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Corporate social responsibility on the company's financial performance in different target markets and for different types of goods sold. A panel empirical study on North American publicly listed companies.

Name: Martina Valentinova Kamburova

Student number: 535634mk

Supervisor: Sam Hoey

Second assessor: dr. Brigitte Hoogendoorn

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Abstract

Corporate social responsibility (CSR) is emerging as a solution to the sizeable environmental and societal impact that firms have in today's economy. In a world where firms pursue higher profits, the purpose of this study is to observe whether engagement in socially responsible actions positively affects the corporate operational and market financial performance, and whether the established nexus varies among different industry dimensions. The paper performs an empirical research, using data on North American publicly listed companies in the years 2005 to 2017. It looks whether companies that target individual consumers and ones that offer services can capitalize more on the benefits of investing in a CSR profile and observes what the potential underlying reasons for those effects might be, using a fixed effects estimator. The results confirm that CSR can be used as a strategic tool in boosting the company's growth and that the incentives are higher for firms in industries where the individual consumers are the main target group. Furthermore, the study highlights the importance of stricter governmental measures to minimize harmful corporate actions, higher transparency in CSR reporting and continuation of consumer activism towards corporate accountability.

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List of abbreviations

ATS – Advertisement-to-sales

B2B – Business-to-business

B2C – Business-to-consumer

CFP – Corporate financial performance

CSR – Corporate social responsibility

CUSIP – Committee on Uniform Securities Identification Procedures

ESG – Environmental, Social and Governance

FE – fixed effects (estimator)

MSCI – Morgan Stanley Capital International

NCSR – Negative corporate social responsibility

NEC – "Not elsewhere classified"

NR – "Not researched"

OVB – Omitted variable bias

PCSR – Positive corporate social responsibility

Pooled OLS – Pooled ordinary-least-squares (estimator)

R&D – Research and development

RE – Random effects (estimator)

ROA – Return on assets

SEC – Securities and Exchange Commission

SIC – Standard Industrial Classification (code)

VIF – Variance inflation factor

WRDS – Wharton Research Data Services

1. Introduction

Corporate social responsibility (CSR) is a guide for companies to contribute to the social welfare creation and partake in the sustainable development of modern economies, taking into account the magnitude of their impact on the environment and the society. And in an interdependent eco system, where interactions between consumers, companies and governments influence and affect each other's behavior, CSR has emerged as a solution to the negative environmental and societal impact, that firms could have (Porter & Kramer, 2006). Recognizing the role of firms, on the one hand, more than 80 % of consumers across all generations believe that companies should contribute to the preservation of the environment, thus shaping the current consumer trend for sustainability and ethical production (Nielsen, 2017). On the other hand, governmental regulators nudge toward companies' responsiveness and accountability in their economic activities (Dahlsrud, 2008; United Nations, 2015), evident by the institutional implementation of stricter CSR policies, albeit each country is setting individual objectives and different rates of employment (Gjolberg, 2009).

The external factors, particularly the stakeholder pressure, are not the only contributor to the fostering of CSR. Further strategic drivers for building a sustainability profile are a brand reputation increase (see for example McWilliams & Siegel, 2011; Cantele & Zardini, 2018) and other positive externalities, such as cost savings or lowering the cost of capital (McWilliams & Siegel, 2006), for the investing companies. Therefore, adopting an industrial dynamics perspective, corporate social responsibility has gained priority on the to do list of companies in their goal of increasing their corporate financial performance (CFP) (Dupire & M'Zali, 2018). Moreover, some corporations have decided to implement a more holistic method when looking at the firm's success, by using a triple-bottom-line approach, consisting of three aspects – economic, environmental and social growth (Castelo Branco & Rodrigues, 2006).

Overall, regardless whether strategic or responsive, CSR has benefits for the society as a whole, and aids in the accomplishment of the companies' moral purpose of (social) welfare creation. (Porter & Kramer, 2006). Therefore, considering the heterogeneous perspectives in a modern economy, the topic of CSR and its successful implementation for both the continuous growth of the firm and achieving sustainable development has become highly relevant in today's world.

The CSR-CFP nexus has, additionally, gained traction in the academic world. Theoretical and empirical research tries to draw insights on the complex and interdependent relationship between the company's efforts in CSR implementation and their bottom-line success (see for example Castelo Branco & Rodrigues, 2006; McWilliams & Siegel, 2011). Despite the attempts to unlock the CSR puzzle in the economics dynamics, however, researchers fail to find a consensus on just about anything – from the definition of what being a socially responsible company entails (Dahlsrud, 2008), to what are the direct and indirect effects on efforts in sustainability investments on the financial performance. Therefore, future research is needed to structure and unify the CSR measurement, and furthermore, to keep drawing insights on its complicated and continuously evolving relationships with the company's growth and with the other actors in an ever-changing society (Margolis & Walsh, 2003; Wood, 2010; Aguinis & Glavas, 2012). Moreover, management literature agrees that cross-industry analysis should be studied carefully when researching CSR effects, implying the need for a closer observation of the effects borne by industry heterogeneity in the CSR-CFP link. However, many papers on CSR only either focus on one industry (see for example Moore, 2001; Kim et al. 2018) or control for the industry in the empirical model (see for example McWilliams & Sigel, 2006; Gallo & Christensen, 2011). Particularly, observing the nature of the relationship between CSR, marketing strategy and company success, research focuses on the relationship within a business-to-consumer (B2C) context (Vaaland et al., 2008). Thus, leaving a gap in the empirical literature for the practices of CSR in business-to-business (B2B) industries (Raman, 2011; Hoeijmose, 2012), and failing to address the potential different impact that CSR might have in the two settings (Workman et al., 1999, Lichtenthal et al., 2009, Homburg et al., 2013).

In light of the developments in the literature, the aim of this paper is to investigate the effects of CSR policy implementation by corporations on their financial performance and whether the magnitude of these effects could be explained by the heterogeneity of their industries, particularly the main target market and types of goods sold within the industry they operate in. Furthermore, the research tries to find the underlying reason for the expected effects, attempting to find "how CSR comes to bear upon CFP" (Margolis et al., 2008). The two arising sub-questions are the following:

1. *Are the effects of CSR implementation weaker in B2B industries compared to B2C ones and what may be the underlying reason behind it?*
2. *Are the effects of CSR implementation stronger in service-based industries compared to product-based industries and what may be the underlying reason behind it?*

To explore the research questions, a sample of company data on North American publicly listed companies for the years 2005 to 2017 has been analyzed.

The paper will contribute to the existing literature in the following ways. Firstly, the research will be a valuable addition to the empirical literature on the effects of CSR on CFP, as it is a longitudinal study with the most recent data on CSR for a time span of longer than 10 years. Thus, it will aid in getting a better understanding of this economic phenomenon in a highly dynamic and ever-evolving society. Secondly, the empirical research will contribute to the academic research by constructing an inclusive and uniform measurement of CSR, which accommodates the reality of data availability, the heterogenous character of each company and the changes in the measurement of this very complex phenomenon throughout the years. It will do so by focusing on the individual progress within each company, rather than taking certain measure as a status quo and attempting to compare the ability of monkeys and fish to climb a tree. Thirdly, the empirical research will try to draw insights on the CSR-CFP puzzle in various industry dimensions. On the one hand, by observing the effects of CSR practices on the financial performance of B2C as well as of B2B companies, since individual and business consumers have different demands and, therefore, are subject to different marketing strategies, and since the impact of business consumers is substantial (Morris et al., 2001). On the other hand, by testing empirically whether implementation of CSR yields different outcomes in product-based and service-based industries, as their environmental impact can differ vastly and thus, a corresponding to these differences policy mix might be more suitable. Lastly, the findings of the empirical research will have implications on societal, managerial and policy levels.

The remainder of the paper is structured as follows. Firstly, the theoretical and empirical background of the CSR-CFP nexus will be presented. Secondly, the data and the research methods for conducting the empirical research will be explained, followed by the results and robustness checks from testing the constructed hypotheses. Lastly, the paper will end with a general discussion and conclusion.

2. Theoretical and empirical background of the CSR-CFP nexus

2.1. Definition and characteristics of the notion of CSR

The one thing the literature on CSR can agree on, is that there is no agreement on a uniform definition of the concept. Dahlsrud (2008) explores the notion of CSR across the academic literature and tries to unify the abstract definition that the social construct of corporate social responsibility emerges to be. He derives five main dimensions which CSR encapsulates: the environmental one, capturing the effect of firms on nature; the social one, encasing the relationship between the businesses and society; the economic one, representing the goal of generating economic profit (suggesting CSR is a tool with the aim of profitability); the stakeholder dimension, highlighting the interactions between the company and its stakeholders; and the voluntariness one, suggesting that CSR surpasses legal obligations. The five dimensions infer the magnitude of the corporate economic impact and imply the dynamic character of the CSR notion, as it is a set of interactions with other evolving actors. Margolis et al. (2008) also address the diverse character of CSR and its use of measuring a variety of concepts, however they unite the manifold concept solely under the slogan of "trying to do good". Furthermore, McWilliams & Siegel (2006) label CSR to be a "private provision of public goods" and introduce the positive externality nature of CSR in a neoclassical economics context. To elaborate further, the authors recognize that efforts in CSR generate external benefits, which due to the inability of the firm to appropriate them, are either overpriced or underprovided. Stemming from neoclassical economics, CSR, being a positive externality, creates a market failure, for which governmental intervention is necessary to correct for it, and ensure the right amount of engagement in CSR.

To unfold the theoretical concept in the business world lens, a company can engage in CSR in many and diverse ways. It can minimize the environmental impact of production processes as a means to preserving the natural environment, engage in charitable contributions to give back to the community, or increase transparency in the business processes to address efforts in corporate accountability, to give a few examples. Those and many other individual actions that a firm can undertake contribute to the environment or the society in some way. Thus, added up they build the CSR profile of the company, which as an aggregate fosters the creation of social welfare.

In light of these findings, CSR will be perceived in this paper as a positive externality, engaged voluntarily in, beneficial to society and with a significance to welfare creation, irrelevant in which aspect – be it environmental, societal or other.

Exploring further the avenue of the characteristics of CSR, Kim et al. (2018) recognize that companies can also engage in harmful to society (or the environment) business practices, assigning them the name of "negative corporate social responsibility" (NCSR), thus extending the label of CSR to a "positive corporate social responsibility" (PCSR). The authors suggest that the two notions of PCSR and NCSR have a similar influence on the interactions of the firm with the outside, just operate in different directions (PCSR generates a positive eternality, and NCSR – a negative externality). Moreover, it is highlighted that albeit the movement of the two concepts happens in opposite directions, PCSR and NCSR are distinct concepts occurring at the same time, thus they should be observed separately. In addition, the authors are conscious that the engagement in one of the two might not vis-à-vis counteract (compensate) for the other, as the cognitive responses to the two differ (Lange & Washburn, 2012), giving further importance to the separate observation of PCSR and NCSR. Therefore, this empirical research also disentangles the two concepts and observes the individual effect that PCSR and NCSR have on the CFP, in addition to observing the effect of the combined "CSR profile" of the company.

2.2. The CSR – CFP nexus

The importance of CSR on the environment and society inspires research to continuously observe and draw insights on the phenomenon. And as the definition of CSR includes a goal for profit and the corporate financial performance is viewed as an important determinant for management, CFP has become the dominant dependent variable in the theoretical and the empirical research (Walsh et al., 2003).

Dissecting the relationship between the social responsibility and financial performance of firms from a theoretical stance, while keeping the economic dimension of CSR in mind, Porter & Kramer (2006) divide the concept of CSR between responsive and strategic CSR. Responsive CSR is conducted by the company in an act to be a good corporate citizen, while strategic CSR is an integration to the corporate strategy with the aim of generating competitive advantage. Thus,

by following a strategic CSR policy, a corporation considers what is the most valuable way in which it could benefit from CSR and invest there, thus establishing that endeavors in strategic CSR can be particularly lucrative for improvement of the brand reputation and strengthening the firm's competitiveness. Hess et al. (2002) support these findings, by suggesting that efforts in CSR can be a strategic tool in both generating competitive advantage or responding to pressures from the "moral marketplace". Other studies corroborate utilizing CSR as a competitive advantage, where they find a positive effect of CSR as a tool to mediate reputation in a resource-based view framework (for example McWilliams & Siegel, 2011; Saeidi et al., 2015; Cantele & Zardini, 2018).

Turning to the empirical literature, meta-analyses confirm that investments in CSR do not harm the CFP, endorsing the economic dimension of CSR (Orlitzky et al., 2003; Margolis et al., 2008). However, the studies either find only a positive association between CSR and CFP, failing to establish a causal relationship, or conclude that there is a very small positive effect of the act of "doing good" on the company "doing good" herself. Furthermore, the authors suggest that CSR has different effect on the market performance than on the operational performance. To elaborate further, both meta-analyses distinguish the measures of financial performance, by dividing them into accounting-based measures, which rather reflect internal decision-making capabilities of the management, and market-based measures, which report the external market responses to the economic activity of firms. Therefore, with the aim of deriving more insights on the CSR-CFP phenomenon, both types of measures have been included in the empirical research.

In a mission to find the drivers behind the CSR-CFP nexus, empirical research tests the relationship in different contexts and under different circumstances. CSR is viewed as an insurance policy (Minor et al., 2011), as a cost-saver for equity financing (El Ghoul et al., 2011), and as a preemptive measure to future governmental regulations (Maxwell, Lyon & Hackett, 2000). However, CSR is predominantly viewed as a tool to enhance the corporate reputation, thus boosting economic growth, making reputation an important moderator in the CSR-CFP puzzle (McWilliams & Siegel, 2000; Toms, 2010; Castelo Branco & Rodriguez, 2006; Rettab et al., 2009; Lev et al., 2010; Galbreath et al., 2012; Jorge et al., 2015). Orlitzky et al. (2003) also find support of these findings in their meta-analysis, suggesting that reputation is a particularly influential factor on the firm's growth. Closing the CSR-reputation-CFP circle, Roberts et al.

(2002) discover that a good corporate reputation has a positive impact on the financial performance of the company. Other influential moderators, found in the literature are customer satisfaction, employee commitment and stakeholder satisfaction, found to boost the role of the corporate reputation on the company's bottom line. Last in the discussion of moderators of CSR and CFP, McWilliams et al. (2000) find that the CSR-CFP link is disintegrated by the company research and development (R&D) intensity, however later research, controlling for that measurement, rejects this finding. In light of the findings in the literature, the following effect is expected:

H1: CSR has a positive effect on CFP.

