandoned their collaboration, when Innovest was acquired by RiskMetrics in February 2009. Subsequently, both partners separately continued to publish a list of 100 companies with highest CSR ratings, but both new lists are incompatible with the previous list. RiskMetrics uses the Innovest ratings and a slightly modified method to announce a Global ESG 100 list end of January. However, while Innovest and Corporate Knights joint venture was announced publicly at the high profile World Economic Forum, RiskMetrics new list is announced on its website and only available to registered users. Hence, even if the RiskMetrics list would have a compatible method to the previous list, the communication to the publicly informed investor is incompatible. Corporate Knights continues its World Economic Forum announcements its Global 100 list at the World Economic Forum in Davos, but they work with different CSR rating agencies since 2010.

<sup>5</sup> A list of sample companies and a list of excluded companies is available upon request.

<sup>6</sup> The return for each GICS industry sector represents the respective MSCI Industry index retrieved from Datastream inclusive of distributions. To arrive at our risk free asset return, we transform the investment yield of the four weeks U.S. treasury bill stated as arithmetically calculated per annum return in a monthly risk free return in a two step process. First, we arithmetically transform the annual figure in a 28 days return using 365.25 days per year. Second, we geometrically transform the 28 days return in a monthly (30.4375 day) risk free return.

<sup>7</sup> The random disturbance term captures all of a portfolio's return variation that cannot be systematically related to the regression equation's independent variables or its constant.

<sup>8</sup> Results of our robustness tests are available upon request.

<sup>9</sup> As Style Research does not offer the construction of the size and book to market factor precisely according to Fama and French (1993), we follow Renneboog et al.'s (2008a) slightly amended procedure. Renneboog et al. (2008a 307) find that their 'factors are virtually identical' to the ones of Fama and French (1993).