2.3. The CSR-CFP nexus in different industries

The empirical literature tests the CSR-CFP nexus also in different dimensions, by grouping firms by the industry they operate in. It is discovered that the industry heterogeneity plays a significant role, implying that the relationship between the socially responsible actions and the financial performance of the firm varies across sectors (Banerjee, 2003; Hull and Rothenberg, 2008; Arendt & Brettel, 2010). Margolis et al. (2008) suggest that the underlying reason behind the found differences across the studies in the meta-analysis might be due to some industries having a higher environmental impact (being "dirtier" than others), some industries being under a stricter policy mix than others, or companies operating in separate industries receiving a different level of stakeholder scrutiny, thus also having different incentives to invest in a better CSR profile. This does not mean that in some industries the CSR-CFP link does not exist at all, as research finds some effect across all industries (Rowley & Berman, 2000; Orlitzky et al., 2003). Furthermore, van Marrewijk (2003) and Tang et al. (2012) recognize the industry heterogeneity and suggest that despite the differences, every company can yield benefits from strategic CSR by tackling the relevant CSR issues. Moreover, they derive, that CSR is and should be different for every company, exactly because the contextual factors vary across the industries. In light of the findings in the literature, this empirical research highlights two industry characteristics to test as important moderators in the CSR-CFP nexus, namely whether an industry's main target market is individual consumers or business consumers (following the stakeholder scrutiny argument),

and whether the main goods sold in that industry are products or services (following the heterogeneous firm impact argument)[1].

2.3.1. The CSR-CFP nexus in B2C and B2B industries

Considering the specificities in the CSR-reputation-CFP circle, a way for companies to signal their reputation is by communicating it in their marketing messages, allowing CSR to have a positive impact on brand image (Bhattacharya et al., 2004). Moreover, Lamond et al. (2010) find that CSR can aid the company's marketing strategies and boost the corporate image in the eyes of shareholders. In light of these findings, it is opportune to explore the role of CSR on CFP in the company due to its effects on the company's marketing strategy.

Taking a closer look at the strategic marketing choices, they are highly dependent on the consumers within the markets that the firms target. A general classification of the types of target markets is the one distinguishing between individual consumers and corporate (business) consumers. Due to the fundamental differences between these two groups, there is also a clear distinction between the companies servicing them. The ones, aimed at the former group, are called business-to-consumer, or B2C, and the ones focusing on the latter – business-to-business, or B2B. Thus, when it comes to implementing marketing strategies, B2B and B2C companies have very different objectives, goals and methods (Lichtenthal et al., 2009, Swani et al., 2014). For a B2C company, implementing CSR polices within its processes can be utilized in a marketing campaign as an effort in improving the corporate social and environmental image, thus resonating with individual consumers (Bhattacharya et al., 2004, Beckman, 2007, Arli et al., 2010). However, business consumers being less emotional and more rational, base their decisions on a variety of factors and are not purely influenced by their "warm glow" to do good. Therefore, a CSR status can have a much smaller impact in B2B marketing than in B2C relationships (Workman et al., 1999; Raman, 2011). Other studies support these findings – Lev et al. (2010) discover that charitable contributions (which is one factor in the list of diverse factors comprising the CSR social construct) have a stronger effect on the financial performance in

[1] Margolis et al. (2008) pose a third argument, namely the preemptive measure to new regulations, but as CSR is viewed as a *voluntary* action and legislations develop over time, observing this particular dynamics grows to be very complex, thus the research stops at exploring only the other two avenues.

customer sectors; Hoeijmose (2012) finds that investments in green supply chains occurs more often in B2C markets compared to B2B ones, assigning the difference on the stronger stakeholder pressure that B2C companies have. However, that does not necessarily mean that CSR provides no benefits for B2B companies, as Homburg et al. (2013) find a positive effect of CSR in company growth in B2B contexts and Lai et al. (2010) find a positive effect of CSR on brand reputation of B2B companies. Regardless, the impact of CSR in B2B and B2C settings does not seem to be identical. The findings in the literature suggest the following expected effect:

H2: CSR has a smaller positive effect on CFP in industries within B2B settings compared to ones within mixed or B2C settings.

Furthermore, the underlying reason behind this effect might be that individual consumers are more perceptive to communication via advertising. Therefore, the following effect is expected:

H2a: CSR has a smaller positive effect on the marketing campaigns of a company in industries within B2B settings compared to ones within mixed or B2C settings.

2.3.2. The CSR-CFP nexus in product-based and service-based industries

Next to the target market dimension, another major distinction within the industries taxonomy is the goods type, that the companies in an industry sell, dividing industries into product-based and service-based. To elaborate further, product-based industries are industries comprising of companies, for which the main source of income comes from the production and sale of tangible goods – products (to give an example, the furniture industry is one such product-based industry). Conversely, the service-based industries are defined as industries in which the companies' main source of income comes from the offering of services (the banking sector is considered as one, for example). The distinction between the goods sold could be paramount to the CSR-CFP link due to their heterogeneous environmental impact (Margolis et al., 2008) and due to the heterogeneous costs of implementing CSR practices in companies in the two types of industries (Banerjee et al., 2003). On the one hand, the production and, later on, the disposal of tangible goods (products) has a bigger environmental impact than the provision of intangible services (Caroll, 1979). Therefore, environmentally invested consumers would care more about

the sustainability profile of product companies than the one of service companies in attempting to achieve their goal of minimizing their environmental footprint (Banerjee, 2003; Torugsa et al., 2012). On the other hand, implementing CSR practices can be more costly and more difficult to implement for manufacturers, thus "cutting more of the profit pie". This suggests that obtaining a higher CSR profile could have an additional negative effect on the financial performance of product-based companies, and thus lower the overall expected positive effect for them. Therefore, it is expected that service-based companies will be more likely to invest in CSR (Siegel & Vitaliano, 2007). Studies on the topic are mostly in support of the latter argumentation, since the found evidence leads to a more significant impact of CSR on the bottom line for service-based companies (Calabrese & Lancioni, 2008; Jackson & Parsa, 2009). Furthermore, Arendt & Brettel (2010) also confirm a stronger direct effect in service-based industries, albeit they also find evidence that CSR investments in product-based companies has a bigger impact on the corporate reputation and image, withholding from a straight-forward relationship between CSR and company growth based on the company's type of business. In light of the literature at hand, the following effect is expected:

H3: CSR has a bigger positive effect on CFP of companies in service-based industries compared to ones in product-based industries.

Furthermore, the literature assigns the heterogeneities on the environmental impact that companies in various industries have, thus the following effect is expected:

H3a: Environmental CSR has a bigger positive effect on CFP of companies in service-based industries compared to one in product-based industries.

The research on the CSR-CFP link suggests an influential role of industry heterogeneity, therefore, it is expected that the two effects hypothesized in hypothesis 2. and 3. occur simultaneously:

H4: CSR has a smaller positive effect on CFP of companies in product-based industries within B2B settings compared to companies in other industry settings.

3. Data and research methods

3.1. Data

To conduct the research, a sample of U.S. and Canadian publicly listed companies for the years 2005 to 2017 has been used. The financial indicators needed for the construction of the dependent and most independent variables has been obtained from the Compustat North America dataset by Wharton Research Data Services (WRDS) and information regarding the environmental, social and governance indicators for the construction of the CSR variable has been collected for the years 2005-2016 from the Morgan Stanley Capital International (MSCI) KLD dataset by WRDS. Compustat North America has been chosen since it is a preferred dataset for financial information in CSR research and the MSCI KLD database has been chosen, since it is considered as one of the most reliable and independently-owned datasets on assessing CSR performance, due to the transparency of its assessment criteria, making it easy to validate the scores (Margolis et al., 2008).

3.2. Sample selection

The two datasets have been merged by an 8-digit Committee on Uniform Securities Identification Procedures (CUSIP) code[2] and the unmatched observations have been dropped. The majority of the observations were dropped due to lacking information on their CSR performance in the MSCI KLD dataset. This suggests, that the research at hand cannot observe the CFP of companies who either do not engage in any CSR, or hide their social performance, thus it is limited to deriving insights on the CSR-CFP nexus for companies, that have been included in MSCI's database.[3] Furthermore, the merged unbalanced sample suffered from attrition bias and to correct for it the companies for which the attrition lead to a bias for any 1 of the three used dependent variables, were dropped out, leading to the final sample of 12,851 observations from 999 unique companies, for which there is data for 12 or 13 of the 13 years of interest.

[2] A possible limitation of the data is the fact, that the CUSIP code can change over time, however that was the only available common company indicator among the two datasets.
[3] Further discussion of this limitation can be found in the Discussion section.

3.3. Descriptive statistics

Looking at the sample[4], it can be seen that there are companies with negative operational performance (min. ROA= -1.65) and with a positive one (max. ROA= 1.11), market financial performance is always positive, with a Tobin's Q ratio ranging from 0.52 to 23.29 in the sample. Furthermore, when it comes to the "social performance" of the companies, the extended CSR ratio (used for the baseline results) ranges from -0.4 to 0.86 in the sample from a possible range of -1 to 1, indicating that the firms in the sample vary a lot in their socially responsible actions. Diving deeper, companies engage in both PCSR as well as in NCSR, the ratios in the sample ranging from 0 to 0.94 and 0 to 0.67, respectively, from a possible range of 0 to 1.

Moreover, out of the 999 companies in the sample, 597 are considered to be in a B2B industry, 201 – in a B2C, and 201 – in an industry where both B2B and B2C companies operate. Additionally, in the sample 444 companies are in product-based industries, and 555 - in service-based ones. Therefore, the final sample is considered to have enough variation, with a sufficient number of companies belonging to each category for the two observed industry dimensions.

3.4. Dependent variables

3.4.1. Measurement of CFP – Return on Assets and Tobin's Q

The dependent variables Return on assets (ROA) and Tobin's Q of company have been chosen as the most representative indicators of CFP. Both variables have been kept as proxies for corporate financial performance, since ROA is a preferred accounting-based measure, and the Tobin's Q – an often used market-based measure (Orlitzky et al., 2003; Margolis et al., 2008). Therefore, with the aim of drawing better insights on the CSR phenomenon, and its effect considering the internal decisions and the external environment, all relevant models have been estimated with the two measures. They have been calculated in the following manner:

$$ROA = \frac{Net\ income\ of\ company}{Total\ assets\ of\ company}$$

[4] Descriptive statistics of all variables of interest can be found in Appendix.

$$Tobin's\ Q = \frac{Total\ assets + Common\ shares\ outstanding * Closing\ price - Book\ value\ of\ common\ equity}{Total\ assets}$$

where the formulas are consistent with the available measurements in the Compustat database[5].

3.4.2. Measurement of a success of a marketing campaign – Advertising–to–sales ratio

The dependent variable used for testing hypothesis 2a. in equation (3) is the advertising to sales ratio (ATS) of a company. It has been taken as a measurement of the success of a marketing campaign, as it is considered to be a proxy for competitive strategy (Bayar et al., 2016). When observing the effect of CSR on the ATS, a lower ratio indicates high sales generation compared to the costs made. It is calculated on an annual basis in the following manner:

$$ATS\ of\ company = \frac{advertising\ expenses\ of\ company}{total\ revenues\ of\ company}$$

where the formula is following the Corporate Finance Institute (2017).

3.5. Main explanatory variables

3.5.1. Measurement of CSR

To obtain the CSR of a company, information on all available Environmental, Social (Community, Human Rights, Employee Relations, Diversity and Product) and Governmental (ESG) factors for the years 2005-2016 (119 factors in total) have been obtained from the MSCI KLD Social rating index[6]. Each factor in every category is assigned either as a "strength" (value of 1 for a positive rating, and 0 for not meeting the assessment criteria) or as a "concern" (value of 1 for a negative rating, and 0 for not meeting the assessment criteria). Each indicator can also have the value "Not Researched" ("NR") if the company has not been researched for that particular ESG indicator.

In the period of 2005-2016, however, some factors have been discontinued (like "Compensation and Benefit"), others have been renamed, or regrouped in a different category,

[5] A list of the extracted financial performance indicators from Compustat can be found in the Appendix.
[6] A list of all CSR factors and their classifications can be found in Appendix.

and some were introduced later (for example "Privacy and Data Security"), contributing to an unbalanced dataset. Furthermore, some indicators are considered "irrelevant" for all companies, thus only "relevant" indicators have been researched for each of the companies in the dataset, adding to heterogeneity in number of factors researched per company, and per year.

To control for the missing data, for the changes in research methods of the MSCI KLD index and for the "irrelevant" factors, the construction of the CSR measurements follows partially Hull & Rothenberg (2008) in their methodologies and further improves on them by instead of creating a CSR score for each company, a CSR ratio is built, resembling the methodology in Cai et al., (2012). To illuminate further, like in previous research, the sum of all positive (negative) indicators that the company has scored 1 on, is calculated as a first step. However, instead of giving a "subjective" weight to each individual factor before calculating the sum (Hull et al., 2008) and then obtaining an ordinal value of a positive (negative) CSR index[7], with the aim of solving for the data unavailability of some of the factors, the sum of the 1's obtained, with equal weight of each factor, has been divided by all researched indicators (so, having a value of 0 or 1), thus receiving a positive (negative) CSR ratio, ranging from 0 to 1. In this manner, companies that might be doing good (bad) but little is known for them will not be placed as less good (bad) than companies, who are more broadly researched, just on the premise of information known in the dataset. The formulas to calculate the ratios are the following:

$$Positive\ CSR\ ratio = \frac{\sum \#\ strengths\ obtained\ by\ company}{\sum \#\ researched\ strengths\ about\ the\ company}$$

$$Negative\ CSR\ ratio = \frac{\sum \#\ concerns\ obtained\ by\ company}{\sum \#\ researched\ concerns\ about\ the\ company}$$

It can be argued, that in this case, the companies, for which little is known about, seem better (worse) than ones that are broadly researched (for example, a company with 1 achieved strength from 1 researched strength has a higher ratio than a company with 1 achieved strength from 3 researched strengths), however, the CSR-CFP nexus is highly moderated by the corporate reputation, therefore it could be argued that the "unknown" in the dataset is also unknown for the public, suggesting it does not affect the company's perceived CSR profile. To elaborate further, the combined CSR profile of the company is viewed by the consumers as one whole, and if one

[7] That could lead to questions of accuracy

positive aspect is well communicated, while a few negative CSR actions are hidden away, the company is perceived as a socially responsible and vice versa. This entails, that broadly researched companies are more scrutinized for their individual actions, since they add up the overall CSR image, and companies that manage to "keep things under wraps" are not. However, in the light of deriving more comprehensive insights on the complex effects of CSR on the company's success and as the number of researched factors in the sample affects the constructed CSR ratio, a robustness check controlling for the level of researched information, measured by the number of individual factors researched about the company in a certain year is conducted. In this manner, the models account for how broadly researched the companies in the sample are.

Secondly, the positive and negative ratios are then subtracted from one another, to lead to a unified CSR ratio, ranging from -1 to 1, following again Hull et al. (2008):

$$CSR = PCSR\ ratio - NCSR\ ratio$$

Furthermore, the PCSR and NCSR ratios are used for robustness checks, as the literature expresses concerns regarding the "good" outweighing or compensating for the "bad" and suggests that albeit the two concepts occurring simultaneously, they do not necessarily counteracting each other (like Kim et al., 2018).

A further deviation from the broadly used methodologies has been made, by extending the CSR variable to include involvement of the company in a controversial business. The reason behind its inclusion, is the influence in the CSR-CFP nexus (Cai et al., 2012). Therefore, data on whether the companies are involved in controversial businesses (alcohol, military, firearms and tobacco) has been obtained from the MSCI KLD dataset. If a company is involved in one or more of the four categories (companies involved with military services are often also involved with firearm involvement and vice versa) receives a value of 1, and 0 otherwise. This "controversial" dummy is then added to an extended negative CSR ratio:

$$Negative\ CSR\ ratio\ extended = \frac{\sum \#\ concerns\ obtained\ by\ company + "controversial"}{\sum \#\ researched\ concerns\ about\ the\ company + 1},$$

where the 1 has been included in the denominator, because the information regarding the controversial business status is known for every company in the dataset. Accordingly, an overall extended CSR ratio has been calculated in the following manner:

$$CSR\ extended^{8} = PCSR\ ratio - NCSR\ ratio\ extended$$

Lastly, to test equation (5) only the environmental strengths and concerns, defined as such by the MSCI KLSD dataset[9], have been obtained for an environmental PCSR and environmental NCSR ratios:

$$Environmental\ PCSR\ ratio = \frac{\sum \#\ environmental\ strengths\ obtained\ by\ company}{\sum \#\ researched\ environmental\ strengths\ about\ the\ company}$$

$$Environmental\ NCSR\ ratio = \frac{\sum \#\ environmental\ concerns\ obtained\ by\ company}{\sum \#\ researched\ environmental\ concerns\ about\ the\ company}$$

Accordingly, an overall environmental ratio has been calculated in the following way:

$$Environmental\ CSR = Environmental\ PCSR\ ratio - Environmental\ NCSR\ ratio$$

3.5.2. Measurement of industry type: B2C, B2B or mixed

Another explanatory variable is a dummy variable, capturing whether a company is in a B2B industry or not. To do so, the methodology of Hoejmose et al. (2012) has been closely followed. Firstly, information about the SIC-codes of the companies was collected: the Standard Industrial Classification (SIC) is a system for classifying industries by a four-digit code (U.S. Securities and Exchange Commission, n.a.). The first 4 digits of the SIC-code of the company indicate in which specific sector group it is, based on the main source of income for the company. Then, to define the two types of industries for all SIC sectors, their definition, the types of companies comprising them and examples of big companies were researched within the publicly available online SIC code database, and then preliminary classified. Sectors comprising mostly of B2C companies or companies in B2C networks, have been assigned to the B2C group, companies in predominantly B2B networks have been assigned to a B2B group and sectors, comprising of companies in both B2C and B2B networks, have been grouped separately. After a robustness check of the industry-average advertising intensity[10], confirming the classification between B2C

[8] Used as the CSR measurement in the baseline results.
[9] The list of environmental strengths and weaknesses can be found in Appendix.
[10] The B2C companies in the sample have on average higher industry-level advertising intensity compared to the ones classified as B2B, significant on the 1 percent significance level.

and B2B, as B2C companies have higher advertising intensities than B2B ones, the groups were classified[11]. The industry-level advertising intensity was calculated in the following manner:

$$Industry-level\ advertising\ intensity = \frac{\sum (advertising\ expenses\ of company/total\ assets\ of\ company)}{\#\ companies\ in\ industry}$$

The method of obtaining the industry-level advertising intensity is following Huang et al. (2012). Then a "B2B" dummy was built by assigning it a value of one if the SIC-code of the company was falling in the B2B group, and zero – for the rest.

Furthermore, an additional dummy variable is constructed, for the purposes of controlling for the third group in the B2C/B2B classification, namely capturing companies in mixed industries. It takes a value of 1 either if the company falls in a sector where both B2B and B2C companies operate, or if the company falls in a sector that cannot be specified (some SIC sectors, with 4th digit "9", capturing the "Not Else Classified" ("NEC"), for example), thus assuming that the sector could comprise of companies in both B2C and B2B settings. The value of 0 has been assigned to the rest.

3.5.3. Measurement of industry type: product-based or service-based

The last explanatory variable is a dummy capturing whether a company falls in a product-based or a service-based industry, following the methodology of Krause and Scannell (2002). To classify the companies into these industry types, information about the SIC-codes of the companies was used. The first 2 digits of the SIC-code of the company indicate in which major industry group it is. These major groups were classified[12] and then a "Product" dummy was built by assigning it a value of one if the SIC-code of the company was falling in the Products Sector Group, and zero – in the Services Sector Group, and a "Service" dummy has been built as its inverse.

[11] A list of the preliminary (confirmed final) classification of the SIC sectors can be found in Appendix.
[12] A list of the classification of the Product and Services Sector Groups can be found in Appendix.

3.6. Control variables

The control variables in the research are commonly seen in CSR and CFP research, as it is important to control for the size, the leverage ratio, the R&D intensity and others to avoid Omitted Variable Bias (OVB) (McWilliams & Siegel, 2000; Beurden and Goessling, 2008; Margolis et al., 2008). In the models, furthermore, state fixed effects have been added (wherever statistically relevant), since the USA is a federation, and Canada is an autonomous country from the USA, thus there might be different (local) governmental regulations or other state-specific heterogeneity.

To control for the size of the company, a logarithm of the total assets of the company for the years of interest has been used. The reason behind the logarithmic transformation is to limit the effect of any possible outliers in the sample (Tang et al., 2012; Price and Sun, 2017).

The leverage ratio has also been included as a control variable and it has been calculated in the following manner:

$$Leverage\ ratio\ of\ company = \frac{Current\ debt\ of\ company + Long\ term\ debt\ of\ company}{Current\ debt\ of\ company + Long\ term\ debt\ of\ company + Stockholder's\ equity}$$

The econometric models also control for R&D intensity, as the literature provides evidence in support of its significance on the CSR-CFP link (McWilliams et al., 2000). To calculate the ratio, information about the company's R&D expenditures for the years of interest has been obtained, however, due to Securities and Exchange Commission (SEC) reporting requirements, many firms do not report their R&D expenditures, as only "material" amount (usually more than 1 % of sales) must be reported. Therefore, following Bayar et al. (2016) the missing values on R&D expenditures have been set to 0 and then, the R&D intensity ratio has been calculated in the following manner:

$$R\&D\ intensity\ of\ company = \frac{R\&D\ expenditures\ of\ company}{Total\ assets\ of\ company}$$

Lastly, albeit the literature suggesting an influential effect of the advertising intensity in the CSR-CFP nexus (Margolis et al., 2008), due to data unavailability on the advertising expenditures of companies, the advertising intensity has not been added as a control variable. However, it has been used to control for the proper classification of the B2C/B2B industries,

moreover, one of the regressions in particular deals in depth with the CSR phenomenon in a marketing dimension, thus there seem to be no concerns regarding OVB.

3.7. Identification strategy

To explore the causal effect within the CSR-CFP nexus, a panel fixed effects (FE) estimator at the firm level, captured by the CUSIP code, has been used to account for all time-invariant heterogeneity by time-demeaning the variables. The reason behind choosing for a longitudinal model is to be able to exploit both cross-section and time-series information in the data to account for the unobservable time-invariant characteristics of every firm. Furthermore, a panel dataset allows for the detection and measurement of statistical effects that time series or cross-sectional data fail to provide. Additionally, the FE estimator has been chosen over a random effects (RE) estimator, confirmed by a Hausman test.

To discuss in more detail the choice of the FE estimator and the use of the Hausman test, when dealing with panel data, the regression consists of both time-invariant variation and idiosyncratic shock. Depending on whether it is the between variation or the within variation that is of interest (which one is higher) a fixed effects model or a random effects model is chosen, respectively. Furthermore, the two models treat the data differently. On the one hand, the RE model quasi-demeans the data with the aim of controlling for some of the time-variant and some of the time-invariant heterogeneity and can draw insights on the effects of time-invariant variables, however to be an unbiased estimator, it must fall under the strict exogeneity assumption, stating that the composite error term (so both the invariant and variant parts) is not correlated with the independent variables. On the other hand, as the FE model demeans the data, looking solely at the idiosyncratic shock, it controls for all observed and unobserved time-invariant heterogeneity, thus relaxing the strict exogeneity assumption, suggesting that in order for the estimator to be unbiased, only the idiosyncratic shock must be uncorrelated to the independent variables. Therefore, the FE estimator is considered as more robust, albeit most inefficient. In order to make the choice between the two, a Hausman test is performed, that checks if the strict exogeneity assumption is fulfilled by testing whether the difference between the FE estimator and the RE estimator is statistically significant. If this null hypothesis is rejected, that means that the strict exogeneity assumption is not fulfilled, thus a RE estimator will

be biased, leading to choosing an FE estimator, that, albeit inefficient, is consistent. Conversely, if the null hypothesis is not rejected, that means the strict exogeneity assumption is fulfilled, and between the two under this assumption consistent estimators, the more efficient one – the RE one is preferred.

From the outcome results of the Hausman test, it can be seen that the null hypothesis has been rejected at the 1 % significance level for all three main models ($p = 0.0000$ for models with dependent variable "ROA"; $p = 0.0000$ for models with dependent variable "Tobin's Q"; and $p = 0.0086$ for models with dependent variable "ATS"), thus the consistent FE estimator has been chosen.

Unfortunately, as the FE estimator only observes the within heterogeneity and draws insights on changes within the company over the years, to try and explore also between heterogeneity and the differences between the different companies engaging in CSR, a robustness check using a pooled ordinary-least-squares (Pooled OLS) estimator, clustering the error term at the company level, has been performed.

Furthermore, the use of a FE model does not impede answering the research questions at hand, despite it not being able to observe the direct effect of the time-invariant variables (such as whether the company operates in B2C or B2B settings or in product-based or service-based industry), since it is the moderating effect between a time-variant and those time-invariant variables that is the relationship under observation.

To test the constructed hypotheses, the following econometric models have been built. In equation (1) the direct relationship between CSR and the company financial performance indicators is observed. Equations (2) and (3) show the econometric models to draw insights on whether the target market of a company is moderating the CSR-CFP relationship and whether the effect stems from an influence of CSR on the success of the marketing campaign. Furthermore, a dichotomous moderator of whether a company provides tangible goods or services has been constructed to see if it is an influencer in the CSR-CFP relationship, shown in equation (4) or if it is a moderator in the effect of environmental CSR on the company growth – equation (5). Equation (6) shows the econometric model to draw insights whether the two moderators reinforce the main observed relationship or not, where the variable "ProductBased" has been

taken as the inverse of "ServiceBased", so the interaction term can observe the interaction of two effects expected to behave in the same direction.

$$Y(ROA_{i,t},\ Tobin'sQ_{i,t}) = \beta_0 + \beta_1 * CSR_{i,t-1} + \beta_2 * X_{i,(t-1)}{}^{13} + \varepsilon_{i,t} \quad (1)$$

$$Y(ROA_{i,t},\ Tobin'sQ_{i,t}) = \beta_0 + \beta_1 * CSR_{i,t-1} + \beta_2 * B2B_i + \beta_3 * CSR_{i,t-1} * B2C_i + \beta_4 * X_{i,(t-1)} + \varepsilon_{i,t} \quad (2)$$

$$ATS_{i,t} = \beta_0 + \beta_1 * CSR_{i,t-1} + \beta_2 * B2B_i + \beta_3 * CSR_{i,t-1} * B2B_i + \beta_4 * X_{i,(t-1)} + \varepsilon_{i,t} \quad (3)$$

$$Y(ROA_{i,t},\ Tobin'sQ_{i,t}) = \beta_0 + \beta_1 * CSR_{i,t-1} + \beta_2 * ServiceBased_i + \beta_3 * CSR_{i,t-1} * ServiceBased_i + \beta_4 * X_{i,(t-1)} + \varepsilon_{i,t} \quad (4)$$

$$Y(ROA_{i,t},\ Tobin'sQ_{i,t}) = \beta_0 + \beta_1 * envCSR_{i,t-1} + \beta_2 * ServiceBased_i + \beta_3 * envCSR_{i,t-1} * ServiceBased_i + \beta_4 * X_{i,(t-1)} + \varepsilon_{i,t} \quad (5)$$

$$Y(ROA_{i,t},\ Tobin'sQ_{i,t}) = \beta_0 + \beta_1 * CSR_{i,t-1} + \beta_2 * B2B_i + \beta_3 * ProductBased_i + \beta_4 * CSR_{i,t-1} * B2B_i + \beta_5 * CSR_{i,t-1} * ProductBased_i + \beta_6 * B2B_i * ProductBased_i + \beta_7 * CSR_{i,t-1} * B2B_i * ProductBased_i + \beta_8 * X_{i,(t-1)} + \varepsilon_{i,t} \quad (6)$$

, where i – company, t – year,

and $X_{i,(t-1)}$ – control variables: state, size, leverage ratio, R&D intensity.[14],[15]

* Additionally, all models will be run with Y = ROA_{it} and Y = Tobin's Q_{it} separately.

The empirical literature on the CSR-CFP nexus raises awareness of the interdependencies between CSR and CFP – companies who invest in (positive) CSR have increase their financial success, having more financial resources provides more resources to be allocated towards (maximizing of positive or minimizing of negative) CSR (Orlitzky et al., 2003; Margolis et al.,

[13] Only the time-variant variables have the subscript of "t-1", for all regressions.

[14] For equations 2 and 3 a dummy for companies that operate in both B2B and B2C settings will be included in the control variables.

[15] All relevant variables have been calculated on an annual basis.

2008; Nelling et al., 2009), therefore the time-variant independent and control variables have been lagged in all models.

4. Results

4.1. Collinearity diagnostics

Table 1. contains the bivariate Pearson correlations between the variables used for the hypothesis testing. Collinearity diagnostics between the dependent, main independent and control variables reveal that regardless of the established significance between most of them, none of the correlation indexes contribute a large proportion of the variance (none are > 0.39). Furthermore, a variance inflation factor (VIF) test[16], reveals a mean VIF of 1.14 and 1.17, which is below the threshold of 5 (Ringle et al., 2015), suggesting that there are no concerns for multicollinearity in the models. All control variables have been kept in the regression analysis.

Table 1. Bivariate Pearson correlations

	ROA	*Tobin's Q*	*ATS*	*L.CSR ratio*	*L.size*	*L.leverage ratio*	*L.R&D intensity*
ROA	1						
Tobins'Q	-	1					
ATS	-	-	1				
L.CSR ratio	0.0556***	0.0944***	0.1193***	1			
L.size	-0.0454***	-0.2807***	-0.0205	0.3457***	1		
L.leverage ratio	-0.0185**	-0.004	0.0108	0.0533***	0.1832***	1	
L.R&D intensity	-0.2025***	0.3929***	-0.0631***	0.0345***	-0.2486***	-0.1085***	1

*** p<0.01, ** p<0.05, * p<0.1

4.2.Baseline results

Table 2. shows the regression results from the two-sided hypothesis tests on hypotheses 1. - Equation (1), 2. - Equation (2), 3. - Equation (4), and 4. - Equation (6). Columns 1, 3, 5 and 7 report the regressions with dependent variable “ROA” and 2, 4, 6 and 8 – “Tobin’s Q”, respectively.

[16] VIF tests on all models with different dependent variables can be found in Appendix.

Table 2. Baseline results: hypotheses 1., 2., 3. and 4.

	Equation (1)		Equation (2)		Equation (4)		Equation (6)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q
CSR ratio (extended)	0.0160**	1.020***	0.0353***	1.007***	0.000703	1.162***	0.0377***	0.913***
	(0.00796)	(0.106)	(0.0112)	(0.153)	(0.0121)	(0.162)	(0.0137)	(0.191)
CSR(extended)X B2B			-0.0327**	0.0212			-0.0133	-0.106
			(0.0149)	(0.210)			(0.0160)	(0.258)
CSR(extended)X Product							-0.00773	0.303
							(0.0207)	(0.288)
CSR(extended)X B2B X Product							-0.0256	0.0349
							(0.0277)	(0.402)
CSR(extended)X Service					0.0314**	-0.294		
					(0.0153)	(0.215)		
Constant	0.268***	3.779***	0.267***	3.780***	0.268***	3.781***	0.267***	3.779***
	(0.0325)	(0.408)	(0.0324)	(0.407)	(0.0325)	(0.408)	(0.0324)	(0.407)
Observations	11,764	11,764	11,764	11,764	11,764	11,764	11,764	11,764
R-squared	0.018	0.028	0.019	0.028	0.019	0.029	0.019	0.029
Number of companies	999	999	999	999	999	999	999	999
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control: # factors researched	No	No	No	No	No	No	No	No
Use of FE estimator	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

When looking at the direct effect of CSR on the financial performance, it can be seen that across all models, there is a positive significant effect of the CSR ratio on both return on assets and on the Tobin's Q ratio, at the 1 % significance level (except the insignificant coefficient of CSR on ROA in Equation (4)). This implies that positive changes in the CSR ratio boost the company's growth. The results find sufficient evidence in support for Hypothesis 1., suggesting that CSR is an influential factor on the bottom line, both in terms of operational performance and in terms of growth opportunities viewed by the stock market. Therefore, CSR should not be ignored by the management.

The results from Equation (2) reveal a negative, significant at the 5 % significance level, coefficient of the interaction term between the CSR ratio and the B2B dummy on the return on assets. This suggests that the found positive relationship between CSR and CFP is weaker for companies within B2B industries, compared to B2C and mixed industries, when it comes to the operational performance of the company, partially supporting Hypothesis 2. The coefficient of

the same interaction term is insignificant on the Tobin's Q ratio, suggests that the heterogeneous industry dimension is a significant moderator only in the relationship with the accounting, or internal measurement of CFP, however it does not seem to play a significant role on the external, market value of the company. The reasons behind these results might be that albeit the sensitivity of market to changes in the company CSR profile, investors do not think that B2B companies would have a smaller positive impact in investing in their ESG scores on their future opportunities than the companies in B2C settings. This reveals a positive view of the market, that firms across different industry dimensions will bear similar benefits from CSR in the future.

Very similar results are discovered in Equation (4), which are in partial support of Hypothesis 3. Once again, a positive significant, at the 5 % significance level, coefficient of the interaction term between the CSR ratio and the service-based industry dummy on the return on assets, reveals that in terms of operational performance, it might be less costly for service companies to implement CSR measurements, compared to manufacturing ones. However, the insignificant coefficient of the same interaction term on the Tobin's Q ratio, reveals that the market believes, that the existing barriers will be removed in the future. Thus, suggesting that investing in CSR is as beneficial to service companies, as it is to product ones, when it comes to the firm's future opportunities.

Testing Hypothesis 4. - Equation (6) suggests that the two moderators, albeit being individually significant, do not reinforce each other, meaning that for product B2B companies changes in CSR are not significantly different from CSR changes of other companies, for either of the two CFP measures.

Table 3. shows the results from the two-sided hypothesis testing of Hypothesis 2a., while comparing it with the findings from testing Hypothesis 2., for comparison purposes. Equation 'X' (which is not included in the identification strategy section) observes the potential direct effect of CSR on the Advertisement-to-sales ratio. However, for the purposes of this research, only the moderation effect between the CSR ratio and the B2B dummy are of interest.

Table 3. Baseline results: Hypothesis 2a.

	Equation (2)		X	Equation (3)
VARIABLES	ROA	Tobin's Q	Advertisement-to-sales ratio	Advertisement-to-sales ratio
CSR ratio (extended)	0.0353***	1.007***	-0.00454**	-0.00502**
	(0.0112)	(0.153)	(0.00183)	(0.00237)
CSR(extended)X B2B	-0.0327**	0.0212		0.00125
	(0.0149)	(0.210)		(0.00339)
Constant	0.267***	3.780***	0.0207**	0.0207**
	(0.0324)	(0.407)	(0.0104)	(0.0105)
Observations	11,764	11,764	5,216	5,216
R-squared	0.019	0.028	0.007	0.007
Number of companies	999	999	500	500
Control Variables	Yes	Yes	Yes	Yes
Control: # factors researched	No	No	No	No
Use of FE estimator	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

When trying to discover whether the underlying reason behind the heterogeneous effect of CSR on CFP for B2B and B2C companies lies in the different effect of CSR on the marketing campaigns in the two types of industries, there is not sufficient evidence in support of Hypothesis 2a. A negative significant, at the 5 % significance level, coefficient of the CSR ratio on the Advertisement-to-sales ratio, suggests that positive changes in CSR can improve the success of a marketing campaign (a smaller ATS ratio represents a better campaign). However, the insignificant interaction term between the CSR and B2B variables reveal that there are no significant differences between B2C and B2B companies. This implies, that good (bad) PR means just that - good (bad) PR across different target markets, and that business consumers are also sensitive to changes in the CSR profile of their suppliers, when that is communicated to them via a marketing campaign.

Table 4. presents the results from the two-sided hypothesis testing of Hypothesis 3a. - Equation (5), shown next to the findings from testing Hypothesis 3. - Equation (4), for comparison purposes.

Table 4. Baseline results: Hypothesis 3a.

	Equation (4)		Equation (5)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q
CSR ratio (extended)	0.000703	1.162***		
	(0.0121)	(0.162)		
CSR(extended)X Service	0.0314**	-0.294		
	(0.0153)	(0.215)		
Environmental CSR ratio			0.0100	0.262***
			(0.00722)	(0.0917)
Environmental CSR X Service			0.00506	-0.138
			(0.00952)	(0.120)
Constant	0.268***	3.781***	0.262***	3.162***
	(0.0325)	(0.408)	(0.0319)	(0.404)
Observations	11,764	11,764	11,763	11,763
R-squared	0.019	0.029	0.018	0.011
Number of companies	999	999	999	999
Control Variables	Yes	Yes	Yes	Yes
Control: # factors researched	No	No	No	No
Use of FE estimator	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

Equation (5) tests whether the reason behind the different effect of CSR on CFP in service-based and product-based industries stems mainly from changes in the firm's environmental profile, and the results find no support of Hypothesis 3a. A better environmental score having a positive significant, at the 1 percent significance level, on the Tobin's Q, suggesting high market sensitivity toward the efforts of companies to minimize their environmental impact. Nonetheless, the insignificant interaction terms between the environmental CSR ratio and the service dummy on both the return on assets and the Tobin's Q ratio suggest that there are no significant differences between service and product companies when it comes to implementing environmental CSR policies. The reason behind the results might be that efforts in all categories – environmental, social and governance, are necessary for the company to bear the fruits of their ESG investments. Furthermore, it might be that all efforts should be viewed by either service companies or manufacturers, as investments in the environment alone are not enough to boost the company's growth for either type of company.

To summarize, the estimated results for the different models find evidence in support of hypotheses 1., 2. and 3., and reject hypotheses 2a., 3a. and 4.

4.3.Robustness checks

4.3.1. Effects of positive and negative CSR

As mentioned previously, the research literature addresses the issue that doing good does not necessarily mean compensating for the bad done, as positive CSR and negative CSR are distinct concepts that occur at the same time and can have individual effects on the company performance (Kim et al., 2018). Therefore, the hypotheses have been tested with separating the CSR ratio into a positive CSR ratio and a negative CSR ratio. Table 5. shows the two-sided hypothesis tests of all models.

Table 5. Robustness check positive and negative CSR: hypotheses 1., 2., 3. and 4.

	Equation (1)		Equation (2)		Equation (4)		Equation (6)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q
Positive CSR ratio	0.0281***	0.570***	0.0364***	0.631***	0.0242	0.635***	0.0333**	0.420**
	(0.00953)	(0.131)	(0.0116)	(0.169)	(0.0149)	(0.216)	(0.0148)	(0.196)
Negative CSR ratio (extended)	0.0142	-2.136***	-0.0328	-2.052***	0.0606**	-2.535***	-0.0490**	-2.129***
	(0.0161)	(0.204)	(0.0210)	(0.283)	(0.0287)	(0.332)	(0.0226)	(0.331)
PCSR X B2B			-0.0134	-0.111			0.00199	0.180
			(0.0174)	(0.255)			(0.0183)	(0.268)
NCSR(extended)X B2B			0.0770**	-0.147			0.0489	0.861*
			(0.0316)	(0.403)			(0.0326)	(0.511)
PCSR X Product							0.00913	0.615*
							(0.0212)	(0.343)
NCSR(extended)X Product							0.0658	0.236
							(0.0518)	(0.599)
PCSR X B2B X Product							-0.0273	-0.752
							(0.0318)	(0.490)
NCSR(extended)X B2B X Product							0.00403	-1.712**
							(0.0667)	(0.819)
PCSR X Service					0.00963	-0.147		
					(0.0179)	(0.261)		
NCSR(extended) X Service					-0.0890***	0.766*		
					(0.0333)	(0.418)		
Constant	0.265***	3.867***	0.266***	3.863***	0.265***	3.870***	0.265***	3.872***
	(0.0324)	(0.405)	(0.0324)	(0.404)	(0.0324)	(0.405)	(0.0324)	(0.404)
Observations	11,764	11,764	11,764	11,764	11,764	11,764	11,764	11,764
R-squared	0.019	0.034	0.020	0.034	0.020	0.035	0.020	0.035
Number of companies	999	999	999	999	999	999	999	999
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control: # factors researched	No	No	No	No	No	No	No	No
Use of FE estimator	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

Dividing the overall CSR performance of the companies into a positive CSR and a negative CSR ratio provides interesting insights, in addition to the findings from the baseline results. The robustness check findings highlight the complex nature of CSR and its manifold relationship with the corporate financial performance. Observing the direct relationship in the CSR-CFP nexus, the findings of these regressions is robust to the main findings. Changes in PCSR affect both the ROA and the Tobin's Q of the company positively, significant at the 1 % (for equations (1), (2) and for the Tobin's Q in Equation (4)) and at the 5 % (Equation (6)) significance level[17]. This suggests that investments in positive CSR affect both the operational performance of the company and its position on the market, in support of Hypothesis 1.

The effects of the negative CSR on the "external" financial performance are also in line with the expected ones, with negative significant, at least at the 5 % significance level, coefficients of the NCSR ratio on the Tobin's Q, suggesting that the market is sensitive to company mishaps. This means investors think that poor decisions leading to higher NCSR diminishes the growth opportunity of the company of interest. The effect of negative CSR however, seems to not be as damaging to the operational performance of the firm, as the coefficient of the negative CSR ratio on ROA is insignificant in equations (1) and (2), positive and significant at the 5 % significance level in Equation (3) and only negative and significant at the 1 % significance level in Equation (4). These non-straight-forward results might be such because decisions that lead to negative CSR could lead to cost savings, where the benefit of the cost savings is bigger than the negative effect of the NCSR (such as environmental "short-cuts", cost-savings from health and safety, or lucrative tax schemes, to name a few).

Testing Hypothesis 2. also provides new insights. Investments in positive CSR yield similar benefits for both B2B and B2C companies. Negative CSR has also the same damaging effect on the Tobin's Q for companies in both B2B and B2C contexts. Nonetheless, a positive significant, at the 5 % significance level, coefficient of the interaction term between the negative CSR ratio and the B2B dummy on the return on assets, suggests that, decisions that lead to increase in the negative CSR ratio are significantly more hurtful for companies in B2B industries (assuming that the negative insignificant coefficient of the NCSR ratio on the ROA in Equation (3) is in the same direction as the actual effect). In that case, poor CSR decisions are more

[17] An exception is again only the effect of the positive CSR on the ROA in Equation (4).

impactful to companies in B2B settings, presumably because business consumers are wearier of the ripple effects that that could have on their reputation, by having such suppliers.

On the one hand, investments in positive CSR seem to bear similar benefits to both service and manufacturing companies, shown by the insignificant coefficients of the interaction term when testing for Hypothesis 3. in Equation (4). On the other hand, changes in negative CSR have heterogeneous effects to companies in service-based industries compared to product-based industries. A negative significant, at the 1 % significance level, coefficient of the interaction term between the NCSR ratio and the service dummy on the return on assets, suggests that the found positive effect of NCSR on the operational performance is significantly more lucrative to product-based companies than to service-based ones. This could be the case, because decisions increasing the negative CSR can generate more cost savings for manufacturers, compared to service providers. To give an example, using ozone depleting chemicals in a manufacturing factory can be a considerate source of cost savings, whereas doing so in a service-based companies it would barely generate any cost-savings, if any. Conversely, a positive significant, at the 10 % significance level, coefficient of the interaction term between the NCSR ratio and the service dummy, suggests that the market is more punishing to mishaps of service providers. This means that most likely, investors view that the growth opportunities of companies in service-based industries for the future diminish, as it is less costly for them to implement it, and thus seem “ignorant”.

Interestingly, testing Hypothesis 4. is not fruitless in this robustness check. A common trend, positive CSR is equivalently good for all types of companies, shown by the insignificant interaction terms in Equation (6). The found effects of the negative CSR on the ROA also don’t seem to “stack up”. However, a negative, significant at the 5 % significance level, coefficient of the interaction term between the NCSR, B2B and Product variables implies that the found negative effect of NCSR on the Tobin’s Q ratio is smaller for manufacturers in B2B settings compared to companies in heterogeneous industry dimensions. A possible reason for this phenomenon might be, that business consumers in the manufacturing industries do not mind as much when their suppliers have a high negative CSR score, since it comes with the benefits of considerable cost-savings, which just like the bad reputation of the NCSR score, spillover to the business clients.

Table 6. presents the findings from testing Hypothesis 2a. - equations X and (3), shown next to the findings of Hypothesis 2. - Equation (2), for comparison purposes.

Table 6. Robustness check positive and negative CSR: Hypothesis 2a.

	Equation (2)		X	Equation (3)
VARIABLES	ROA	Tobin's Q	Advertisement-to-sales ratio	Advertisement-to-sales ratio
Positive CSR ratio	0.0364***	0.631***	-0.00434*	-0.00427
	(0.0116)	(0.169)	(0.00231)	(0.00295)
Negative CSR ratio (extended)	-0.0328	-2.052***	0.00511	0.00733
	(0.0210)	(0.283)	(0.00323)	(0.00446)
PCSR X B2B	-0.0134	-0.111		-0.000364
	(0.0174)	(0.255)		(0.00431)
NCSR(extended)X B2B	0.0770**	-0.147		-0.00580
	(0.0316)	(0.403)		(0.00627)
Constant	0.266***	3.863***	0.0206**	0.0206**
	(0.0324)	(0.404)	(0.0105)	(0.0105)
Observations	11,764	11,764	5,216	5,216
R-squared	0.020	0.034	0.007	0.008
Number of companies	999	999	500	500
Control Variables	Yes	Yes	Yes	Yes
Control: # factors researched	No	No	No	No
Use of FE estimator	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

The findings are robust to the baseline results, rejecting Hypothesis 2a., seen by the insignificant interaction terms in Equation (3). Interestingly to point out, however, is the negative significant, on the 10 % significance level of the positive CSR ratio on the ATS. It suggests that efforts in positive CSR are successfully implemented in marketing campaigns and can make them more successful, whereas, negative CSR seems to be well hidden by marketers, thus having an insignificant effect on the marketing campaign.

Table 7. shows the findings from testing Hypothesis 3a. - Equation (5), next to the findings from Hypothesis 3. - Equation (4) for comparison purposes.

The findings from testing Hypothesis 3a. in this robustness check are quite different than the results from Hypothesis 3., however they are partially in support of the main results of Hypothesis 3a. Environmental PCSR seems to not have a significant effect on either ROA and Tobin's Q, perhaps because for both the operational performance and the market's perceptions,

investments in the environment alone, when there is let's say ignorance on human and labor rights, are not a booster to the bottom line. On the other hand, bad environmental reputation, albeit insignificant for the accounting profit, is highly punished by the market. This is evident by the negative significant, at the 1 percent significance level, coefficient of the NCSR ratio on the Tobin's Q ratio. This is in support of the expectations on the effect of poor environmental decisions on the reputation of the company.

Table 7. Robustness check positive and negative CSR: Hypothesis 3a.

	Equation (4)		Equation (5)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q
Positive CSR ratio	0.0242	0.635***		
	(0.0149)	(0.216)		
Negative CSR ratio (extended)	0.0606**	-2.535***		
	(0.0287)	(0.332)		
PCSR X Service	0.00963	-0.147		
	(0.0179)	(0.261)		
NCSR(extended)X Service	-0.0890***	0.766*		
	(0.0333)	(0.418)		
Env. PCSR ratio			0.00257	0.0634
			(0.00695)	(0.119)
Env. NCSR ratio			0.0154	-0.685***
			(0.0203)	(0.143)
Env. PCSR X Service			0.0145**	0.0576
			(0.00705)	(0.0788)
Env. NCSR X Service			-0.0174	-0.511***
			(0.0130)	(0.130)
Constant	0.265***	3.870***	0.260***	3.102***
	(0.0324)	(0.405)	(0.0317)	(0.407)
Observations	11,764	11,764	11,763	11,763
R-squared	0.020	0.035	0.018	0.010
Number of companies	999	999	999	999
Control Variables	Yes	Yes	Yes	Yes
Control: # factors researched	No	No	No	No
Use of FE estimator	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

Furthermore, a positive significant, at the 5 % significance level, coefficient of the environmental PCSR ratio and the service variables on the ROA suggests that, investments in a better sustainability profile is in fact lucrative to service companies, in comparison to manufacturers. This result partially supports Hypothesis 3a., suggesting that since environmental

CSR implementation is less costly for service providers, it brings the same benefits and less of the costs of PCSR. Thus, it is improving the operational, accounting performance of the company. On the other hand, the market seems to respond equally to investments in positive CSR by both manufacturers and service providers. Moreover, an insignificant coefficient of the interaction term between the environmental NCSR and the service dummy on the return on assets suggest, that environmental "short-cuts" alone are not enough to provide significant cost savings to the manufacturers compared to the service providers. And lastly, a negative significant, at the 1 % significance level, coefficient of the interaction term between the NCSR and the service dummy variables suggests, that when it comes to evaluating environmental damage done alone, manufacturers are more highly punished by the market. The reason behind it, might be that investors view the company's growth opportunities for the future to be diminished, when it has made poor environmental decisions, since as regulations become more strict, it would be more difficult for manufacturers to make the switch to "green".

Overall, the findings from this robustness check provide partial support for the main results, however they further reveal, that the CSR-CFP nexus is so much more multiform than it initially seems. The robustness check shows that firm decisions on every aspect of the CSR profile have a multitude of consequences to the financial performance, however the main results highlight that an overall CSR strategy does bring benefits to the company growth.

4.3.2. Controlling for level of researched CSR information

Table 8. shows the regression output from the robustness check of the main results controlling for the number of CSR factors researched per company per year.

The robustness check seems to confirm most of the findings in the main results, however it also provides some corrections. This is the case, when looking at the outcomes of Hypothesis 1. CSR seems to have a beneficial effect of the market financial performance of the company, robust to the main findings, however it seems to be harming the present, operational performance, seen by the negative, and significant in equations (1) and (4), coefficients of the CSR ratio, thus only partially supporting Hypothesis 1. When testing Hypothesis 2., the regression results controlling for how researched the company is, are fully robust to the main

findings, suggesting that the CSR-operational performance link is weaker in B2B contexts, shown by the negative, significant at the 10 % significance level, coefficient of the interaction term in Equation (2). Furthermore, the results also confirm the previous findings, that the effects of the CSR on the operational performance are stronger for service-based companies, in partial support of Hypothesis 3., however the expected effect of CSR on CFP works in the opposite direction (consistent with the robustness findings of Hypothesis 1.). Lastly, the findings of testing Hypothesis 4. are robust to the main findings.

Table 8. Robustness check level of researched CSR information: hypotheses 1., 2., 3. and 4.

	Equation (1)		Equation (2)		Equation (4)		Equation (6)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q
CSR ratio (extended)	-0.0204**	0.402***	-0.00481	0.389**	-0.0339***	0.549***	-0.00198	0.287
	(0.00881)	(0.117)	(0.0110)	(0.159)	(0.0130)	(0.169)	(0.0134)	(0.195)
CSR(extended)X B2B			-0.0257*	0.0222			-0.00654	-0.124
			(0.0147)	(0.208)			(0.0159)	(0.250)
CSR(extended)X Product							-0.00801	0.305
							(0.0204)	(0.279)
CSR(extended)X B2B X Product							-0.0253	0.0667
							(0.0277)	(0.394)
CSR(extended)X Service					0.0292*	-0.315		
					(0.0152)	(0.213)		
Constant	0.435***	5.070***	0.435***	5.070***	0.436***	5.058***	0.435***	5.061***
	(0.0429)	(0.458)	(0.0430)	(0.459)	(0.0431)	(0.461)	(0.0431)	(0.460)
Observations	11,764	11,764	11,764	11,764	11,764	11,764	11,764	11,764
R-squared	0.054	0.080	0.054	0.080	0.054	0.080	0.055	0.080
Number of companies	999	999	999	999	999	999	999	999
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control: # factors researched	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Use of FE estimator	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

Table 9. shows the regression output of the same robustness check on Hypothesis 2a. The results are robust to the main findings, in finding no support for Hypothesis 2a., albeit discovering a positive effect of the CSR on the success of the marketing campaign.

Table 9. Robustness check level of researched CSR information: Hypothesis 2a.

	Equation (2)		X	Equation (3)
VARIABLES	ROA	Tobin's Q	Advertisement-to-sales ratio	Advertisement-to-sales ratio
CSR ratio (extended)	-0.00481	0.389**	-0.00340*	-0.00367
	(0.0110)	(0.159)	(0.00196)	(0.00246)
CSR(extended)X B2B	-0.0257*	0.0222		0.000671
	(0.0147)	(0.208)		(0.00345)
Constant	0.435***	5.070***	0.0143	0.0143
	(0.0430)	(0.459)	(0.0116)	(0.0116)
Observations	11,764	11,764	5,216	5,216
R-squared	0.054	0.080	0.017	0.017
Number of companies	999	999	500	500
Control Variables	Yes	Yes	Yes	Yes
Control: # factors researched	Yes	Yes	Yes	Yes
Use of FE estimator	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

Table 10. shows the regression output of the same robustness check on Hypothesis 3a.

Table 10. Robustness check level of researched CSR information: Hypothesis 3a.

	Equation (4)		Equation (5)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q
CSR ratio (extended)	-0.0339***	0.549***		
	(0.0130)	(0.169)		
CSR(extended)X Service	0.0292*	-0.315		
	(0.0152)	(0.213)		
Environmental CSR ratio			-0.0147*	-0.136
			(0.00759)	(0.0996)
Environmental CSR X Service			0.000553	-0.191*
			(0.00954)	(0.113)
Constant	0.436***	5.058***	0.442***	5.077***
	(0.0431)	(0.461)	(0.0432)	(0.462)
Observations	11,764	11,764	11,763	11,763
R-squared	0.054	0.080	0.054	0.079
Number of companies	999	999	999	999
Control Variables	Yes	Yes	Yes	Yes
Control: # factors researched	Yes	Yes	Yes	Yes
Use of FE estimator	Yes	Yes	Yes	Yes

Robust standard errors in parentheses; all time-variant independent variables are lagged
*** p<0.01, ** p<0.05, * p<0.1

Testing Hypothesis 3a. is not fruitless in this robustness check. Consistent with the testing of Hypothesis 1. in this robustness check, the environmental CSR has a harmful effect on the ROA, furthermore, has an insignificant effect on the Tobin's Q, however the negative significant at the 10 % significance level coefficient of the interaction term in Equation (5), finds weak evidence in support of Hypothesis 3a. The results suggest that a speculative negative effect of the environmental CSR on the Tobin's Q (since it is insignificant) is stronger for manufacturers, meaning that the market rewards (or punishes less) engagement in CSR of service providers.

Overall, this robustness check discovers, that the transparency of the company, or how broadly researched it is, is an influential factor in the CSR-CFP nexus. While the results are robust to the main findings, in terms of the strength of the CSR-CFP relationship in different industry dimensions, it puts to the question the effect of CSR on the accounting bottom line. This means, that CSR, albeit a useful strategic tool for the development of the market financial performance, comes at the cost of certain investments, which do not pay off now, but might bring stronger yields in the future. The results highlight that CSR does come at a cost and is not a one-way ticket to success, however they also show positive effects for the future, expressed by the market expectations, and in the long run. Lastly, the robustness check provides some weak evidence in favor of Hypothesis 3a., however as the main results and the other robustness checks do not find enough evidence in support of it, straight-forward conclusions are not drawn.

4.3.3. Between-company effects of CSR on CFP: a pooled OLS estimator

With the aim of trying to observe the between heterogeneity of the CSR-CFP nexus and derive a more comprehensive picture of the economic phenomenon within different industry dimensions, a pooled OLS estimator has been used. Table 11. shows the regression output of performing a poled OLS estimation on the researched hypotheses.[18]

[18] Most of the regression results from performing the robustness check with controlling for the number of CSR factors researched are robust to the ones where the control measurement was not introduced. The regression results from the pooled OLS estimator with controlling for the number of factors researched can be found in Appendix.

Table 11. Robustness check pooled OLS: hypotheses 1., 2., 3. and 4.

	Equation (1)		Equation (2)		Equation (4)		Equation (6)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q
CSR ratio (extended)	0.0622***	1.018***	0.0856***	1.504***	0.104***	1.368***	0.0764***	1.318***
	(0.0108)	(0.159)	(0.0141)	(0.238)	(0.0164)	(0.222)	(0.0177)	(0.257)
in B2B industry			-0.00310	-0.173**			0.00102	-0.0752
			(0.00447)	(0.0737)			(0.00547)	(0.0942)
in product-based industry							0.0203***	0.00377
							(0.00632)	(0.109)
CSR(extended)X B2B			0.0104	-0.451*			-0.0147	-0.315
			(0.0192)	(0.262)			(0.0237)	(0.349)
CSR(extended)X Product							0.00130	0.524
							(0.0242)	(0.467)
B2B X Product							-0.0146**	-0.173
							(0.00735)	(0.128)
CSR(extended)X B2B X Product							0.0452	-0.446
							(0.0358)	(0.563)
in a service-based industry					-0.0126***	0.0743		
					(0.00411)	(0.0588)		
CSR(extended)X Service					-0.0372*	-0.230		
					(0.0197)	(0.256)		
Constant	0.106**	4.057***	0.132***	3.712***	0.136***	3.597***	0.122***	3.699***
	(0.0501)	(0.232)	(0.0112)	(0.187)	(0.0110)	(0.176)	(0.0120)	(0.203)
Observations	11,831	11,828	11,831	11,828	11,831	11,828	11,831	11,828
R-squared	0.222	0.334	0.148	0.264	0.148	0.259	0.151	0.267
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	No	No	No	No
Control: # factors researched	No	No	No	No	No	No	No	No
Use of FE estimator	No	No	No	No	No	No	No	No

Robust standard errors in parentheses, clustered at the company level
*** p<0.01, ** p<0.05, * p<0.1

These robustness check results provide additional insights on the results found from the FE estimator. When testing Hypothesis 1., the positive significant across all equations coefficients of the CSR ratio find full support of Hypothesis 1. They suggest that CSR does not harm the financial performance, as found in the previous robustness check. Furthermore, the results from testing Hypothesis 2. find a significant at the 10 % significance level, effect of the CSR on the Tobin's Q in B2B settings, thus finding a market sensitivity toward this industry dimension. In comparison, the main results only discover such an effect on the accounting-based performance measure. Thirdly, the results find evidence against Hypothesis 3., presented by a negative

significant at the 10 % significance effect, of the interaction term in Equation (4), suggesting that the positive CSR-CFP link is stronger for manufacturing companies. These results are in contradiction to the main results and partially support the findings of the effect of NCSR on the Tobin's Q in the corresponding robustness check. Lastly, the results find no evidence in support of Hypothesis 4., consistent with the main regression results.

Table 12. shows the pooled OLS regression results from testing Hypothesis 2a. The results are robust to the main findings, discovering no significant difference between the effect of the CSR on the marketing campaign in companies with different target markets.

Table 12. Robustness check pooled OLS: Hypothesis 2a.

	Equation (2)		X	Equation (3)
VARIABLES	ROA	Tobin's Q	Advertisement-to-sales ratio	Advertisement-to-sales ratio
CSR ratio (extended)	0.0856***	1.504***	0.0393***	0.0482***
	(0.0141)	(0.238)	(0.0105)	(0.0146)
in B2B industry	-0.00310	-0.173**		-0.0216***
	(0.00447)	(0.0737)		(0.00408)
CSR(extended)X B2B	0.0104	-0.451*		-0.0235
	(0.0192)	(0.262)		(0.0152)
Constant	0.132***	3.712***	0.0476***	0.0549***
	(0.0112)	(0.187)	(0.00868)	(0.00920)
Observations	11,831	11,828	5,225	5,225
R-squared	0.148	0.264	0.136	0.199
Control Variables	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	No	No
Control: # factors researched	No	No	No	No
Use of FE estimator	No	No	No	No

Robust standard errors in parentheses, clustered at the company level
*** p<0.01, ** p<0.05, * p<0.1

Table 13. shows the pooled OLS regression results from testing Hypothesis 3a. The results do find evidence in contradiction of Hypothesis 3a., suggesting that the environmental CSR affects the ROA stronger for manufacturers, than for service providers. In comparison, all previous robustness checks fail to find evidence to support Hypothesis 3a., so these results add a valuable insight.

Table 13. Robustness check pooled OLS: hypothesis 3a.

	Equation (4)		Equation (5)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q
CSR ratio (extended)	0.104***	1.368***		
	(0.0164)	(0.222)		
in a service-based industry	-0.0126***	0.0743	-0.0108**	0.0730
	(0.00411)	(0.0588)	(0.00420)	(0.0597)
CSR(extended)X Service	-0.0372*	-0.230		
	(0.0197)	(0.256)		
Environmental CSR ratio			0.0636***	0.553***
			(0.0107)	(0.148)
Environmental CSR X Service			-0.0348***	0.0535
			(0.0133)	(0.185)
Constant	0.136***	3.597***	0.126***	3.441***
	(0.0110)	(0.176)	(0.0105)	(0.168)
Observations	11,831	11,828	11,830	11,827
R-squared	0.148	0.259	0.145	0.253
Control Variables	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	No	No
Control: # factors researched	No	No	No	No
Use of FE estimator	No	No	No	No

Robust standard errors in parentheses, clustered at the company level
*** p<0.01, ** p<0.05, * p<0.1

Overall, this robustness check finds evidence in support of hypotheses 1. and 2., confirms the rejection of hypotheses 2a. and 4., and does not support the main results findings of Hypothesis 3. Once again, the results from testing Hypothesis 3a. are contradictory to all sets of results, thus straight-forward conclusions are not derived.

5. Discussion

The objective of this empirical research is to observe the evolvement of the CSR-CFP nexus in a highly dynamic society and for heterogeneous industry dimensions, with the goal of discovering the alignment of corporate profitability and growth goals with social welfare creation goals. The results find overwhelming evidence in favor of obtaining corporate benefits from engaging in CSR, both for the present financial success, as well as using it as a strategic tool to improve the

firm growth in the long run, in line with the results from meta-analyses on the relationship (Orlitzky et al., 2003; Margolis et al., 2008).

Furthermore, observing the link in different industry contexts, the results of the empirical research align with previous literature findings. Companies in B2C settings can capitalize more on their CSR engagements, supporting the theoretical speculations of Raman (2011). However, albeit the established effect of CSR on the marketing campaign's success, the type of industry does not seem to play a role in it, thus leaving open the question of why the CSR-CFP link is stronger in B2C industries.

Moreover, testing Hypothesis 3. provides no conclusive evidence on differences of the relationship between the social responsibility and the financial performance for manufacturers and service providers, as the different model specifications[19] establish effects operating in opposing directions. The outcome from the empirical research is robust to the findings of Arendt & Brettel (2010), obtaining non-straight-forward results. Additionally, when looking at the importance of the environmental impact to the consumers and the varying costs for different types of companies to minimize it as the two prospective underlying reasons behind the assumed heterogeneous effect of CSR on the bottom line for the manufacturers and service providers, the results do not find one to be more important than the other, thus suggesting that both effects might play a role. Therefore, by working in opposite directions, the two effects could lead to the inconclusive findings. This does not mean that this industry dimension does not have an effect on the CSR-CFP nexus, but rather that different influences foster CSR engagement in product-based and service-based industry settings. Lastly, the results find insufficient evidence for the compound effect of the two industry characteristics, thus rejecting Hypothesis 4.

The extension of the research to observe the two economic phenomena – PCSR and NCSR and their individual effects on the CFP provide meaningful insights. Engagement in positive CSR is across the board good for the company's success, engagement in negative CSR, however, can be used as a strategic short cut for some types of companies to boost present performance measures. Nevertheless, the "short-cuts" seem to also cut the possibilities for future success short, therefore leaving it to the judgement of the management to make the final decision.

[19] The FE estimator and the pooled OLS estimator

Lastly, the empirical research highlights the role of transparency in building a genuine CSR profile. Companies who remain in the shadows are not punished (or rewarded in case they improve their CSR), due to the asymmetry of information, and companies who make mistakes but admit them publicly, seem to be more scrutinized. However, as the company develops in front of the public eye and changes for the better, it gets financially rewarded, shown by the FE estimator results. These findings support the core CSR-reputation-CFP dynamics and provide meaningful insights to both managers and policy makers.

In the attempt to discover the industry heterogeneity behind the CSR-CFP link, the empirical research suffers from some limitations. First, and foremost, the study only manages to observe the B2C/B2B and product-/service-based characteristics at an industry level, as there is no data availability for those non-financial measures across financial datasets. Future research, using different data collection methods could go further and establish these characteristics at the company level with the aim of advising on successful CSR strategies for each company, rather than for different types of companies. Secondly, the MSCI KLD dataset has only a limited number of companies, thus narrowing down the research sample. This implies that there could be systematic differences between companies that have been included in the dataset from the ones that have not, thus leading to possible selection bias. Therefore, a research on a broader sample by the means of stricter transparency and reporting legislations might lead to different conclusions. Furthermore, data unavailability on the advertising expenditures restricted the research to include it as a control variable while being able to preserve a bigger sample, which control variable could be an influential factor in the CSR-CFP relationship (Margolis et al., 2008). Lastly, the empirical models attempt to solve the reverse causality of the CSR-CFP relationship, however lagging the independent variables in the model specifications might only partially solve for the problem. Overall, the empirical study tries to follow strictly Margolis et al. (2008) four rules for conducting CSR research, however future studies could find more discrepancies in the way we try to empirically observe the CSR-CFP nexus, leaving the opportunity and need for future research on the topic.

6. Conclusion

In conclusion, this paper confirms the positive effects of CSR on the financial performance of the firm and discovers that in industries within B2C settings companies have even higher incentives to pursue CSR. Furthermore, the findings from the empirical research suggest that albeit there is a presence of different influencers fostering engagement in CSR in the different industries, regulators could focus on providing incentives in the less encouraged industries, establish stricter policies to ensure the minimizing of engagement in harmful to the environment and the society corporate actions and work towards enforcing higher transparency for CSR reporting, to lower the asymmetry of information.

Moreover, the research highlights the role of society in demanding higher corporate accountability and appeals for continuation of the consumer activism, as it is the current demographic trends that corporations are trying to appeal to. Lastly, this research sends the message to the management that "the means justify the ends", as improving the overall CSR profile can affect the financial and economic success of a company and that the market rewards socially responsible behavior also to the ones, for which the green transformation can be more costly.

Overall, the study contributes to the literature by capturing the current dynamics of the CSR-CFP nexus and appeals for continuous research in the field, as the CSR concept and the society demanding it are continuously evolving.

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Appendix

Table A. Extracted variables for CFP

Measurement	Dataset	Code	Used for variable
CUSIP code of company	Compustat	CUSIP	i
Fiscal year	Compustat	FYEAR	t
SIC code of company	Compustat	SIC	B2B dummy, "ServiceBased" dummy
Net income	Compustat	NI	ROA
Total assets	Compustat	TA	ROA, Tobin's Q, size, R&D and advertising intensity
Common shares outstanding	Compustat	CSHO	Tobin's Q
Closing price (annual, fiscal)	Compustat	PRCC_F	Tobin's Q
Book value of common equity	Compustat	CEQ	Tobin's Q
Debt in current liabilities	Compustat	DLC	Leverage ratio
Long-term debts	Compustat	DLTT	Leverage ratio
Stockholder's equity	Compustat	SEQ	Leverage ratio
R&D expenditures	Compustat	XRD	R&D intensity
Advertising expenditures	Compustat	XAD	Advertisement-to-sales ratio, industry-level advertising intensity
Total revenues	Compustat	REVT	Advertisement-to-sales ratio

Table set B. ESG factors for CSR

1. Environmental

Strengths	Concerns
Beneficial Products and Services	Hazardous Waste
Pollution Prevention	Regulatory Problems
Recycling	Ozone Depleting Chemicals
Clean Energy	Substantial Emissions
Management Systems Strength	Agriculture Chemicals
Natural Capital = Water Stress	Climate Change
Natural Capital - Biodiversity & Land Use	Negative Impact of Products and Services
Natural Capital - Raw Material Sourcing	Land Use & Biodiversity
Climate Change - Financing Environmental Impact	Non-Carbon Releases
Environmental Opportunities = Opportunities in Green Building	Supply Chain Management
Environmental Opportunities - Opportunities in Renewable Energy	Water Management
Pollution & Waste - Electronic Waste	Environment Other Concerns
Climate Change - Energy Efficiency	
Climate Change - Product Carbon Footprint	
Climate Change - Climate Change Vulnerability	
Environment Other Strength	

2. Social

a. Community

Strengths	Concerns
Charitable Giving	Investment Controversies
Innovative Giving	Negative Economic Impact
Support for Housing	Tax Disputes
Support for Education	Community Other Concerns
Non-US Charitable Giving	
Volunteer Programs	
Community Engagement	
Other Strengths	

b. Human rights

Strengths	Concerns
Indigenous Peoples Relations Strength	Burma Concern
Labor Rights Strength	Labor Rights Concern
Human Rights Other Strength	Indigenous Peoples Relations Concern
	Freedom of Expression & Censorship
	Human Rights Violations
	Human Rights Other Concerns

c. Employee relations

Strengths	Concerns
Union Relations	Union Relations
Cash Profit Sharing	Health and Safety Concern
Employee Involvement	Workforce Reductions
Retirement Benefits Strength	Retirement Benefits Concern
Health and Safety Strength	Supply Chain Controversies
Compensation & Benefits	Child Labor
Employee Relations	Labor Management Relations
Professional Development	Emp. Relations Other Concerns
Human Capital Development	
Labor Management	
Controversial Sourcing	
Employee Strengths - Other Strengths	

d. Diversity

Strengths	Concerns
CEO	Controversies
Promotion	Non-Representation
Board of Directors	Board Diversity
Work-Life Benefits	Board of Directors - Minorities
Women and Minority Contracting	Diversity Other Concerns
Employment of the Disabled	
Gay and Lesbian Policies	
Employment of Underrepresented Groups	
Diversity Other Strength	

e. Product

Strengths	Concerns
Quality	Product Safety
R&D Innovation	Marketing-Contracting Concern
Benefits to Economically Disadvantaged	Antitrust
Social Opportunities - Access to Finance	Customer Relations
Social Opportunities - Access to Communications	Privacy and Data Security
Social Opportunities - Opportunities in Nutrition and Health	Product Other Concerns
Product Safety - Chemical Safety	
Product Safety - Financial Product Safety	
Product Safety - Privacy & data Security	
Product Safety - Responsible Investment	
Product Safety - Insuring Health and Demographic Risk	
Product Other Strengths	

3. Governmental

Strengths	Concerns
Limited Compensation	High Compensation
Ownership Strength	Ownership Concern
Transparency Strength	Accounting Concern
Political Accountability Strength	Transparency Concern
Public Policy Strength	Political Accountability Concern
Corruption & Political Instability	Public Policy Concern
Financial System Instability	Governance Structures Controversies
Corp. Gov Other Strength	Controversial Investments
	Business Ethics
	Corp. Gov Other Concerns

*. Controversial Business Performance Indicators

-	Concerns
	Alcohol Involvement
	Gambling Involvement
	Military Involvement
	Firearms Involvement

Source: MSCI ESG KLD stats, accessed through Wharton Research Data Services (WRDS).

Table C. Preliminary division of sectors by their 4-digit SIC code, before industry-level advertising intensity analysis (confirmed)

SIC Code	Industry	considered in mainly B2C settings
0100	Agricultural Production-Crops	0
0200	Agricultural Prod-Livestock & Animal Specialties	0
0700	Agricultural Services	0
0800	Forestry	0
0900	Fishing, Hunting and Trapping	0
1000	Metal Mining	0
1040	Gold and Silver Ores	0
1044	Silver Ores	0
1090	Miscellaneous Metal Ores	0
1220	Bituminous Coal & Lignite Mining	0
1221	Bituminous Coal & Lignite Surface Mining	0
1311	Crude Petroleum & Natural Gas	0
1381	Drilling Oil & Gas Wells	0
1382	Oil & Gas Field Exploration Services	0
1389	Oil & Gas Field Services, NEC	0
1400	Mining & Quarrying of Nonmetallic Minerals (No Fuels)	0
1520	General Bldg Contractors - Residential Bldgs	0
1531	Operative Builders	0
1540	General Bldg Contractors - Nonresidential Bldgs	0
1600	Heavy Construction Other Than Bldg Const - Contractors	0
1623	Water, Sewer, Pipeline, Comm & Power Line Construction	0
1629	Heavy Construction, Not Elsewhere Classified	0
1700	Construction - Special Trade Contractors	0
1731	Electrical Work	0
2000	Food and Kindred Products	1
2011	Meat Packing Plants	1
2013	Sausages & Other Prepared Meat Products	1

2015	Poultry Slaughtering and Processing	1
2020	Dairy Products	1
2024	Ice Cream & Frozen Desserts	1
2030	Canned, Frozen & Preserved Fruit, Veg & Food Specialties	1
2033	Canned, Fruits, Veg, Preserves, Jams & Jellies	1
2040	Grain Mill Products	0
2050	Bakery Products	1
2052	Cookies & Crackers	1
2060	Sugar & Confectionery Products	1
2070	Fats & Oils	1
2080	Beverages	1
2082	Malt Beverages	1
2084	Wines, Brandy and Brandy Spirits	1
2085	Distilled & Blended Liquors	1
2086	Bottled & Canned Soft Drinks & Carbonated Waters	1
2090	Miscellaneous Food Preparations & Kindred Products	1
2092	Prepared Fresh or Frozen Fish & Seafood	1
2100	Tobacco Products	1
2111	Cigarettes	1
2200	Textile Mill Products	0
2211	Broadwoven Fabric Mills, Cotton	0
2221	Broadwoven Fabric Mills, Man Made Fiber & Silk	0
2250	Knitting Mills	0
2253	Knit Outerwear Mills	0
2273	Carpets & Rugs	both/cannot be specified
2300	Apparel & Other Finished Prods of Fabrics & Similar Matl	1
2320	Men's & Boys' Furnishings, Work Clothing, & Allied Garments	1
2330	Women's, Misses', and Juniors Outerwear	1
2340	Women's, Misses', Children's & Infant's Undergarments	1
2390	Miscellaneous Fabricated Textile Products	0
2400	Lumber & Wood Products (No Furniture)	0
2421	Sawmills & Planing Mills, General	0
2430	Millwood, Veneer, Plywood, & Structural Wood Members	0
2451	Mobile Homes	1
2452	Prefabricated Wood Bldgs & Components	0
2510	Household Furniture	1
2511	Wood Household Furniture, (No Upholstered)	1
2520	Office Furniture	0
2522	Office Furniture (No Wood)	0
2531	Public Bldg & Related Furniture	0
2540	Partitions, Shelvg, Lockers, & office & Store Fixtures	0

2590	Miscellaneous Furniture & Fixtures	0
2600	Papers & Allied Products	0
2611	Pulp Mills	0
2621	Paper Mills	0
2631	Paperboard Mills	0
2650	Paperboard Containers & Boxes	0
2670	Converted Paper & Paperboard Prods (No Containers/Boxes)	0
2673	Plastics, Foil & Coated Paper Bags	0
2711	Newspapers: Publishing or Publishing & Printing	0
2721	Periodicals: Publishing or Publishing & Printing	1
2731	Books: Publishing or Publishing & Printing	1
2732	Book Printing	1
2741	Miscellaneous Publishing	1
2750	Commercial Printing	0
2761	Manifold Business Forms	0
2771	Greeting Cards	1
2780	Blankbooks, Looseleaf Binders & Bookbinding & Related Work	0
2790	Service Industries For The Printing Trade	0
2800	Chemicals & Allied Products	0
2810	Industrial Inorganic Chemicals	0
2820	Plastic Material, Synth Resin/Rubber, Cellulos (No Glass)	0
2821	Plastic Materials, Synth Resins & Nonvulcan Elastomers	0
2833	Medicinal Chemicals & Botanical Products	0
2834	Pharmaceutical Preparations	0
2835	In Vitro & In Vivo Diagnostic Substances	0
2836	Biological Products, (No Diagnostic Substances)	0
2840	Soap, Detergents, Cleaning Preparations, Perfumes, Cosmetics	1
2842	Specialty Cleaning, Polishing and Sanitation Preparations	both/cannot be specified
2844	Perfumes, Cosmetics & Other Toilet Preparations	1
2851	Paints, Varnishes, Lacquers, Enamels & Allied Prods	0
2860	Industrial Organic Chemicals	0
2870	Agricultural Chemicals	0
2890	Miscellaneous Chemical Products	0
2891	Adhesives & Sealants	0
2911	Petroleum Refining	0
2950	Asphalt Paving & Roofing Materials	0
2990	Miscellaneous Products of Petroleum & Coal	0
3011	Tires & Inner Tubes	both/cannot be specified
3021	Rubber & Plastics Footwear	both/cannot be specified
3050	Gaskets, Packg & Sealg Devices & Rubber & Plastics Hose	0
3060	Fabricated Rubber Products, NEC	0

3080	Miscellaneous Plastics Products	0
3081	Unsupported Plastics Film & Sheet	0
3086	Plastics Foam Products	0
3089	Plastics Products, NEC	0
3100	Leather & Leather Products	1
3140	Footwear, (No Rubber)	1
3211	Flat Glass	0
3220	Glass & Glassware, Pressed or Blown	both/cannot be specified
3221	Glass Containers	0
3231	Glass Products, Made of Purchased Glass	1
3241	Cement, Hydraulic	0
3250	Structural Clay Products	0
3260	Pottery & Related Products	1
3270	Concrete, Gypsum & Plaster Products	0
3272	Concrete Products, Except Block & Brick	0
3281	Cut Stone & Stone Products	0
3290	Abrasive, Asbestos & Misc Nonmetallic Mineral Prods	0
3310	Steel Works, Blast Furnaces & Rolling & Finishing Mills	0
3312	Steel Works, Blast Furnaces & Rolling Mills (Coke Ovens)	0
3317	Steel Pipe & Tubes	0
3320	Iron & Steel Foundries	0
3330	Primary Smelting & Refining of Nonferrous Metals	0
3334	Primary Production of Aluminum	0
3341	Secondary Smelting & Refining of Nonferrous Metals	0
3350	Rolling Drawing & Extruding of Nonferrous Metals	0
3357	Drawing & Insulating of Nonferrous Wire	0
3360	Nonferrous Foundries (Castings)	0
3390	Miscellaneous Primary Metal Products	0
3411	Metal Cans	0
3412	Metal Shipping Barrels, Drums, Kegs & Pails	0
3420	Cutlery, Handtools & General Hardware	1
3430	Heating Equip, Except Elec & Warm Air; & Plumbing Fixtures	1
3433	Heating Equipment, Except Electric & Warm Air Furnaces	0
3440	Fabricated Structural Metal Products	0
3442	Metal Doors, Sash, Frames, Moldings & Trim	0
3443	Fabricated Plate Work (Boiler Shops)	0
3444	Sheet Metal Work	0
3448	Prefabricated Metal Buildings & Components	0
3451	Screw Machine Products	0
3452	Bolts, Nuts, Screws, Rivets & Washers	0
3460	Metal Forgings & Stampings	0

3470	Coating, Engraving & Allied Services	0
3480	Ordnance & Accessories, (No Vehicles/Guided Missiles)	0
3490	Miscellaneous Fabricated Metal Products	0
3510	Engines & Turbines	0
3523	Farm Machinery & Equipment	0
3524	Lawn & Garden Tractors & Home Lawn & Gardens Equip	both/cannot be specified
3530	Construction, Mining & Materials Handling Machinery & Equip	0
3531	Construction Machinery & Equip	0
3532	Mining Machinery & Equip (No Oil & Gas Field Mach & Equip)	0
3533	Oil & Gas Field Machinery & Equipment	0
3537	Industrial Trucks, Tractors, Trailers & Stackers	0
3540	Metalworkg Machinery & Equipment	0
3541	Machine Tools, Metal Cutting Types	0
3550	Special Industry Machinery (No Metalworking Machinery)	0
3555	Printing Trades Machinery & Equipment	0
3559	Special Industry Machinery, NEC	0
3560	General Industrial Machinery & Equipment	0
3561	Pumps & Pumping Equipment	0
3562	Ball & Roller Bearings	0
3564	Industrial & Commercial Fans & Blowers & Air Purifying Equip	both/cannot be specified
3567	Industrial Process Furnaces & Ovens	0
3569	General Industrial Machinery & Equipment, NEC	0
3570	Computer & office Equipment	0
3571	Electronic Computers	both/cannot be specified
3572	Computer Storage Devices	0
3575	Computer Terminals	0
3576	Computer Communications Equipment	0
3577	Computer Peripheral Equipment, NEC	0
3578	Calculating & Accounting Machines (No Electronic Computers)	1
3579	Office Machines, NEC	0
3580	Refrigeration & Service Industry Machinery	both/cannot be specified
3585	Air-Cond & Warm Air Heatg Equip & Comm & Indl Refrig Equip	0
3590	Misc Industrial & Commercial Machinery & Equipment	0
3600	Electronic & Other Electrical Equipment (No Computer Equip)	both/cannot be specified
3612	Power, Distribution & Specialty Transformers	0
3613	Switchgear & Switchboard Apparatus	0
3620	Electrical Industrial Apparatus	0
3621	Motors & Generators	both/cannot be specified
3630	Household Appliances	1
3634	Electric Housewares & Fans	1
3640	Electric Lighting & Wiring Equipment	0

3651	Household Audio & Video Equipment	1
3652	Phonograph Records & Prerecorded Audio Tapes & Disks	1
3661	Telephone & Telegraph Apparatus	both/cannot be specified
3663	Radio & TV Broadcasting & Communications Equipment	0
3669	Communications Equipment, NEC	0
3670	Electronic Components & Accessories	0
3672	Printed Circuit Boards	0
3674	Semiconductors & Related Devices	0
3677	Electronic Coils, Transformers & Other Inductors	0
3678	Electronic Connectors	0
3679	Electronic Components, NEC	0
3690	Miscellaneous Electrical Machinery, Equipment & Supplies	0
3695	Magnetic & Optical Recording Media	0
3711	Motor Vehicles & Passenger Car Bodies	both/cannot be specified
3713	Truck & Bus Bodies	0
3714	Motor Vehicle Parts & Accessories	0
3715	Truck Trailers	0
3716	Motor Homes	0
3720	Aircraft & Parts	0
3721	Aircraft	0
3724	Aircraft Engines & Engine Parts	0
3728	Aircraft Parts & Auxiliary Equipment, NEC	0
3730	Ship & Boat Building & Repairing	0
3743	Railroad Equipment	0
3751	Motorcycles, Bicycles & Parts	1
3760	Guided Missiles & Space Vehicles & Parts	0
3790	Miscellaneous Transportation Equipment	0
3812	Search, Detection, Navigation, Guidance, Aeronautical Sys	0
3821	Laboratory Apparatus & Furniture	0
3822	Auto Controls For Regulating Residential & Comml Environments	0
3823	Industrial Instruments For Measurement, Display, and Control	0
3824	Totalizing Fluid Meters & Counting Devices	0
3825	Instruments For Meas & Testing of Electricity & Elec Signals	0
3826	Laboratory Analytical Instruments	0
3827	Optical Instruments & Lenses	0
3829	Measuring & Controlling Devices, NEC	0
3841	Surgical & Medical Instruments & Apparatus	0
3842	Orthopedic, Prosthetic & Surgical Appliances & Supplies	0
3843	Dental Equipment & Supplies	0
3844	X-Ray Apparatus & Tubes & Related Irradiation Apparatus	0
3845	Electromedical & Electrotherapeutic Apparatus	0

3851	Ophthalmic Goods	0
3861	Photographic Equipment & Supplies	both/cannot be specified
3873	Watches, Clocks, Clockwork Operated Devices/Parts	both/cannot be specified
3910	Jewelry, Silverware & Plated Ware	1
3911	Jewelry, Precious Metal	1
3931	Musical Instruments	both/cannot be specified
3942	Dolls & Stuffed Toys	1
3944	Games, Toys & Children's Vehicles (No Dolls & Bicycles)	1
3949	Sporting & Athletic Goods, NEC	1
3950	Pens, Pencils & Other Artists' Materials	1
3960	Costume Jewelry & Novelties	1
3990	Miscellaneous Manufacturing Industries	both/cannot be specified
4011	Railroads, Line-Haul Operating	0
4013	Railroad Switching & Terminal Establishments	0
4100	Local & Suburban Transit & Interurban Hwy Passenger Trans	0
4210	Trucking & Courier Services (No Air)	0
4213	Trucking (No Local)	0
4220	Public Warehousing & Storage	0
4231	Terminal Maintenance Facilities For Motor Freight Transport	0
4400	Water Transportation	0
4412	Deep Sea Foreign Transportation of Freight	0
4512	Air Transportation, Scheduled	0
4513	Air Courier Services	both/cannot be specified
4522	Air Transportation, Nonscheduled	1
4581	Airports, Flying Fields & Airport Terminal Services	both/cannot be specified
4610	Pipe Lines (No Natural Gas)	0
4700	Transportation Services	0
4731	Arrangement of Transportation of Freight & Cargo	0
4812	Radiotelephone Communications	0
4813	Telephone Communications (No Radiotelephone)	both/cannot be specified
4822	Telegraph & Other Message Communications	0
4832	Radio Broadcasting Stations	1
4833	Television Broadcasting Stations	1
4841	Cable & Other Pay Television Services	1
4888	Mass Media Companies	1
4899	Communications Services, NEC	both/cannot be specified
4900	Electric, Gas & Sanitary Services	both/cannot be specified
4911	Electric Services	both/cannot be specified
4922	Natural Gas Transmission	0
4923	Natural Gas Transmission & Distribution	0
4924	Natural Gas Distribution	0

4931	Electric & Other Services Combined	both/cannot be specified
4932	Gas & Other Services Combined	both/cannot be specified
4941	Water Supply	0
4950	Sanitary Services	0
4953	Refuse Systems	0
4955	Hazardous Waste Management	0
4961	Steam & Air-Conditioning Supply	0
4991	Co-generation Services & Small Power Producers	0
5000	Wholesale-Durable Goods	0
5010	Wholesale-Motor Vehicles & Motor Vehicle Parts & Supplies	0
5013	Wholesale-Motor Vehicle Supplies & New Parts	0
5020	Wholesale-Furniture & Home Furnishings	0
5030	Wholesale-Lumber & Other Construction Materials	0
5031	Wholesale-Lumber, Plywood, millwork & Wood Panels	0
5040	Wholesale-Professional & Commercial Equipment & Supplies	0
5045	Wholesale-Computers & Peripheral Equipment & Software	0
5047	Wholesale-Medical, Dental & Hospital Equipment & Supplies	0
5050	Wholesale-Metals & Minerals (No Petroleum)	0
5051	Wholesale-Metals Service Centers & Offices	0
5063	Wholesale-Electrical Apparatus & Equipment, Wiring Supplies	0
5064	Wholesale-Electrical Appliances, TV & Radio Sets	0
5065	Wholesale-Electronic Parts & Equipment, NEC	0
5070	Wholesale-Hardware & Plumbing & Heating Equipment & Supplies	0
5072	Wholesale-Hardware	0
5080	Wholesale-Machinery, Equipment & Supplies	0
5082	Wholesale-Construction & Mining (No Petro) Machinery & Equip	0
5084	Wholesale-Industrial Machinery & Equipment	0
5090	Wholesale-Misc Durable Goods	0
5093	Wholesale-Scrap & Waste Materials	0
5094	Wholesale-Jewelry, Watches, Precious Stones & Metals	0
5099	Wholesale-Durable Goods, NEC	0
5110	Wholesale-Paper & Paper Products	0
5122	Wholesale-Drugs, Proprietaries & Druggists' Sundries	0
5130	Wholesale-Apparel, Piece Goods & Notions	0
5140	Wholesale-Groceries & Related Products	0
5141	Wholesale-Groceries, General Line (merchandise)	0
5150	Wholesale-Farm Product Raw Materials	0
5160	Wholesale-Chemicals & Allied Products	0
5171	Wholesale-Petroleum Bulk Stations & Terminals	0
5172	Wholesale-Petroleum & Petroleum Products (No Bulk Stations)	0
5180	Wholesale-Beer, Wine & Distilled Alcoholic Beverages	0

5190	Wholesale-Miscellaneous Non-durable Goods	0
5200	Retail-Building Materials, Hardware, Garden Supply	1
5211	Retail-Lumber & Other Building Materials Dealers	1
5271	Retail-Mobile Home Dealers	1
5311	Retail-Department Stores	1
5331	Retail-Variety Stores	1
5399	Retail-Misc General Merchandise Stores	1
5400	Retail-Food Stores	1
5411	Retail-Grocery Stores	1
5412	Retail-Convenience Stores	1
5500	Retail-Auto Dealers & Gasoline Stations	1
5531	Retail-Auto & Home Supply Stores	1
5551	Boat Dealers	1
5600	Retail-Apparel & Accessory Stores	1
5621	Retail-Women's Clothing Stores	1
5651	Retail-Family Clothing Stores	1
5661	Retail-Shoe Stores	1
5700	Retail-Home Furniture, Furnishings & Equipment Stores	1
5712	Retail-Furniture Stores	1
5731	Retail-Radio, TV & Consumer Electronics Stores	1
5734	Retail-Computer & Computer Software Stores	1
5735	Retail-Record & Prerecorded Tape Stores	1
5810	Retail-Eating & Drinking Places	1
5812	Retail-Eating Places	1
5900	Retail-Miscellaneous Retail	1
5912	Retail-Drug Stores and Proprietary Stores	1
5940	Retail-Miscellaneous Shopping Goods Stores	1
5944	Retail-Jewelry Stores	1
5945	Retail-Hobby, Toy & Game Shops	1
5960	Retail-Nonstore Retailers	1
5961	Retail-Catalog & Mail-Order Houses	1
5990	Retail-Retail Stores, NEC	1
6012	Pay Day Lenders	1
6020	Financial institutions	both/cannot be specified
6021	National Commercial Banks	both/cannot be specified
6022	State Commercial Banks	both/cannot be specified
6029	Commercial Banks, NEC	both/cannot be specified
6035	Savings Institution, Federally Chartered	both/cannot be specified
6036	Savings Institutions, Not Federally Chartered	both/cannot be specified
6099	Functions Related To Depository Banking, NEC	both/cannot be specified
6111	Federal & Federally Sponsored Credit Agencies	both/cannot be specified

6141	Personal Credit Institutions	1
6153	Short-Term Business Credit Institutions	0
6159	Miscellaneous Business Credit Institution	0
6162	Mortgage Bankers & Loan Correspondents	1
6163	Loan Brokers	0
6172	Finance Lessors	0
6189	Asset-Backed Securities	0
6199	Finance Services	both/cannot be specified
6200	Security & Commodity Brokers, Dealers, Exchanges & Services	0
6211	Security Brokers, Dealers & Flotation Companies	0
6221	Commodity Contracts Brokers & Dealers	0
6282	Investment Advice	both/cannot be specified
6311	Life Insurance	1
6321	Accident & Health Insurance	1
6324	Hospital & Medical Service Plans	1
6331	Fire, Marine & Casualty Insurance	0
6351	Surety Insurance	0
6361	Title Insurance	0
6399	Insurance Carriers, NEC	both/cannot be specified
6411	Insurance Agents, Brokers & Service	0
6500	Real Estate	both/cannot be specified
6510	Real Estate Operators (No Developers) & Lessors	both/cannot be specified
6512	Operators of Nonresidential Buildings	0
6513	Operators of Apartment Buildings	1
6519	Lessors of Real Property, NEC	both/cannot be specified
6531	Real Estate Agents & Managers (For Others)	both/cannot be specified
6532	Real Estate Dealers (For Their Own Account)	both/cannot be specified
6552	Land Subdividers & Developers (No Cemeteries)	0
6722	Management Investment Offices, Open-End	0
6726	Unit Investment Trusts, Face-Amount Certificate Officess, & Closed-End Management Investment	0
6770	Blank Checks	0
6792	Oil Royalty Traders	0
6794	Patent Owners & Lessors	0
6795	Mineral Royalty Traders	0
6797	Investors	both/cannot be specified
6798	Real Estate Investment Trusts	0
6799	Investors, NEC	both/cannot be specified
7000	Hotels, Rooming Houses, Camps & Other Lodging Places	both/cannot be specified
7011	Hotels & Motels	both/cannot be specified
7200	Services-Personal Services	1
7310	Services-Advertising	0

7311	Services-Advertising Agencies	0
7320	Services-Consumer Credit Reporting, Collection Agencies	both/cannot be specified
7323	Credit Reporting Services	both/cannot be specified
7330	Services-Mailing, Reproduction, Commercial Art & Photography	1
7331	Services-Direct Mail Advertising Services	0
7334	Services-Photocopying and Duplicating Services	both/cannot be specified
7340	Services-To Dwellings & Other Buildings	0
7350	Services-Miscellaneous Equipment Rental & Leasing	0
7359	Services-Equipment Rental & Leasing, NEC	0
7361	Services-Employment Agencies	both/cannot be specified
7363	Services-Help Supply Services	0
7370	Services-Computer Programming, Data Processing, Etc.	0
7371	Services-Computer Programming Services	0
7372	Services-Prepackaged Software	both/cannot be specified
7373	Services-Computer Integrated Systems Design	0
7374	Services-Computer Processing & Data Preparation	0
7377	Services-Computer Rental & Leasing	0
7380	Services-Miscellaneous Business Services	0
7381	Services-Detective, Guard & Armored Car Services	0
7384	Services-Photofinishing Laboratories	0
7385	Services-Telephone Interconnect Systems	0
7389	Services-Business Services, NEC	0
7500	Services-Automotive Repair, Services & Parking	both/cannot be specified
7510	Services-Auto Rental & Leasing (No Drivers)	1
7600	Services-Miscellaneous Repair Services	both/cannot be specified
7812	Services-Motion Picture & Video Tape Production	0
7819	Services-Allied To Motion Picture Production	0
7822	Services-Motion Picture & Video Tape Distribution	1
7829	Services-Allied To Motion Picture Distribution	1
7830	Services-Motion Picture Theaters	1
7841	Services-Video Tape Rental	1
7900	Services-Amusement & Recreation Services	1
7948	Services-Racing, Including Track Operation	1
7990	Services-Miscellaneous Amusement & Recreation	1
7994	Services-Video Game Arcades	1
7995	Services-Gambling Transactions	1
7996	Services-Amusement Parks	1
7997	Services-Membership Sports & Recreation Clubs	1
8000	Services-Health Services	1
8011	Services-Offices & Clinics of Doctors of Medicine	1
8050	Services-Nursing & Personal Care Facilities	1

8051	Services-Skilled Nursing Care Facilities	1
8060	Services-Hospitals	1
8062	Services-General Medical & Surgical Hospitals, NEC	1
8071	Services-Medical Laboratories	1
8082	Services-Home Health Care Services	1
8090	Services-Misc Health & Allied Services, NEC	1
8093	Services-Specialty Outpatient Facilities, NEC	1
8111	Services-Legal Services	both/cannot be specified
8200	Services-Educational Services	1
8300	Services-Social Services	1
8351	Services-Child Day Care Services	1
8600	Services-Membership organizations	1
8700	Services-Engineering, Accounting, Research, Management	both/cannot be specified
8711	Services-Engineering Services	0
8721	Services-Accounting, Auditing & Bookkeeping Services	0
8731	Services-Commercial Physical & Biological Research	0
8734	Services-Testing Laboratories	0
8741	Services-Management Services	0
8742	Services-Management Consulting Services	0
8744	Services-Facilities Support Management Services	0
8748	Business Consulting Services, Not Elsewhere Classified	0
8880	American Depositary Receipts	0
8888	Foreign Governments	both/cannot be specified
8900	Services-Services, NEC	both/cannot be specified
9721	International Affairs	both/cannot be specified
9995	Non-Operating Establishments	both/cannot be specified
9997	Multinational Conglomerate Companies	0

Table set D. Products Sector Group and Services Sector Group

Products Sector Group	2-digit SIC-code
Agriculture, Forestry and Fishing	01
Mining and Construction	10, 13, 14, 16
Manufacturing	20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 32, 33, 34, 35, 36, 37, 38, 39

Services Sector Group	2-digit SIC-code
Transportation, Communications, Electric, Gas and Sanitary Services	40, 42, 44, 45, 47, 48, 49
Wholesale Trade	51
Retail Trade	52, 53, 54, 56, 57, 58, 59
Finance, Insurance and Real Estate	60, 62, 63, 65
Services	70, 73, 79, 80, 82, 86, 89

Table set E. Descriptive statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
ROA	overall	0.046908	0.096146	-1.64942	1.111691	N = 12849
	between		0.06366	-0.50241	0.286155	n = 999
	within		0.072237	-1.50212	1.064662	T-bar = 12.8619
Tobin's Q	overall	1.958064	1.369855	0.522404	23.29234	N = 12846
	between		1.113087	0.874499	11.38415	n = 999
	within		0.801685	-5.70041	17.13867	T-bar = 12.8589
ATS	overall	0.025014	0.034406	0	0.488804	N = 5682
	between		0.032275	0	0.263327	n = 507
	within		0.010176	-0.09523	0.336006	T-bar = 11.2071
CSR(extended)	overall	0.030852	0.139048	-0.4	0.858586	N = 11876
	between		0.086886	-0.12046	0.562548	n = 999
	within		0.108417	-0.35253	0.666749	T = 11.8879
Environmental CSR	overall	0.05472	0.184619	-0.75	1	N = 11875
	between		0.119611	-0.36257	0.688492	n = 999
	within		0.14038	-0.59072	0.971387	T = 11.8869
Size	overall	8.043816	1.65571	3.792473	14.76063	N = 12850
	between		1.607763	4.436104	14.53596	n = 999
	within		0.393714	4.221038	10.1279	T-bar = 12.8629
Leverage ratio	overall	0.36284	0.615167	-43.0407	14.30326	N = 12817
	between		0.318056	-2.38464	5.857644	n = 999
	within		0.526873	-40.2932	14.81292	T-bar = 12.8298
R&D intensity	overall	0.023614	0.057679	0	0.951184	N = 12850
	between		0.054082	0	0.513866	n = 999
	within		0.020354	-0.31151	0.574249	T-bar = 12.8629

PCSR ratio	overall	0.091173	0.135074	0	0.9375	N = 11876
	between		0.103852	0	0.673897	n = 999
	within		0.086094	-0.24062	0.706982	T = 11.8879
NCSR(extended)	overall	0.060295	0.069631	0	0.666667	N = 11881
	between		0.049845	0	0.459282	n = 999
	within		0.048524	-0.19899	0.431551	T = 11.8929
Environmental PCSR	overall	0.086368	0.185141	0	1	N = 11875
	between		0.134143	0	0.736111	n = 999
	within		0.127283	-0.52335	1.003034	T = 11.8869
Environmental NCSR	overall	0.031632	0.095602	0	0.833333	N = 11881
	between		0.076358	0	0.595238	n = 999
	within		0.057313	-0.49218	0.662849	T = 11.8929
# factors researched	overall	50.45187	20.86715	0	74	N = 12851
	between		1.905054	45.66667	57.41667	n = 999
	within		20.78147	-3.855821	78.7852	T = 12.8639

	Overall		Between	
	Frequency	Percent	Frequency	Percent
In a B2B industry	7672	59.70	597	59.76
In a B2C industry	2584	20.11	201	20.12
Operating in both (and n.a.)	2595	20.19	201	20.12
Total	12851	100	n = 999	100

	Overall		Between	
	Frequency	Percent	Frequency	Percent
In a product-based industry	5719	44.50	444	44.44
In a service-based industry	7132	55.50	555	55.56
Total	12851	100	n = 999	100

Table set F. Variance Inflation Factor (VIF) tests for multicollinearity

VIF test on models with Y=ROA; Y=Tobin's Q

Variable	VIF	1/VIF
size = L.	1.26	0.793408
CSR(extended) = L.	1.16	0.865202
R&D intensity = L.	1.09	0.917182
leverage ratio = L.	1.04	0.962293
Mean VIF	1.14	

VIF test on models with Y=ATS

Variable	VIF	1/VIF
size = L.	1.30	0.793408
CSR(extended) = L.	1.23	0.865202
R&D intensity = L.	1.10	0.917182
leverage ratio = L.	1.07	0.962293
Mean VIF	1.17	

Table set G. Robustness check: Regression output from using a pooled OLS estimator and controlling for the number of researched CSR factors

	Equation (1)		Equation (2)		Equation (4)		Equation (6)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q	ROA	Tobin's Q
CSR ratio (extended)	0.0550***	0.791***	0.0686***	1.137***	0.0977***	1.135***	0.0551***	0.877***
	(0.0112)	(0.160)	(0.0147)	(0.240)	(0.0168)	(0.221)	(0.0181)	(0.254)
in B2B industry			-0.00269	-0.173**			0.00189	-0.0710
			(0.00442)	(0.0725)			(0.00538)	(0.0924)
in product-based industry							0.0189***	-0.0114
							(0.00628)	(0.109)
CSR(extended)X B2B			0.0190	-0.317			-0.00836	-0.177
			(0.0193)	(0.263)			(0.0237)	(0.348)
CSR(extended)X Product							0.0149	0.699
							(0.0244)	(0.465)
B2B X Product							-0.0146**	-0.171
							(0.00729)	(0.127)
CSR(extended)X B2B X Product							0.0412	-0.532
							(0.0359)	(0.562)
in a service-based industry					-0.0107***	0.0952		
					(0.00410)	(0.0584)		
CSR(extended)X Service					-0.0498**	-0.395		
					(0.0197)	(0.255)		
Constant	0.113**	4.261***	0.139***	3.952***	0.142***	3.823***	0.130***	3.945***
	(0.0505)	(0.248)	(0.0118)	(0.196)	(0.0116)	(0.183)	(0.0126)	(0.212)
Observations	11,831	11,828	11,831	11,828	11,831	11,828	11,831	11,828
R-squared	0.224	0.341	0.153	0.274	0.154	0.270	0.157	0.276
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No	No	No	No	No
Control: # factors researched	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Use of FE estimator	No	No	No	No	No	No	No	No

Robust standard errors in parentheses, clustered at the company level
*** p<0.01, ** p<0.05, * p<0.1

	Equation (2)		X	Equation (3)
VARIABLES	ROA	Tobin's Q	Advertisement-to-sales ratio	Advertisement-to-sales ratio
CSR ratio (extended)	0.0686***	1.137***	0.0413***	0.0513***
	(0.0147)	(0.240)	(0.0110)	(0.0152)
in B2B industry	-0.00269	-0.173**		-0.0218***
	(0.00442)	(0.0725)		(0.00410)
CSR(extended)X B2B	0.0190	-0.317		-0.0241
	(0.0193)	(0.263)		(0.0155)
Constant	0.139***	3.952***	0.0443***	0.0521***
	(0.0118)	(0.196)	(0.00871)	(0.00924)
Observations	11,831	11,828	5,225	5,225
R-squared	0.153	0.274	0.141	0.204
Control Variables	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	No	No
Control: # factors researched	Yes	Yes	Yes	Yes
Use of FE estimator	No	No	No	No

Robust standard errors in parentheses, clustered at the company level

*** p<0.01, ** p<0.05, * p<0.1

	Equation (4)		Equation (5)	
VARIABLES	ROA	Tobin's Q	ROA	Tobin's Q
CSR ratio (extended)	0.0977***	1.135***		
	(0.0168)	(0.221)		
in a service-based industry	-0.0107***	0.0952	-0.00913**	0.0909
	(0.00410)	(0.0584)	(0.00417)	(0.0589)
CSR(extended)X Service	-0.0498**	-0.395		
	(0.0197)	(0.255)		
Environmental CSR ratio			0.0580***	0.405***
			(0.0107)	(0.145)
Environmental CSR X Service			-0.0405***	-0.0406
			(0.0132)	(0.182)
Constant	0.142***	3.823***	0.136***	3.737***
	(0.0116)	(0.183)	(0.0113)	(0.178)
Observations	11,831	11,828	11,830	11,827
R-squared	0.154	0.270	0.152	0.266
Control Variables	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	No	No	No	No
Control: # factors researched	Yes	Yes	Yes	Yes
Use of FE estimator	No	No	No	No

Robust standard errors in parentheses, clustered at the company level
*** p<0.01, ** p<0.05, * p<0.1